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| 1 | STATE OF CONNECTICUT |
| 2 | CONNECTICUT SITING COUNCIL |
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| 5 | Docket No. 478 |
| 6 | Eco-Site, Inc. and T-Mobile Northeast, LLC |
| 7 | application for a Certificate of Environmental |
| 8 | Compatibility and Public Need for the |
| 9 | construction, maintenance, and operation of a |
| 10 | telecommunications facility located at 63 Woodland |
| 11 | Street, Glastonbury, Connecticut |
| 12 |  |
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| 14 | Continued Public Hearing held at the |
| 15 | Connecticut Siting Council, Ten Franklin Square, |
| 16 | New Britain, Connecticut, on Thursday, February 8, |
| 17 | 2018, beginning at 1:01 p.m. |
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| 22 | ROBERT STEIN, Chairman |
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| 1 | Appearances: |  |
| 2 |  |  |
| 3 | Council Members: |  |
| 4 | SENATOR JAMES J. MURPHY, JR., |  |
| 5 | Vice Chairman |  |
| 6 | ROBERT HANNON, |  |
| 7 | Designee for Commissioner Robert Klee |  |
| 8 | Department of Energy and Environmental |  |
| 9 | Protection |  |
| 10 | ROBERT SILVESTRI |  |
| 11 | EDWARD EDELSON |  |
| 12 | DANIEL P. LYNCH, JR. |  |
| 13 |  |  |
| 14 | Council Staff: |  |
| 15 | MELANIE BACHMAN, ESQ. |  |
| 16 | Executive Director and |  |
| 17 | Staff Attorney |  |
| 18 |  |  |
| 19 | ROBERT MERCIER |  |
| 20 | Siting Analyst |  |
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THE CHAIRMAN: Good afternoon, ladies and gentlemen. I'd like to call to order the hearing of the Connecticut Siting Council today, February 8, 2018, at approximately 1:05. My name is Robin Stein, Chairman of the Connecticut Siting Council.

This evidentiary session is a continuation of the public hearing held on January 11, 2018, at the Glastonbury Town Hall, Council Chambers, in Glastonbury. It is held pursuant to Title 16 of the Connecticut General Statutes and of the Uniform Administrative Procedure Act upon an application from Eco-Site, Inc. and T-Mobile Northeast, LLC for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility at 63 Woodland Street in Glastonbury, Connecticut. This application was received by the Council on September 18, 2017.

A verbatim transcript will be made of this hearing and deposited with the Town Clerk's Office in the Glastonbury Town Hall for the convenience of the public.

We will proceed in accordance with the prepared agenda, copies of which are available
here.
We will begin with the appearance of the applicants, Eco-Site, Inc. and T-Mobile Northeast, to verify new exhibits marked as Roman numeral II, Items B-5 and 6 on the hearing program.

Attorney Laub, please begin by verifying the new exhibits you have filed in this matter, and verify the exhibits by the appropriately sworn witnesses?

MR. LAUB: Certainly, Mr. Chairman.
For the record, Daniel Laub of Cuddy \& Feder here on behalf of the applicants, Eco-Site and T-Mobile.

For the record, we submitted, as identified in the program as II-B-5, a supplemental submission, received February 2, 2018, that included FCC antenna structure registration, NEPA review summary, a photo documentation for existing access drive and compound location, revised drawings for the new access drive, wetlands report, and visual simulations. And then II-B-6 includes the bulk filing of the full NEPA report, which was also submitted on February 2nd.

Our witnesses are here today. I'm going to remind them all that they are under oath -- remain under oath.

A D R I A N
BEREZOWSKY,

CHUCK BRUTTOMESSO,
A N D
D E W
$J$.
DesANTIS,

SCOTTHEFFERNAN,
STEVERUZZO,
J A MESSM. MCMANUS, called as witnesses, being previously duly sworn by Ms. Bachman, were examined and testified further on their oaths as follows:

DIRECT EXAMINATION
MR. LAUB: And in turn, $I$ would ask Mr.
Berezowsky, did you prepare, and are you familiar with the materials I've identified?

THE WITNESS (Berezowsky): I am.
MR. LAUB: Mr. Heffernan?
THE WITNESS (Heffernan): Yes.
MR. LAUB: Mr. Allen?
THE WITNESS (Allen): Yes, I am.
MR. LAUB: Mr. Ruzzo?
THE WITNESS (Ruzzo): Yes, I am.
MR. LAUB: Mr. DeSantis?

THE WITNESS (DeSantis): Yes.
MR. LAUB: Mr. McManus?
THE WITNESS (McManus): Yes.
MR. LAUB: And, I'm sorry, in the back, Mr. Bruttomesso?

THE WITNESS (Bruttomesso): Yes.
MR. LAUB: Okay. And do you have any corrections, additions or clarifications of these materials, as so submitted?

THE WITNESS (Berezowsky): No.
THE WITNESS (Heffernan): No.
THE WITNESS (Allen): No.
THE WITNESS (Ruzzo): Yes.
THE WITNESS (DeSantis): Yes.
THE WITNESS (McManus): No.
THE WITNESS (Bruttomesso): No.
MR. LAUB: And are these materials true and accurate to the best of your belief?

THE WITNESS (Berezowsky): Yes.
THE WITNESS (Heffernan): Yes.
THE WITNESS (Allen): Yes.
THE WITNESS (Ruzzo): Yes.
THE WITNESS (DeSantis): Yes.
THE WITNESS (McManus): Yes.
THE WITNESS (Bruttomesso): Yes.

MR. LAUB: And do you adopt them as your sworn testimony today?

THE WITNESS (Berezowsky): Yes.
THE WITNESS (Heffernan): I do.
THE WITNESS (Allen): Yes.
THE WITNESS (Ruzzo): Yes.
THE WITNESS (DeSantis): Yes.
THE WITNESS (McManus): Yes.
THE WITNESS (Bruttomesso): Yes.
MR. LAUB: And with that, Mr. Chairman, I'd ask that they be made full exhibits.

THE CHAIRMAN: Okay. I'm just going to check to see, is there anybody from the town here representing the other party?

MR. LAUB: Not that we've seen, Mr. Chairman.

THE CHAIRMAN: I guess there's no one to object. The exhibits are admitted.
(Applicant's Exhibits II-B-5 and II-B-6: Received in evidence - described in index.)

THE CHAIRMAN: We'll now begin with cross-examination of the applicant by Mr. Mercier.

CROSS-EXAMINATION
MR. MERCIER: Thank you. I just have a
few questions on the February 2nd submittal, and I guess I'm going to turn right away to the photo simulations that were provided, particularly photos of Figure 9, the 9 series, that shows a lot of the stealth options that the Council and the town requested so they could get a better handle as to what the options would look like.

I guess I'll start with the flag pole style tower that you submitted. I think it's on Figure 9e. There's two types. There was an interior flush mount, then there was an exterior flush mount design for the flag pole. And down on the bottom I notice it states that it was 195 feet that was modeled at this location. I'm just curious why that tower height was used rather than, say, something lower given the needs of T-Mobile?

THE WITNESS (Ruzzo): Yes. This is Steve Ruzzo with Eco-Site. The reason, we had discussed previously any limitation on a full array for our carriers would require additional height. We went up to the maximum height that we felt would be feasible without the additional 200 foot requirements for notifications.

MR. MERCIER: Okay. So it's not
essentially based on T-Mobile's tower needs. Originally, this was 150 feet, so I'm assuming it would be 150 and 160 they might require if it was a flush mount design. You just wanted to make it look like if there was other carriers interested at a higher height?

THE WITNESS (Ruzzo): Correct.
MR. MERCIER: Thank you.
For the fire tower, what height was that modeled at?

THE WITNESS (Allen): That was modeled at the same height as the original tower, which I believe was 150?

THE WITNESS (Ruzzo): Yes.
THE WITNESS (Allen): Yes, 150 to the top of the tower.

MR. MERCIER: Would it be anticipated if -- would the antennas be mounted at 150 , or for such a design as that, would it have to be lower, given like a little hoop design on the fire tower, or any other design limitations?

THE WITNESS (DeSantis): So this is AJ DeSantis with Infinigy. As we've seen in the past with some fire towers, there will be a small pitch to the roof, but generally negligible. There's
not so much to shed, so much snow. Obviously, it's designed to support any loads that would be up there, but the intent was to have the top of the structure at 150, and the antennas for T-Mobile inside that at that elevation, so similar to what was in the application.

MR. MERCIER: Okay. So around the center line of --

THE WITNESS (DeSantis): 146-ish, something like that.

MR. MERCIER: Just out of curiosity, I don't recall one coming before the Council. Are you aware of any in Connecticut or Massachusetts or any --

THE WITNESS (DeSantis): Connecticut, Massachusetts, I don't know specifically. I know that we had worked on one in New Hampshire.

THE WITNESS (Ruzzo): And not necessarily internally mounted to those. We have, you know, had carriers collocate on DCR towers or those type of fire towers. The collocation opportunities are limited, though, based on those designs. So, you know, there's certain -- on an existing tower, if you look at the way they're set up, there's limitations on an existing tower
mounting directly to those. But a stealth, I'm not familiar with -- we haven't generated one, you know, a faux fire tower for that use specifically. THE WITNESS (DeSantis): If I may add onto Mr. Ruzzo's comments there? The first carrier for the installation that we did in New Hampshire, the first carrier was concealed within. Subsequent carriers were then installed below. So not much different than what we would see on, say, a self-support tower other than that top carrier for this one instance was internally mounted. So it looks like a nice fire tower at the top, and then the next carrier down was external on similar size sector frames.

MR. MERCIER: Thank you.
And I guess last would be the photo simulation for the tree tower, which I believe is 9c. I want to know what height was modeled there.

THE WITNESS (Allen): That was modeled at 150 feet to the top of the antenna array, and then there's a branching structure that's maybe 3 or 4 feet higher than that on top of the tree.

MR. MERCIER: So you attempted to model slightly higher to account for a cone, I'll call it a cone?

THE WITNESS (Allen): That is correct, just for the aesthetics of the tree shape.

MR. MERCIER: Thank you.
THE WITNESS (Allen): And if I could correct my previous answer when you asked about the fire tower? It was 150 to the top of the boxed portion of the fire tower, and the peaked roof was maybe 3 or 4 feet higher than that, just to give it that look also.

MR. MERCIER: Thank you very much.
In the application -- it was on page
19 -- it basically stated that the monopole that you designed here today, Eco-Site's costs would be with the foundation about $\$ 100,000$ for construction and material. Do you have any idea how much a tree tower would cost?

THE WITNESS (Ruzzo): Typically, the addition of, say, four carriers worth of limbs would be an additional $\$ 40,000$ for the limbs alone. So that would be in the collocatable area. If you went down to bring it down to further areas, you know, you could be looking at, depending on -- in the range of approximately $\$ 10,000$ per 10 feet of additional section of limbs. So currently I think we're proposing from
about 155 down to about 110 I think I requested. Right?

THE WITNESS (Allen): That sounds right, yes.

THE WITNESS (Ruzzo): Limbs below that would obviously cost additional for those faux limbs. And the additional structural, you know, would also incur additional foundation, larger foundation. That would -- you know, it all depends on the soil, but can run up another $\$ 10,000$, roughly, for foundation work to be associated with that, you know, larger tower ballast that would be required.

MR. MERCIER: Would there be any additional cost on the steel itself compared to a monopole, a regular monopole?

THE WITNESS (Ruzzo): Well, yeah, because the -- I mean, the structure itself is all included in that --

MR. MERCIER: So the $\$ 40,000$--
THE WITNESS (Ruzzo): -- because it hasn't received those limbs. The limbs aren't just stand alone.

MR. MERCIER: So the 40,000 for the 155 and 110 includes the branches and the brackets or
tubular structure?
THE WITNESS (Ruzzo): Yes.
MR. MERCIER: Just out of curiosity, does this photo simulation show the branches starting at 110, or do these extend down lower?

THE WITNESS (Allen): Off the top of my head, I don't recall whether they go down below the tree line where you can't see. I believe they -- and it was modeled at 110 to 150 , so I'm not sure how much of that might be below the tree line.

THE CHAIRMAN: Follow-up.
MR. LYNCH: Just as a follow-up to that tree line conversation, what's the height of the canopy in this area to the tree line?

THE WITNESS (Allen): These trees, it would be a best guess, usually, in my experience, they range between 50 and 70 feet for deciduous in this type of forest.

MR. LYNCH: That's what I thought.
Thank you.
MR. MERCIER: Just going back to the tree costs, what I think I'm hearing is if the tree branches went down maybe another two levels or so, we're talking about an extra $\$ 80,000$ or so
for the tree tower?
THE WITNESS (Ruzzo): Yeah, almost doubling the cost of the structure for installation, correct. Yes.

MR. MERCIER: Do you have any idea how much the fire tower option would cost?

THE WITNESS (Ruzzo): I don't. Sorry.
MR. MERCIER: And how about the flag pole over at 195 feet, as modeled, any idea what the cost difference would be?

THE WITNESS (Ruzzo): No, I don't at this time.

THE WITNESS (DeSantis): If I may? With your comment in regards to the cost of the fire tower, $I$ don't have an exact figure of it for that one installation that $I$ was part of in New Hampshire, $I$ will say it is considerably more than a monopine type installation. I don't have exact numbers. I just know the design fees associated with that, and then $I$ saw some rough order of magnitude during the original quoting process.

MR. MERCIER: All right.
THE CHAIRMAN: Mr. Lynch.
MR. LYNCH: Now that we're talking about the tower, $I$ do have a couple of questions
on it. And to go back to Mr. Mercier's thought, there was a tower proposed in Connecticut a few years back out in western Connecticut. It was never built. But you were talking about the costs being considerably more. How much more?

THE WITNESS (DeSantis): I don't have an exact number. Order of magnitude, I don't know that $I$ could put a multiplier on that.

MR. LYNCH: And you mentioned earlier that if additional carriers came on, they would go below. Now, would they be attached inside the lattice onto the pole, or attached to the outside of the lattice structure?

THE WITNESS (DeSantis): So the installation that I mentioned in New Hampshire was essentially a four-legged self-support tower. So there was no internal monopole structure. It becomes a lattice tower to look -- to resemble a fire tower structure with cross-bracing, thus the structural stability of it. So in that instance, the future, the second carrier mounted to the leg with their sector frames.

MR. LYNCH: Would it have to be a guy tower, or could it be stand alone?

THE WITNESS (DeSantis): It could be
stand alone.
MR. LYNCH: Thank you.
MR. MERCIER: For the site, as proposed, you mentioned in the application, page 19, it was $\$ 100,000$ for your construction costs for the monopole. How does Eco-Site recover that cost?

THE WITNESS (Ruzzo): So our costs are recouped by tenant leases, so our carriers who come on are solely on our tenant leases. So it's a lease structure for us.

MR. MERCIER: And that would include any stealth option also?

THE WITNESS (Ruzzo): Correct.
MR. MERCIER: Stealth design, that would also be through tenant leases?

THE WITNESS (Ruzzo): So the whole capital cost of that site, our way to recoup the costs for those capital, are through our leases, correct.

MR. MERCIER: And I guess on the T-Mobile side, I'm just curious how T-Mobile recovers the costs of their installation and equipment that's put on the tower?

THE WITNESS (Heffernan): Do you want
me to take that?
MR. LAUB: It's up to you.
THE WITNESS (Heffernan): Well,
T-Mobile recoups their costs through service contracts with their customers.

MR. MERCIER: Is that on a regional basis for this, or is it statewide? Is it national? How do the costs vary, do you know?

MR. LAUB: I had double checked with T-Mobile on that. And it's state oriented with some fees for people who are maybe perhaps out of state but are often instate, you know, or traveling long term, but largely the metrics are used for subscribers in the state.

MR. MERCIER: Thank you.
Back on November 3rd the Connecticut
Airport Authority submitted a letter to the Council. You received a copy of it. Basically on the letter it asked that Eco-Site or T-Mobile, the applicants here, submit an official notice of proposed construction or alteration, that is Form FAA 7460-1. So I'm just wondering, has the applicant submitted that form, as requested by the Connecticut Airport Authority?

THE WITNESS (Ruzzo): I believe that
says at time of construction or prior to construction.

MR. MERCIER: Because you intend to do it at that time?

THE WITNESS (Ruzzo): We wouldn't do it before approval. So there's no need for us to do it prior to any approvals, correct, but we do have the registered antenna structure. We've already registered the structure itself with the FAA and FCC.

But that's the municipal airport that made that request, correct, that notification of construction?

MR. MERCIER: No. It's the Connecticut Airport Authority requested that this form be filed, an actual state entity. It could turn out that -- well, I'm not sure.

MR. LAUB: So it is already registered. They registered it with the FCC already. So it should be identified on the mapping. And then once the form -- correct me if I'm wrong -- but the form would be submitted once we actually know we're going to --

THE WITNESS (Ruzzo): Construct.
MR. LAUB: -- move forward to
construction.
THE WITNESS (Ruzzo): Correct.
THE WITNESS (Berezowsky): If I could interject because we do a lot of this also? We really wouldn't be able to submit a form until we finalized the height in the first place. So until the height of the tower is determined, it would be premature to actually go down that route. That's generally how we do that. So whenever we file with the FAA, we first want to know what the final height is so that we can consult with them. And then once we do know that height, and we have registered the tower, then we do the final notification once the tower is actually constructed.

MR. MERCIER: I thought it was if you propose a certain tower, in this case 150, and you register with the FCC, you have to submit a notice with the FAA immediately.

THE WITNESS (Berezowsky): Yes. But the final notice that you give them, you want to know what the actual final height is going to be.

MR. MERCIER: Well, in this case you're proposing 150, correct?

THE WITNESS (Berezowsky): Correct.

MR. MERCIER: So you didn't do any filing for 150?

THE WITNESS (Ruzzo): We've already done that.

THE WITNESS (Berezowsky): That's been completed.

THE WITNESS (Ruzzo): We have done that.

MR. MERCIER: To the FAA, this specific Form FAA 7460-1?

THE WITNESS (Ruzzo): I believe we already answered that, but let me double check.

THE WITNESS (Berezowsky): If you've done the ASR, you'd have to have the FAA notification.

MR. MERCIER: Don't they respond to you and say there's determination of no air hazard?

THE WITNESS (Berezowsky): Correct.
MR. MERCIER: Okay. That's what I'm looking for, the response letter back.

SENATOR MURPHY: And don't they sometimes give you a maximum height? Because we have some poles where, when we came to the hearing, there was a letter telling us that there was a cap on how high they could put the pole to
get approval.
THE WITNESS (Ruzzo): Yes.
SENATOR MURPHY: I think it was on the town line of Guilford or someplace, there was a multiple selection.

MR. MERCIER: Uh-huh.
THE WITNESS (Ruzzo): So again, we have our antenna structure registration in with the FCC at our planned height, and I believe we had made -- I don't want to say --

MR. LAUB: My understanding of the registration, which is advanced from doing the air map study, is when you look in the official copy of the registration itself where it says "FAA Chapters: none," that's where they would cite where you need to light the tower, if necessary. THE WITNESS (Berezowsky): So I can speak to this. Sorry. So the FCC ASR, which is the files that are there, they're interconnected with the FAA process. So since that does say "FAA Chapters: none," that means that there has been a determination by the FAA. And we can get that for you as well. In the 7460-1, that is the notification, and it's incorporated into the ASR, which is the FCC registration.

MR. MERCIER: So there's an additional document that you probably haven't submitted that basically said there's no hazard there?

THE WITNESS (Berezowsky): I thought I had seen it. But in order to finalize your FCC registration, you have to put in the actual 7460-1 response number, and it won't let you do it without it because I've tried. And then the next step will be the 7460-2, which is the notification to the FAA that you have constructed the tower. So we should be able to get that for you.

THE WITNESS (Ruzzo): I believe we already have submitted it. That's why I'm confused.

MR. LAUB: And I'm going to double check on it.

THE WITNESS (Ruzzo): We'll confirm. I believe we've done all our filings here. So we'll confirm, but I believe we've already submitted those.

MR. LAUB: We'll get the actual document.

MR. MERCIER: Thank you.
MR. EDELSON: Mr. Chairman.
So isn't really the point that you're
looking for, Bob, is confirmation that the FAA is okay? And they're saying the ASR, where it says "Chapters: none" is the equivalent of that. But is that our understanding that's sufficient? Because that's what they presented here is "Chapters: none."

MR. MERCIER: The airport authority is requesting a certain document. So that's all I'm looking for is this document, was it filed based on this comment from the Connecticut Airport Authority.

MR. EDELSON: But do you hear what they're saying is that their understanding is, if it says "Chapters: none," they can show that document and say it's one in the same? That just seems to be, it's either true or false. It's either it is an equivalent or it isn't. We should be able to check that.

THE WITNESS (Berezowsky): Just to correct, it's not necessarily equivalent. What I meant by that is that that FCC registration, when it says "FAA Chapters: none," that is a reference to the FAA 7460-1 response.

MR. EDELSON: That number is what we're looking for?

THE WITNESS (Berezowsky): Correct.
MR. EDELSON: But we just physically don't have it, we have a reference to it?

THE WITNESS (Berezowsky): Correct. MR. MERCIER: Okay. I'll move onto another subject. It has to do with the site plans that were submitted in the February 2nd filing, specifically plan EC2, that shows the revised driveway drawing pretty much.

In looking at it, there's the retaining walls. I'll just call it the left or right side of the drawing. In looking at the right side of the drawing, it shows a driveway, then a swale, then the retaining wall, then another swale, and the swale has a riprap line. I don't really understand why there's two separate swales divided by the wall. Can you please explain?

THE WITNESS (DeSantis): Certainly. So the intent there with the swale to the right side or to the east on the up -- high side of the wall, the intent there would be for any water that was to sheet flow down the side of the existing undisturbed area, that it wouldn't cascade over the wall and subsequently add additional into the low side swale.

MR. MERCIER: Just so I understand, what side is the retaining wall, what's the higher grade, is it the retaining wall is higher on the driveway side, or is it holding a higher slope? THE WITNESS (DeSantis): I think the best way to explain it would be if we're standing at the existing Farm Drive looking up towards the proposed site, it would be a cut for the new drive. So as you make the left-hand to the new drive, there would be -- it's staggered, but visually there would be two walls that you would be traveling in past.

MR. MERCIER: So the driveway would be a higher elevation than the --

THE WITNESS (DeSantis): The driveway would be lower in elevation.

MR. MERCIER: That's what I wanted to clarify. Thank you.

Now, I also noticed that the telephone utility line is also below one of the swales. Is there any kind of problem having that telephone utility line there?

THE WITNESS (DeSantis): Certainly, that was a consideration when we were redesigning that section there. Certainly, in our ongoing
communication with the utility companies, certainly they may have some concerns with that, but from an installation and design standpoint, it would be below the depth of the swale buried with appropriate cover.

MR. MERCIER: Now, looking at this diagram on the west side, $I$ don't really see any riprap, swales or anything. Is that necessary for this project to control any type of sheet flow in that, I'll call it a ditch?

THE WITNESS (DeSantis): Certainly, that could be added as well. When we did the design, as we were looking at the overall impacts from the site location, the lease area down, the areas that we were concerned with the most were on the east side with additional riprap.

Could additional be added? Absolutely. MR. MERCIER: In looking at the original plan for the site that was in your NEPA bulk file, I noticed that the road originally came off the existing driveway a little bit to the west, that driveway that leads to the sand pit, according to these diagrams. Why did the landowner switch it to this alignment? I believe in the application it said, you know, based on the
final lease arrangements, move the driveway over to this current alignment, but it seems that would be less grading just looking at this plan here.

THE WITNESS (DeSantis): And I believe we discussed this in the previous meeting briefly. But in discussions with the property owner, they had advised us that moving the drive to the east from that existing drive was the desired.

MR. MERCIER: No reason given?
THE WITNESS (Bruttomesso): Gravel,
they do gravel work there, and that's part of it. They wanted to leave that separate basically. That's the logic, I presume. They never did give an exact answer.

THE WITNESS (DeSantis): And the existing drive that is to the west, I don't know that $I$ would actually classify it as a drive. I've hiked it. I've walked it. It's on the verge of impassable by a vehicle, so even the term "drive" is generous.

MR. MERCIER: I guess my last question has to do with attachment 2 of your February 2nd filing. It has to do with the NEPA summary report. In there on page 7 it has a section titled "Migratory Bird Review." And basically, in
this NEPA summary that you provided it says the project meets many of the recommendations of the U.S. Fish and Wildlife Service.

So as part of the fish and wildlife service recommendation, do the applicants, are they going to consider the site clearing recommendations for the breeding birds? I don't know if you've seen that recommendation in the U.S. Fish and Wildlife Service guidelines.

Is anybody familiar with the breeding bird restriction in the U.S. Fish and Wildlife Service guidelines referenced here?

THE WITNESS (Berezowsky): Yes, I am.
MR. MERCIER: So is that one of the recommendations the applicant intends to follow?

THE WITNESS (Berezowsky): So there are numerous recommendations. Primarily, they deal with height, lighting, and not having guyed wires. Those are the three largest concerns from U.S. Fish and Wildlife and the FCC when it comes to towers. There are other ones, but no tower is essentially ever going to be perfect when it comes to migratory birds.

MR. MERCIER: I guess I should clarify. I meant the site clearing recommendation they have
to avoid peak breeding season.
THE WITNESS (Berezowsky): I am not familiar with the exact language of that. I'd have to look it up.

MR. MERCIER: Okay. I don't have any other questions. Thank you.

THE CHAIRMAN: Thank you.
We'll now go to questions by members of the Council.

Senator Murphy.
SENATOR MURPHY: Thank you,
Mr. Chairman.
In regards to the letter from the Town of Glastonbury, which is dated the 29 th of January, and the photo simulations that we received for this hearing, had you heard anything from the town, other than this letter, after the photos and regarding the camouflaging of the tower?

MR. LAUB: No. I heard nothing from the town, other than this letter -- other than at the prior hearing and then this letter.

SENATOR MURPHY: I know the simulations were done before the date of their letter. Do you have an idea of when they get the simulations?

MR. LAUB: Mr. Johnson was emailed on February 2nd.

SENATOR MURPHY: So they were after this then?

MR. LAUB: They were after this. And I should note that this letter was sent to me by regular mail, so $I$ didn't receive it until earlier this week.

SENATOR MURPHY: And you've heard nothing on that. All right.

Mr. Heffernan, these questions are a little bit unusual, but $I$ really want to talk about collocation. And most people in your position don't really want to talk about other carriers and what have you. But this is an application where you're here representing a carrier that has practically nothing in this area, it's like going back 15 years or so to when it was the beginning time and the system was being set up.

And I know you really can't testify with certainty, or what have you, but what's the situation with other carriers in this general area, do they have more facilities in the area that they're using? I don't want to term it
better coverage than your client, because I guess that's not a good thing to have you admit. But what I'm really looking at is how great is the need for collocation. Because I always think of the stealth towers with the antennas inside as just a terrible distraction to multiple carriers on there because you have to use so much space for each carrier, and the height is just not available, so they put another tower someplace else, which kind of defeats the purpose of what we're trying to do in a lot of respects.

And I'm not the greatest fan of trees, but maybe a tree is better here than someplace else. But, as best you can tell me, and I know I've tried this with others before, so give me the best you can give me.

THE WITNESS (Heffernan): Well, just knowing what's in the general area -- and again --

SENATOR MURPHY: I just assume if you can't find something in the area, they can't either.

THE WITNESS (Heffernan): Right. And that's really where $I$ was leading to. Along the highways --

SENATOR MURPHY: They're pretty --

THE WITNESS (Heffernan): Route 2, and then as you head west over towards 91 , there is an infrastructure along those corridors. And obviously that's the path of least resistance for most carriers when they want to provide coverage to an area. Before we ever propose a new structure, we always try to make use of existing structures. And this area was exhausted for looking for existing structures that were of a size that would provide adequate coverage.

So the best of my knowledge with surrounding sites, I think most of the major players are collocated on the same structures. So within a certain percentage up or down from our existing footprint, there seems to be pretty similar coverage. And I don't see any solutions for other carriers in the area of the proposed site, so my personal opinion is that there would be great interest for collocation just because of a very vast deficit of sites in the area.

SENATOR MURPHY: Right.
THE WITNESS (Heffernan): But again, that's my opinion. I have no knowledge of their build plans.

SENATOR MURPHY: I understand where
you're coming from.
THE WITNESS (Heffernan): But it is -and I agree with you, it's a very large uncovered area, and a new usable structure, I would think, is very attractive.

SENATOR MURPHY: Okay. And just one question that came to mind. The mention of 3 or 4 feet above the 150 for the tree, is that because the antennas were down below the top of the tree? Because usually we hear it's 7 feet above the top of the pole.

THE WITNESS (Ruzzo): And it can be, depending on how you want it to look. We can go anywhere from 7 to as low as 2, but that looks like a bad haircut on a monopine.

SENATOR MURPHY: The haircut here is 3 or 4 is what you're telling me?

THE WITNESS (Ruzzo): Yes. And from that distance it's, you know, a negligible impact, I would say, but we're trying to keep the height as close to existing as what we've proposed.

And just to expand on what you've been asking, we have reached out to the carriers. Obviously, we sent the letters as part of our application, and we do have our people, you know,
talk --
SENATOR MURPHY: It's in your best interest if they want to come on --

THE WITNESS (Ruzzo): Well, certainly. And, I mean --

SENATOR MURPHY: It's another check in the mail.

THE WITNESS (Ruzzo): And everyone's budgets are out there, and they're already looking at collocations for the year and whatnot. We have received already some feedback from Verizon that they see this as this looks like a good site. So, I mean, initial feedback right away. But that's 150 foot, you know, tower that we've proposed and not a monopine, not any kind of concealed sections or anything like that. So that was our, you know, what we've originally come in with our application at.

SENATOR MURPHY: What $I$ was driving at is, if they're concealed, it makes a difference as to where they can collocate on 150 foot tower.

THE WITNESS (Ruzzo): Absolutely.
SENATOR MURPHY: And it makes a big
difference in their coverage as well.
THE WITNESS (Ruzzo): And when they're
talking about budgets, you know, when they have to talk about multiple RAD centers, as we call the elevations that they're collocated on -SENATOR MURPHY: And they're going to go to place where the best buy gives them the best coverage.

THE WITNESS (Ruzzo): Right. There's a cost to each of the carriers for going inside, you know, a stealth concealment or even a monopine because there are, you know, additional ways they have to access their antennas for maintenance and everything else like that. So there are, you know, also other considerations with the fact that we are at the -- you know, we've put this as high as we can right here. We're putting a structure up here now. And now at times maybe something that's only accessible by a man lift that would have them traverse up to the location to access their antennas, so, you know, each one of those has its own --

SENATOR MURPHY: Okay. That's all I
have right now, Mr. Chairman. Thank you very much.

THE CHAIRMAN: Thank you.
Mr. Silvestri.

MR. SILVESTRI: Thank you,
Mr. Chairman.
I want to go back to the fire tower because I have absolutely no experience. So a couple questions $I$ wanted to ask you could help to broaden the knowledge base, if you will.

Could you describe what the base of the fire tower would look like, say, in terms of the dimensions and what that could do to the size of the compound?

THE WITNESS (DeSantis): Certainly, if I may? Speaking back to the past experience that I've had with them, again, the general overall feeling would be that it would be a four-legged structure. To set up for the base, you start at the foundation and work to the top to get that square-esque or rectangular-esque structure. Typically for similar height sites, if we're talking a self-support tower at, I'll use this example, a self-support three-legged self-support tower at 150 feet versus a four-legged self-support tower with the concealment at the top, the leg sizes may or may not increase in diameter, but it's on the order of magnitude of inches rather than feet.

The overall footprint face width, if we call it, on a triangular tower, we reference the face width distance from center to center of the leg. The one fire tower that we did in New Hampshire was, if memory serves me correct, on the order -- I want to say it was on the order of about 15 feet to 18 feet face width, and then that structure at the top, it was very vertical, and then that structure at the top was those same dimensions.

Whereas, what we've seen in the past is self-support three-legged towers taper. This would be more of a straight structure to emulate a fire tower. Not to say that we couldn't design it to have a bigger face width at the base. If the fire tower wanted a bigger face width at the bottom, you taper and then go to a straight section. Again, it all depends on aesthetics. It's certainly additional cost if you go with additional steel.

As far as the overall impact to the compound location, certainly this will have a bigger footprint than a monopole, even more so than a three-legged self-support tower, which isn't even a discussion. But we were successful
in getting that site developed within a 100 by 100 lease area. Obviously, the fence area had to grow to accommodate that, as well as future carriers.

MR. SILVESTRI: Thank you, first of all. And let me continue on that one. Would such a tower be considered to be climbable either by using, say, ladder pegs on the side of the legs or with a stairway somewhere in the middle?

THE WITNESS (DeSantis): Yes.
MR. SILVESTRI: Both?
THE WITNESS (DeSantis): Again, the
site -- and this is why $I$ couldn't quantify the cost previously -- the site that we did in New Hampshire had both. It was a big endeavor. And then there was protective measures to -- safety measures to prevent potential trespassers from walking by said fire tower.

MR. SILVESTRI: That would have been my follow-up.

THE WITNESS (DeSantis): So there are certainly safety concerns with build it and it's there. You know, I believe our industry, we've done as best we can with climbing pegs, and things like that, and limiting the elevation, but anything can be done, certainly.

MR. SILVESTRI: One other follow-up, if I could refer you to figure 9d, "d" as in "delta." And looking at what you have for a rendering of the tower, are those cross braces that are below the top? There's like two of them that are there.

THE WITNESS (DeSantis): Certainly, yes. Those were -- and I worked with Mr. Allen on this. They look a little more dark than just above the tree line, but below the concealed structure there's two horizontal, it is cross bracing.

So when you look at a four-legged tower that's designed to emulate a fire tower structure, typically fire tower structures have climbable, walkable stairs; not even climbable, walkable stairs, incline stairs with a landing where you double back, make 180-degree turn, and climb up, so they're almost platforms. This simulation was done to represent that type of scenario. Otherwise, it's a self-support tower with a cube on top.

MR. SILVESTRI: And you mentioned earlier that if there was another carrier coming in, the location would be more on the legs of the structure, as opposed to the cross bracing. Would
that be correct?
THE WITNESS (DeSantis): Legs or cross bracing, a structural member. The cross bracing in this instance is the structural member. It's part of the design. Again, referencing back to the site that $I$ worked on in New Hampshire, it was -- obviously, the future carriers may have different coverage objectives, so they may not be pointing antennas in the same direction, certainly providing different challenges that way, but with mounting brackets that can be overcome.

THE WITNESS (Ruzzo): I just want to expand on that. It wouldn't be mounting just to the legs. It would be like your self-support array across the face or off of a leg. So it would be a full array. It would just be off of that.

They wouldn't be looking to attach a single antenna. So, once again, we wouldn't want to limit them, but you do have the whole face to run a horizontal across those members and mount their antennas across the face. So you would start to see more of that what looks to be open area filled in with antennas for each of the future collocators as you go down. So it would
look really like a self-support structure. I mean, that's essentially what this is, a four-legged self-support structure, or lattice towers, we call them, with just that top section being stealth.

MR. SILVESTRI: Thank you.
Mr. DeSantis, I want to stay with you for a moment. Going back to drawing EC2 of the revised access road, I'm not sure if I heard correctly, so I'm going to ask this: With the two walls that you're proposing there and the drainage aspect of it, did $I$ hear correctly that you're designing it that way to avoid having stormwater go over the wall? Did I hear that correct?

THE WITNESS (DeSantis): Partially.
MR. SILVESTRI: Partially. Could you clarify that?

THE WITNESS (DeSantis): I certainly can. So the original question, my response with the water going over the wall was in reference to the swales to the east. So there would be a swale on the right-most page on the high side of the wall. That swale would then collect any runoff water rather than it overtop the wall and get to the swale at the bottom adjacent to the drive.

MR. SILVESTRI: Okay. Then with that proposed plan could the stormwater undermine the walls?

THE WITNESS (DeSantis): Certainly whenever a retaining wall is introduced, stormwater and water is always of concern. The retaining wall system that we looked at for this deployment would be a modular precast stacked block, and there are manufacturer specifications about installing a drain tile in there to get any water behind the wall diverted away from back pressure on that wall.

MR. SILVESTRI: Because with both discussions about water possibly going over the wall, hence the design or, again, with the undermining that $I$ brought up, it almost sounds like the volume of stormwater coming down is going to be pretty high, that your flow rate is going to be pretty high.

THE WITNESS (DeSantis): So we did not complete full calculations for flow rates. This was based on experience and just general practice of having a wall. The way that the slope of this site is, it's generally we're down the fall line with the gradient. We wanted to ensure that we
could capture any sort of water and slow it as much as we can, thus the riprap.

MR. SILVESTRI: And the water is going to come down eventually to the existing driveway, if you will. What happens then?

THE WITNESS (DeSantis): So our intention there would be that there would be no change from what happens existing. Obviously, we're adding a gravel drive, so that changes some of the characteristics of the water and the way it infiltrates. But the purpose or the intent would be to sheet flow across the drive. There are no culverts or any associated swales that cross that existing drive at that location, certainly.

MR. SILVESTRI: So sheet flow would be in a northerly direction?

THE WITNESS (DeSantis): Yes.
MR. SILVESTRI: Okay. As opposed to taking a right-hand turn and going down the driveway to the east?

THE WITNESS (DeSantis): Correct.
MR. SILVESTRI: Let me stay on the existing driveway, if you will. At our last hearing we had discussions about the utility hookup. And I think at that time the discussions
kind of leaned towards undergrounding, but there still seemed to be some uncertainty at that point. So the question I'll pose to you is have you thought further about undergrounding? THE WITNESS (Ruzzo): We are maintaining the underground design at this time. Both for purposes of, you know, keeping -minimizing any additional clearing that would be required for the overhead poles, as well as reliability and hardening of sites with any, you know, potential of, you know, limbs coming down and taking out the lines.

So, you know, it's always our intent to minimize any opportunities for the need for generator with power outages from the street in with the utility company, and the best design for that, like any development in a neighborhood them going underground minimizes the line work that would be required atop, or potential damage to those lines by any, you know, collateral damage to trees, anything like that. So we are staying with the underground design at this time with Eversource.

MR. SILVESTRI: And with that, $I$ wasn't quite sure if you're proposing that you're going
to be in the middle of the existing driveway, on one of the sides. And again, the issue came up that you have a couple culverts that you're going to cross, and I wasn't quite sure at that time what was going to be done to try to get there. THE WITNESS (DeSantis): Certainly. So I worked with Mr. McManus here in regards to those wetland crossings with the culvert crossings. With the intention of going underground from a high level, the overall design would be, where possible, put the utilities adjacent to the existing access drive.

Now, in the instances where we have a culvert crossing, or something like that, the idea -- the proposed idea would be to veer off from the shoulder, for lack of a better term, turn into the existing drive, turn/jog into the existing drive, cross over any culvert pipe, and then jog back out to get back to the shoulder side.

MR. SILVESTRI: I think I've got that.
Okay. All right. Thank you.
Thank you, Mr. Chairman.
THE CHAIRMAN: Mr. Edelson.
MR. EDELSON: I wanted to come back to
the monopine. And when this came up at the other hearing, I realize now I probably had a bias against the monopine because $I$ had a perception of what these really were. And seeing some of these pictures, I'm realizing maybe I need to think about this a little more.

So you've talked about the installation costs. From the standpoint of maintenance and repair, are there additional costs to taking care of a tower if it's a monopine versus a monopole? THE WITNESS (Ruzzo): Certainly.

MR. EDELSON: Can you describe what those --

THE WITNESS (Ruzzo): Those accessory limbs, they have a life. They do, you know, wear differently than steel, you know, because they are ancillary structures that are not steel. So there is, you know -- they are definitely better than where they started when the industry came out, and each manufacturer has a pretty good handle on it now, $I$ would say. And depending on the density of these limbs, you know, how dense that limb is with the needles, per se, is how that, you know, wears and eventually may require replacement down the road. There's no safety issue associated because
it's attached, but it's still a solid structural member, but they do in time, you know, require replacement.

MR. EDELSON: That's a really good point. But $I$ was thinking more in terms of the people going up there, and if there's a problem with an antenna, your access to that. Again, I don't know the interior, but it almost looked like the difference between skinning up a pole versus climbing a tree with all kinds of things to get around and just more complex that way. I don't know if I'm making it into a bigger issue than it is as far as maintenance.

THE WITNESS (Ruzzo): To your point,
Mr. Edelson. I had mentioned the man lift being required in some installations because of the challenge, where on a clean monopole, you can hoist a sector straight up, and you're making your attachment with a gin pole on the top.

On this, you may need to get outside the structure with another vehicle, hoist it from there, and bring it into the structure because you have all these additional -- imagine a tower that was fully loaded with carriers. That's essentially what you're modeling with a monopine
now. So you're not bringing it straight up the structure; you're bringing it into the structure. So there are additional costs for each of the carriers to attach or maintain or change out their equipment. They're not always traversable just by climbing pegs.

MR. EDELSON: I have another question or two, but I'm going to come back at some point.

We need to think about the life cycle costs. I think what you presented before were the upfront costs, the, whatever, $\$ 68,000$ more, but I think you should always be concerned with the life cycle costs because that's what eventually you need to recoup.

What about in terms of demolition at the end of the life of this? There are additional costs to demolish and remove because of the nature of a monopine versus a monopole, or you think that's pretty much a wash?

THE WITNESS (Ruzzo): You know, there's an additional cost for removal, just because there are additional appurtenances on the structure itself. Again, we would assimilate it. Each of the carriers would remove their own equipment. We would remove anything associated with the
structure itself. So obviously there would be more removals.

MR. EDELSON: Now, going back to that,
I don't have the date right in front of me, but obviously the town voted unanimously to say we would like a monopine. I think they were pretty clear about that. I guess I would just say I'm disappointed that, in order for us to make a decision, as Bob was saying, trying to get at the cost difference. It's one thing if it's another \$5,000; it's another thing if it's doubling the costs. But I would have thought you would have had a much more precise analysis that says thank you very much, Town of Glastonbury, for voting unanimously towards this, but this is what it really means, this is the difference between going with a monopole, $X$ is what it's going to cost to basically build, install, maintain and demolish versus a monopine to build, install, maintain and demolish.

And that's the comparison that I would like to still see done so that we know that if we come back -- I'm still the newbie here -- but come back and say we think it should be a monopine, we know what we're really asking you to do and what
the implication of that is. So I think I'd like to see that done.

THE WITNESS (Ruzzo): I can certainly expand on the estimates $I$ have provided. Those are pretty fair estimates, and we've done a few of these.

MR. EDELSON: Upfront costs.
THE WITNESS (Ruzzo): Upfront costs.
THE CHAIRMAN: The problem is, we're closing the hearing today so --

MR. EDELSON: Oh. Good for one hour more, or whatever.

THE WITNESS (Ruzzo): But, I mean, I'm fairly comfortable with what I presented you for the upfront costs. The maintenance and the removal costs are in addition, and those are significant costs on a fairly significant, you know, capital investment already.

And, yeah, we did provide those to the town on the 2nd. We have provided the photo sims, but we haven't seen any additional response, I don't believe, correct, from the town, nor are they here today?

MR. LAUB: No.
MR. EDELSON: Okay. I think that's my
concern and my question.
THE CHAIRMAN: Mr. Hannon.
MR. HANNON: Thank You, Mr. Chairman.
I do have a few questions. I want to focus on the road, the walls, the drainage. Just so that I'm looking at this correctly, it looks as though the modified road layout, you have shifted the road alignment close to the road coming in a little bit to the east with the design, so therefore the actual first portion of the driveway is a little bit steeper than what was originally proposed? I just want to make sure I'm looking at this right. I'm using the topography provided.

THE WITNESS (DeSantis): Certainly. In looking at the two, the alignment of the first 60, $70 i s h$ or so feet has adjusted a little bit to the -- to become a little less perpendicular is probably the best way to put it.

MR. HANNON: Okay. That's fine. I just wanted to make sure. So I think what that does is it may make that portion of the drive slope a little bit greater, but you're picking that up on the back end of the drive. So, in essence, it's still going to be roughly 10, 10.3 percent slope from start to finish?

THE WITNESS (DeSantis): Correct.
MR. HANNON: In terms of the retaining wall that you're looking at, in particular the retaining wall on the east side, at least I think that's the north to the right --

THE WITNESS (McManus): Yes.
MR. HANNON: -- I'm looking for the north, but $I$ don't see it anywhere.

THE WITNESS (McManus): Yes.
MR. HANNON: Can you go into a little more detail in terms of the design of the wall? In particular, I'm concerned about the foundation of the wall. So can you give me a better understanding of the division of the --

THE WITNESS (DeSantis): Certainly. So the intent here -- the manufacturing name escapes me. I believe it may be Stone Strong, something similar to that effect, but they are modular precast blocks. They have a multitude of finishes to them. As far as the foundation, or the base of that goes, it all depends on the elevation of the wall. In installations for this manufacturer that we conceptualize, it was, I believe, a 12 inch gravel base below that, and then the stacked with a little bit of layback angle as it goes up in
elevation. Depending on the curvature of the wall, the length of the block or the model of the block is chosen, as appropriate, so we can get that radius of that wall.

MR. HANNON: Here's my issue. Because on the original application on 26 , you have a typical conduit trench detail, and you've got 48 inches as the typical to the top of the conduit. What you're showing in these designs is you're showing the electric and telecommunication line going pretty much parallel to the retaining wall. But if you've got a retaining wall that's about, say, 12 inches of gravel and it's a little bit below the roadway, or the ground, and you have to go in and do any repair work on this electric line, you've got a problem because you're going down and you're actually going to be undercutting the wall and the base.

So I guess my question is, has any thought been given to where the starting point of this wall is at the southern-most point coming above ground and running the conduit on the wall itself, so that if there has to be any type of repair work, you don't have to go in and rip up the swale thereby undercutting the wall, which I
think would make life a little bit safer for everybody?

THE WITNESS (DeSantis): Certainly, that is a very valid point, and it's something that we could certainly consider. You know, another option may be maybe in that section put the utilities in the drive just to get them, as you had mentioned --

MR. HANNON: I'm just looking at, I don't think you want to put the line in a swale where, if you have to go in and do some work in that area, you're going to start undercutting the base of that wall and thereby making that wall unstable, possibly collapsing. Why take the risk?

THE WITNESS (DeSantis): It's an unnecessary risk, certainly.

MR. HANNON: Okay. Other than that, that's all I have.

THE CHAIRMAN: Mr. Lynch.
MR. LYNCH: Thank you, Mr. Chairman.
Before I get into the monopine, I want to go back to at our first hearing a couple of questions $I$ didn't get to. And I'll just reference them rather than give you -- one of them had to do with the Elks Club, which you looked at
and kind of, you know, decided that it didn't fit your need. But my question on the Elks Club is this: In the back of the property is a shooting range for rifle, long guns and pistols. Is that a concern of yours?

THE WITNESS (Bruttomesso): For this current site you're talking about?

MR. LYNCH: Pardon? The current site. THE WITNESS (Bruttomesso): TO answer your question, the shooting, yes, the owners of that property use it for a shooting range. They're shooting away from the tower.

MR. LYNCH: All right. That's all I wanted to know.

THE WITNESS (Bruttomesso): I
understand. Great question.
MR. LYNCH: And on the back-up propane generator or back-up fuel, from what I understand from the gas people that come into our office, during this cold weather the regulators on the tanks can freeze up and either prohibit or greatly reduce the fuel flow. Is there any -- rather than normal maintenance, during cold weather my question is, will you have somebody going out and checking on this regulator to make sure it's
working properly?
THE WITNESS (Ruzzo): Well, it is T-Mobile's, but, generally speaking, they have technicians that are familiar with all their equipment, and they do go out to the site regularly.

MR. LYNCH: My thing is during -- like we just had a cold spell. Would that be something that would initiate an extra visit?

THE WITNESS (Ruzzo): I would assume that they would get one of their site -- you know, one of their specialists who deal with the propane directly. So either the fueling company would be someone who would also have a maintenance contract, or someone like that specializing.

MR. LYNCH: And my follow-up question is, during this cold spell recently, the propane gas people had a shortage of propane. So knowing this, would $T$-Mobile, or whoever is doing the regulating, also be aware of this and be able to order in advance, you know, fuel?

THE WITNESS (Ruzzo): I mean, it's not something that we use as a regular fuel source. It's a back-up DC generating fuel source. And I believe some of those issues were more delivery
than actual supply.
MR. LYNCH: I understood it was both.
THE WITNESS (Ruzzo): Okay.
MR. LYNCH: Subject to check.
THE WITNESS (Ruzzo): But they have contracts that are well established, and the volume that they use is far less than, you know, perhaps a regular user of propane would be anyway. So it's less of a concern, $I$ believe.

MR. LYNCH: Now I'm going to come back to the monopine.

THE WITNESS (Ruzzo): Sure.
MR. LYNCH: First, let me eliminate -I was the one that brought up the fire tower because I know that they do exist. But your explanation of cost and being able to add additional carriers kind of lead me away from that.

Now I'll come back to the monopine. The town said that they would like to go onto the tower. Now, my question involving the monopine is, if they come on with -- you don't know what they're going to do. I'll give you that. But if they propose whips and some type of microwave dish, how would you put this within a monopine for
them?
THE WITNESS (Ruzzo): Each installation has its own challenges. A whip is omnidirectional, so it's cake and eat it too. But we would potentially collocate them below the limb section.

MR. LYNCH: That would include the whip, or would the whip go on top?

THE WITNESS (Ruzzo): No, that would be -- I mean, primarily, you know, we're already, you know, looking to stealth as many -- if that was the decision that this stealth is a better visual, you know, impacting solution, those carrier concealed arrays would be within that limb sections. You know, if they required to be at the top, those whips would stick above the limbs.

MR. LYNCH: That's where $I$ was going, yes.

THE WITNESS (Ruzzo): I understand.
And we had the same. When we saw what their potential requirements would be, you know, we had discussed in the past three whips or two whips being below, you know, would be able to cover the same area. When you see three whips, that's what you think, they're on standoffs at a lower
elevation, which is our noncommercial use, which is where we gain our revenue. But if they were looking for a microwave op, you know, and all those other items, you know, the specialists who install the microwaves for the carriers and do their ops, you know, need line of sight as well.

So each one of those has another component to it. Not knowing exactly what they need, but seeing the pieces laid out on the letter we just received, you know, you envision what they're looking for, and you see the potential with you want this stealth structure, but then you want to be able to put public safety on there. And we can make accommodations for that. It would just have to be in a space that would be suitable for their need.

MR. LYNCH: That's where $I$ was going. You went right into it. Especially if they do need a microwave line of sight, would there have to be an opening within the tree to accommodate that?

THE WITNESS (DeSantis): So, if I may interject here. I have done an installation. It was a commercial tower, wireless telecommunications tower, that a municipal --
local municipal government collocated on, and they wanted to deploy a microwave dish. Their protocol was a little bigger installation, for lack of a way to quantify it, than what I've seen in others, and it was a large microwave dish. And looking at the aesthetics standing in the parking lot, seeing a monopine tower with a large circle that's clearly visible behind any branching that could get installed there because it wasn't out front in the original design, so the branching design wasn't done to conceal that. It was almost as an afterthought.

MR. LYNCH: Where I'm actually going with all of this is that, if you had a standard monopole, you'd have none of these problems.

THE WITNESS (DeSantis): Correct.
MR. LYNCH: Now, the town is adamant in their letter and in the Hartford Courant and the Citizen and the Journal Inquirer, the local newspapers, about a stealth monopine. Now, having lived in Glastonbury and worked there, I know what's going to happen the minute the citizens see this tree. As H.L. Mencken said, "Be careful what you wish for."

Also, as far as -- now, because I have
lived there and traveled Route 2 all the time, Mr. Heffernan, $I$ know there are dead spots on Route 2 between Exit 10 and 13, so I assume that you would be getting other carriers to come along. Now, it would be much easier for them on a standard monopole to go up or down. And, you know, if they had to go up on a monopine, and the FCC says we've got to let them go up, what happens then?

THE WITNESS (Ruzzo): So if they were going to go 6409 to increase the height of the tower, is that what you're asking me?

MR. LYNCH: Yes.
THE WITNESS (Ruzzo): Whether it be 20 percent or 20 feet or 10 percent, those costs to modify the structure would be significant, both in the structure itself and the foundation. Much easier in a --

MR. LYNCH: Standard.
THE WITNESS (Ruzzo): -- standard monopole where we could, you know, sleeve or flange the top of the structure and add an extension, as needed. And the loads are significantly less on a standard monopole to make that modification as well.

MR. LYNCH: And that leads me to another question $I$ just thought of as far as the load on the tower during a snowstorm. What would happen to all these branches?

THE WITNESS (Ruzzo): These aren't white pines; they're not going to snap. To your point, it does weather like anything. It's more ice build up, and all of that gets accommodated within the design when we consider half-inch ice and wind speeds, and all this other kind of stuff, which is why the foundations and the structure itself are significantly greater, you know, to accommodate for the additional loading. Here we are in New England. We have to accommodate for, you know --

MR. LYNCH: Understood.
And my last question has to do with visibility. As I look at your simulation on the pine tree, monopine, you know, it -- I asked about the canopy earlier -- this is twice as high as the existing trees. Elon Musk, it looks like one of his rockets taking off. What is the visibility? How far away can you actually see this thing, I guess is what I'm asking?

THE WITNESS (Allen): That's a
difficult question to answer without having evaluated. But certainly a monopine, that's going to have a larger visible profile. It's going to be wider, and the visible profile is going to be much longer or go down to the ground lower than just the antennas that they're meant to conceal. Because the point is to make it look like a tree, so you have to bring the branching down certainly below the antenna. So it's going to be a larger profile, which is going to make it more visible. It's going to be darker in color than a galvanized structure.

So if you look at the simulations that I provided for two viewpoints, in both locations it's visible against the background of sky where, if you were designing for stealth from those locations, a light color would be the way to go.

MR. LYNCH: As I look at your simulation, $I$ came to the same conclusion. And my last question on the monopine is, I've seen some monopines where they have the fake bark, and it actually goes all the way down to the bottom. Now, would this be the same way, or is it going to stop when it reaches the canopy?

THE WITNESS (Ruzzo): There is no
proposed bark on this tree at this time. We're just showing the limbs.

MR. LYNCH: All right. Thank you,
Mr. Chairman.
THE CHAIRMAN: Mr. Hannon.
MR. HANNON: I just have a follow-up on a question that Mr. Lynch was talking about. This site would be monitored electronically, correct, there's nobody there to man it 24/7?

THE WITNESS (Ruzzo): Correct. It's an unmanned facility.

MR. HANNON: Okay. So the issue that Mr. Lynch brought up about potential problems with the generator, is that also something that ties into the electronic monitoring, or is that something that would be totally isolated from that?

THE WITNESS (Ruzzo): Typically their back-up systems are remotely monitored and operated.

MR. HANNON: So if there was a problem with the regulator, then that's something that would likely show up on a screen?

THE WITNESS (Ruzzo): I can't specifically speak to a physical valve, but the
system itself, if it wasn't operational, would probably send an alarm to their NOC. Their NOC would deploy a specialist to investigate.

MR. HANNON: Thank you. That's all I have.

MR. LAUB: For the record, can you clarify "NOC"?

THE WITNESS (Ruzzo): Network
Operations Center, yes. Sorry.
THE CHAIRMAN: All right.
MR. LAUB: I'm sorry, Mr. Chairman.
Did you have something to add?
THE WITNESS (Berezowsky): Yes. I have two points of clarification, if $I$ may? One is that I checked, and we do have the determination from the FAA. It's dated October 18, 2016 for 160 foot tower. And I can get the study number. I do believe $I$ saw it, but $I$ was able to find it in my records. So we do have that.

And also a point of clarification in terms of the migratory bird concern. We did focus, obviously, on it's an unlit tower currently, as proposed. It is not a guyed tower. It is under the height restrictions that are generally thought to have the largest impact to
migratory birds. Also, though, it's not near any important bird areas, nor any wetlands, at least for the tower portion. So those are the primary concerns.

However, the FCC is cognizant of the fact that no tower can be perfectly sited for migratory birds, so they've implemented a system as part of the ASR registration process where we post a local and national notice to afford the public the opportunity to provide any concerns that they may have specifically in regards to migratory birds. And those notices were posted on October 13th and 20th, 2016, respectively, and apparently nobody responded to the FCC because they cleared the ASR registration.

THE CHAIRMAN: Okay. I have a couple of questions. The issue of the back-up generators. Obviously, I understand if you don't have another user ready to go, you can't -- it's a little bit hard to talk about sharing a generator. But I was wondering, in the case of the municipality, if -- and of course this is predicated on, well, if the Council were to approve this. Obviously, we have a D\&M phase. And if the town by that time were to make it clear
what they wanted, they wanted to go in, would you at least consider having a generator for use of both your back-up and for the town?

THE WITNESS (Ruzzo): With the use that currently T-Mobile is proposing for their back-up generator as a DC back-up, and no other commercial carriers presently, you know, requesting use of the tower or back-up, and not knowing exactly what the need or requirement of, we don't have any plan for a shared generator at this time. Once we had another tenant, perhaps, that would be -- you know, it kind of goes into the capital costs of the site and the operation and the maintenance of the site. And right now our focus is on our prime tenant who has a need for their generator to handle their load, which is minimal at this point. So introducing a larger shared generator doesn't really at this point seem, I don't know, something we would entertain at this point.

THE CHAIRMAN: That wasn't exactly my question. My question, $I$ understand everything you said, but I'm talking about the town. And if it's part of what they need, and they seem to really want to participate, they needed a back-up generator, and they could provide the specs, well,
let's just say prior to the D\&M, or at some point soon, would you consider a shared generator for use of the town and T-Mobile, as opposed to -- and I don't even know whether a generator is required for what the town wants, but I'm at this point just asking the question. I'm asking whether you would explore it. I'm not asking for a definitive --

THE WITNESS (Ruzzo): At this time we don't have it in our plan. We could explore it further, but it would -- we would have to look at the costs associated with that. But right now T-Mobile has their solution. And the town solution, although it's been proposed, and they might require a generator, we don't have a plan at this time to place a shared generator on site. THE CHAIRMAN: Okay. I don't want to over-belabor the subject, which seems to be very dear to the heart of this Council. I will say that, as opposed to some members that would want to cut the tree down before it even gets built, I don't feel quite as strongly about that. And I am normally -- well, quite concerned about the request of the town, the unanimous request of the town. And I think as a general policy, the

Council, where possible, tries to take into account the concerns of whether it's the residents or particularly the municipality and not just ignore them.

With that said, I'm somewhat dismayed that the town, which my understanding was supposed to participate, which they did in the prior hearing, was supposed to participate this afternoon, and also presumably had an opportunity -- or let me -- well, okay, that's me talking and not asking the question.

But did this information you provided to us, including these simulations, were they provided to the town, and when were they provided to the town?

MR. LAUB: The simulations included and the entire supplemental was submitted to Mr. Johnson on February 2nd by email.

THE CHAIRMAN: February 2nd by email.
MR. LAUB: Yes. The same day it was submitted to the Council.

THE CHAIRMAN: So that's --
MR. LAUB: Again, there's a little bit of a -- just to clarify, Mr. Chairman. So the record, their letter, was dated January 29th. It
wasn't received in my office until last Monday or Tuesday. I wasn't in the office. But that's when I found the letter in my office because it came by regular mail. It wasn't emailed to me. So his letter was sent, then our submission was made, and then I received his letter earlier this week.

THE CHAIRMAN: No, no. The important thing is they, the town, did not either come to the hearing so they could present their views -- I mean, they may have changed their mind -- or send -- and maybe it's a letter that's still in the mail that none of us have gotten. I think that's disappointing.

The other question is, I mean, you've done a very good job of giving us all the reasons why you don't think a monopine makes sense, even from the applicant's standpoint, but we do have in this country monopines, and monopines are shared, and monopines do have whip antennas. So all of these issues that you raise, which I understand may involve increased costs, are, from a technical standpoint, can and have been done. Am I correct in that?

THE WITNESS (Ruzzo): Yes.
THE CHAIRMAN: Okay. Have any of the
individuals that represent been involved in monopine construction?

THE WITNESS (DeSantis): Monopine construction, yes, I have.

THE CHAIRMAN: I just wonder whether there was any experience. I'm pretty sure where the Council is going. But, you know, experience is also a factor, as well as things such as cost.

I don't have any other questions.
Mr. Silvestri.
MR. SILVESTRI: Thank you,
Mr. Chairman.
Just a quick follow-up on the shared generator question. A shared generator, I would think, would be a larger generator?

THE WITNESS (Ruzzo): Correct.
MR. SILVESTRI: So would a larger generator mandate that you get a larger supply of fuel stored on site?

THE WITNESS (Ruzzo): Correct. I mean, typically that would be the case because now you're sharing -- you know, you wouldn't incrementally deploy a shared generator that would be for what your current use is. You would put out there what would be your future maximum
potential use and size it to that, so that has fuel, noise, environmental concerns all wrapped into that, what do each of the carriers use for fuel type in their typical generators, what is the use for that. Each one may have a different need and a draw off of that, if they have a conditioned space, or if they have outdoor equipment, different needs and draws off of that generator. Each would have to agree to contributing to that shared generator from a leasing standpoint, a contribution standpoint.

So it would be feasible to do if the tenants that we were speaking to were amenable to it. But also along with that, you know, each one of those uses has a different draw on it from a maintenance standpoint as well versus several -- I understand, you know, whether it's a space consideration for multiple -- or multiple concerns over location for what the impact of that generator would be, but I'm just, you know, wanting to make sure. And I understand that shared generators have a single spot and, you know, that's the one point, but typically they're found to be louder for the surrounding areas if it's larger. And it would be firing up, rather
than multiple small ones, you are just firing up a large one more frequently. That would be it.

MR. SILVESTRI: So we go back to my question, larger generator, larger fuel?

THE WITNESS (Ruzzo): Yes.
MR. SILVESTRI: Just one other quick one on that. Do you have any sites within Connecticut that have a shared generator?

THE WITNESS (Ruzzo): No, we don't.
MR. SILVESTRI: Okay.
Thank you, Mr. Chairman.
THE CHAIRMAN: Mr. Lynch.
MR. LYNCH: Mr. Heffernan, I've got a question for you that has absolutely nothing to do with this application, and it's my own curious intrinsic interest on what your opinion may be to the governor getting involved in developing 5G. THE WITNESS (Heffernan): I guess I better word that carefully. I don't know who's listening.

THE CHAIRMAN: Which governor is that? MR. LYNCH: The United States governor, or maybe China. Who knows?

THE WITNESS (Heffernan): I don't know that $I$ really have an opinion on that. $5 G$ is
still, while there's a lot of talk about it, I think it's still a little while before we see a mass deployment of it. The government getting involved, $I$ don't know. I guess I don't know enough about what their involvement is and what they're trying to gauge with it.

MR. LYNCH: From what I understand, they want to take it over and develop it and take it away from the carriers.

THE WITNESS (Bruttomesso): Can I
answer that? Can the government afford it right now? That's the answer. And they already backed away from that statement after they made that statement on Sunday.

MR. LYNCH: I'm going to be out of work at 12 o'clock tonight anyhow so --
(Laughter.)
THE WITNESS (Heffernan): I guess the short answer is, $I$ don't have a professional opinion on that because I haven't really followed much -- I haven't given it much thought.

MR. LYNCH: I was just curious. That's all. Thank you.

Thank you, Mr. Chairman.
THE CHAIRMAN: You're welcome.

I'm just going to go through the -just so we have it on the record.

So we're now going to proceed with the appearance of the only other party, the Town of Glastonbury. So before I ask the attorney here to swear in the witness, is there anybody here representing the Town of Glastonbury?
(No response.)
THE CHAIRMAN: Okay. I just want to make sure we had that on the record. Thank you. So before closing the evidentiary record of this matter, the Connecticut Siting Council announces that briefs and proposed findings of fact may be filed with the Council by any party no later than March 12 th of this year. The submission of briefs or proposed findings of fact are not required by this Council, rather we leave it to the choice of the parties.

Anyone who has not become a party, but who desires to make his or her views known to the Council, may file written statements with the Council within 30 days of the date hereof.

The Council will issue draft findings of fact, and thereafter the parties may identify errors or inconsistencies between the draft
findings of fact and the record; however, no new information, no new evidence, or argument, or reply briefs, without our permission, will be considered.

Copies of the transcript of this hearing will be filed in the Glastonbury Town Clerk's Office.

I hereby declare this hearing adjourned. Thank you all for your participation. And drive home safely.
(Whereupon, the witnesses were excused, and the above proceedings were adjourned at 2:35 p.m.)

## CERTIFICATE

I hereby certify that the foregoing 78 pages are a complete and accurate computer-aided transcription of my original stenotype notes taken of the Council Meeting in Re: DOCKET NO. 478, Eco-Site, Inc. and T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 63 Woodland Street, Glastonbury, Connecticut, which was held before ROBERT STEIN, Chairman, at the Connecticut Siting Council, Ten Franklin Square, New Britain, Connecticut, on February 8, 2018.


Lisa L. Warner, L.S.R., 061
Court Reporter


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| 3 |  | APPLICANT'S EXHIBITS |  |
| 4 |  | (Received in evidence) |  |
| 5 | EXHIBIT | DESCRIPTION | PAGE |
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| 7 |  | February 2, 2018, with attachment |  |
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| 9 |  | b. NEPA review summary |  |
| 10 |  | c. Photo documentation for exist |  |
| 11 |  | access drive new access drive and |  |
| 12 |  | compound location |  |
| 13 |  | d. Revised drawings for new acce |  |
| 14 |  | drive |  |
| 15 |  | e. Wetlands report |  |
| 16 |  | f. Visual simulations |  |
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