STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND
MAINE LAND USE PLANNING COMMISSION

IN THE MATTER OF CENTRAL MAINE POWER COMPANY'S NEW ENGLAND CLEAN ENERGY CONNECT PROJECT

> NATURAL RESOURCES PROTECTION ACT SITE LOCATION OF DEVELOPMENT ACT SITE LAW CERTIFICATION

HEARING - DAY 1 MONDAY, APRIL 1, 2019

PRESIDING OFFICER: SUSANNE MILLER

Reported by Robin J. Dostie, a Notary Public and court reporter in and for the state of Maine, on April 1, 2019, at the University of Maine at Farmington Campus, 111 South Street, Farmington, Maine, commencing at 8:00 a.m.

REPRESENTING DEP:
GERALD REID, COMMISSIONER, DEP
PEGGY BENSINGER, OFFICE OF THE MAINE ATTORNEY GENERAL JAMES BEYER, REGIONAL LICENSING \& COMPLIANCE MGR, DEP MARK STEBBINS, DIRECTOR, BUREAU OF LAND RESOURCES

## PARTIES

## Applicant:

Central Maine Power Company
Matthew D. Manahan, Esq. (Attorney for Applicant) Pierce Atwood
Merrill's Wharf
254 Commercial Street
Portland, ME 04101
Phone: (207) 791-1189
mmanahan@pierceatwood.com
Lisa A. Gilbreath, Esq. (Attorney for Applicant)
Pierce Atwood
Merrill's Wharf
254 Commercial Street
Portland, ME 04101
Phone: (207) 791-1189
lgilbreath@pierceatwood.com

Intervenors:
Group 1:
Friends of Boundary Mountains
Maine Wilderness Guides
Old Canada Road
Designated Spokesperson:
Bob Haynes
Old Canada Road Scenic Byway
27 Elm Street
Skowhegan, ME 04976
Phone: (207) 399-6330
Bob.haynes@myfairpoint. net

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857
Intervenors (cont.):
Group 2:
West Forks Plantation
Town of Caratunk
Kennebec River Anglers
Maine Guide Services
Hawk's Nest Lodge
Mike Pilsbury
Designated Spokesperson:
Elizabeth A. Boepple, Esq.
BCM Environmental \& Land Law, PLLC
3 Maple Street
Concord, NH 03301-4202
Phone: (603) 225-2585
boepple@nhlandlaw.com
Group 3:
Industrial Energy Consumer Group
City of Lewiston
International Brotherhood of Electrical
Workers, Local 104
Maine Chamber of Commerce
Lewiston/Auburn Chamber of Commerce
Designated Spokesperson:
Anthony W. Buxton, Esq.
Preti, Flaherty, Beliveau \& Pachios, LLP
45 Memorial Circle
P.O. Box 1058
Augusta, ME 04332-1058
Phone: (207) 623-5300
abuxton@preti.com
R. Benjamin Borowski, Esq.
Preti, Flaherty, Beliveau \& Pachios, LLP
One City Center
P.O. Box 9546
Portland, ME 04112-9546
Phone: (207) 791-3000
rborowski@preti.com

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

## PARTIES

Intervenors (cont.):

## Group 4:

Natural Resources Council of Maine Appalachian Mountain Club Trout Unlimited

Designated Spokesperson:
Sue Ely, Esq.
Natural Resources Council of Maine 3 Wade Street Augusta, ME 04330
Phone: (207) 430-0175
nrcm@nrcm.org
Cathy Johnson, Esq.
Natural Resources Council of Maine 3 Wade Street
Augusta, ME 04330
Phone: (207) 430-0109
nrcm@nrcm.org
David Publicover
Appalachian Mountain Club
P.O. Box 298

Gorham, NH 03581
Phone: (603) 466-8140
dpublicover@outdoors.org
Jeffrey Reardon
Maine Council of Trout Unlimited 267 Scribner Hill Road
Manchester, ME 04351
Phone: (207) 615-9200 jeffrey.reardon@tu.org

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857
Intervenors (cont.):
Group 5:
Brookfield Energy
Wagner Forest
Designated Spokesperson:
Jeffrey D. Talbert, Esq.
Preti, Flaherty, Beliveau \& Pachios, LLP
One City Center
P.O. Box 9546
Portland, ME 04112-9546
Phone: (207) 791-3000
jtalbert@preti.com
Group 6:
The Nature Conservancy
Conservation Law Foundation
Designated Spokesperson:
Rob Wood
The Nature Conservancy in Maine
14 Maine Street
Suite 401
Brunswick, ME 04011
Phone: (207) 729-5181
robert.wood@tnc.org
Group 7:
Western Mountains and Rivers
Designated Spokesperson:
Benjamin J. Smith, Esq.
Soltan, Bass, Smith LLC
96 State Street, 2nd Floor
P.O. Box 188
Augusta, ME 04332-0188
Phone: (207) 621-6300
benjamin.smith@soltanbass.com
Intervenors (cont.):
Group 8 :
NextEra
Designated Spokesperson:
Joanna B. Tourangeau, Esq.
Drummond Woodsum
84 Marginal Way
Suite 600
Portland, ME 04101-2480
Phone: (207) 253-0567
jtourangeau@dwmlaw.com
Emily T. Howe, Esq.
Drummond Woodsum
84 Marginal Way
Suite 600
Portland, ME 04101-2480
Phone: (207) 771-9246
ehowe@dwmlaw.com
Group 9:
Office of the Public Advocate
Designated Spokesperson:
Barry J. Hobbins, Esq.
Maine Office of the Public Advocate
112 State House Station
Augusta, ME 04333-0112
Phone: (207) 624-3687
barry.hobbins@maine.gov
Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

## PARTIES

## Intervenors (cont.) :

## Group 10:

Edwin Buzzell
LUPC Residents and Recreational Users
Carrie Carpenter, Eric Sherman, Kathy Barkley,
Kim Lyman, Mandy Farrar, Matt Wagner,
Noah Hale, Taylor Walker and Tony DiBlasi
Designated Spokesperson:
Elizabeth A. Boepple, Esq.
BCM Environmental \& Land Law, PLLC
3 Maple Street
Concord, NH 03301-4202
Phone: (603) 225-2585
boepple@nhlandlaw.com

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857


Examination By:
PAGE
Ms. Ely 221

Ms. Meader 224
Ms. Mahoney243

Mr. Smith 259
Ms. Tourangeau 268
Mr. Manahan 291

Applicant Panel 2
Summary of Direct Testimony
Brian Berube 293
Amy Segal 295,304

Terry DeWan 297
Peggy Dwyer 331
Examination By:
Ms. Tourangeau 335
Mr. Wood 337
Ms. Johnson

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

## TRANSCRIPT OF PROCEEDINGS

MS. MILLER: Good morning. I now call to order this joint public hearing of the Maine Department of Environmental Protection and the Land Use Planning Commission on the New England Clean Energy Connect project. This hearing is to gather evidence to evaluate the application submitted by Central Maine Power pursuant to the Department's requirements under the Natural Resources Protection Act and the Site Location of Development Act as well as the Commission's Site Law Certification process.

The permit application is for the construction of a new high voltage direct current transmission line that would run from the Maine border with Quebec to a new converter station in Lewiston as well as additional construction on a separate line in parts of southern Maine. The purpose of the New England Clean Energy Connect line would be to deliver up too 1,200 megawatts of electricity from hydropower generating facilities in Quebec, Canada to the New England Power grid.

Portions of the proposed project would be in the following municipalities: Alna, Anson, Caratunk, Chesterville, Cumberland, Durham, Embden, Farmington, Greene, Industry, Jay, Leeds, Lewiston, Livermore

Falls, Moscow, New Gloucester, New Sharon, Pownal, Starks, Whitefield, Wilton, Windsor, Wiscasset and Woolwich.

In addition, the proposed project would traverse townships and plantations including: Appleton Township, Bald Mountain Township, Beattie Township, Bradstreet Township, Concord Township, Hobbstown Township, Johnson Mountain Township, Lowelltown Township, Merrill Strip Township, Moxie Gore, Parlin Pond Township, Skinner Township, T5 R7 BKP WKR and West Forks Plantation.

Portions of the proposed project would also abut the boundaries of T5 R6 BKP WKR (Haynestown), The Forks Plantation and Pleasant Ridge Plantation.

The purpose of this public hearing is to receive testimony from the parties and the general public on whether the proposed project meets the requirements of the Natural Resources Protection Act and Site Location of Development Act and whether the project meets the requirements for Site Law Certification by the commission. The hearing will be conducted jointly by the Department and Commission. The Commission portion of the hearing will take place on Tuesday, April 2 starting at 10:30 in the morning and will end after public testimony is received that
same evening. The Department will conduct the remaining portions of the hearing during the rest of this week.

The criteria for consideration at the hearing are limited to specific Commission and Department criteria.

The Commission's portion of the hearing will focus on whether the project is an allowed use by special exception within the Recreational Protection ( $\mathrm{P}-\mathrm{RR}$ ) subdistricts.

The Department's portion of the hearing will focus on the following criteria: Scenic character and existing uses which includes visual impact assessment and scenic aesthetic uses, buffering for visual impacts, recreational and navigational uses; two, wildlife habitat and fisheries which includes endangered species including Roaring Brook Mayfly, Spring Salamanders, brook trout habitat, habitat fragmentation and buffer strips around cold water fisheries; three, alternatives analysis; four, compensation and mitigation including the following resources, cold water fisheries habitat, outstanding river segment and wetlands. A copy of the criteria is on a one-page sheet, which is located towards the back of the room on the right-hand side -- on your
right-hand side there is a round table, so if you want to take a look at that that's available.

The DEP will also evaluate whether CMP has demonstrated that its project -- proposed project meets the remaining criteria of the Natural Resources Protection Act and the Site Law and comments and evidence on those criteria may be submitted to the DEP in writing.

My name is Susanne Miller. I am the Director for the Department's Eastern Maine Regional Office and I have been designated the Presiding Officer for this matter by the Commissioner of the Department. This designation is limited in its scope to the authority necessary to conduct the hearing and administer governing procedural statutes and regulations in the development of the administrative record. My role does not include the ultimate decision-making authority on the merits of the application, that is -- which the Commissioner expressly retains.

Joining me from the Department of Environmental Protection today are Jerry Reid is right over there, Commissioner; Jim Beyer, Project Manager for the NECEC project; and Mark Stebbins, who is with our Land Program. Also with us is Peggy

Bensinger, Assistant Attorney General and counsel to the Department to my right. We also have a few other folks here from the Department. We have Doris Peaslee, who is handling our tech on the computer. We have April Kirkland, who is over to the right. And we also have David Madore, who is our Communications Director in the back of the room.

Tomorrow, we will be joined by the Land Use Planning Commission and its attorney for that portion of the hearing, which begins at 10:30.

I should also mention at this time that while not a part of these proceedings, Mr. Jay Clement from the U.S. Army Corps of Engineers will also be here during the week in case anyone has questions about the federal process and he's up in the back there.

This public hearing is being recorded and it will be transcribed. Copies of the transcript will be available upon request once the transcript is completed. Our court reporter is Dostie Reporting Service and sitting up with us today is Robin Dostie and she's in the pink right there. Prior to presenting the summary of your direct testimony or cross-examining a witness, please state your name clearly, who you are affiliated with and which

Intervenor group you represent.
A microphone is provided to each party as well as for the witnesses, the Presiding Officer's table and for those questioning witnesses. Please note that the microphone has an on/off switch, please turn it on before you speak and make sure you turn it off when you are done to avoid feedback and also to ensure any side conversations aren't recorded. Just when you press the gray button when the blue light is on the mic is on and when you press it again the blue light goes off then it's off.

This week the entire proceeding will be live-streamed through the University of Maine Farmington's live-stream system. A link to this is provided on the Department's website and the streaming is directly through the UMF system.

At this time, please silence or turn off your electronic devices including cell phones so that there are no interruptions.

A couple of logistical notes, the emergency exits to this room are located outside the doors if you head down the right and then make another right. The restrooms are located in the same general direction, so just go out the doors and make a right and you'll see them in that general area as well.

You can get snacks and coffee by purchasing them at the University dining hall. Coffee and snacks in this room are for staff.

This hearing is being held by the Department pursuant to the Maine Administrative Procedure Act, Title 5, Sections 9051 through 9064 Chapter 3 of the Department's Rules - Rules Governing the Conduct of Licensing Hearings. On September 7, 2018, January 17, 2019 and March 26, 2019, the Department held pre-hearing conferences in which this hearing's procedures were discussed. The procedures and rulings for this hearing are specified in the eight Procedural Orders and one Commissioner's ruling which were submitted August 13, 2018, October 5, 2018, February 5, 2019, March 4, 2019, March 13, 2019, March 18, 2019 was the Commissioner's ruling, March 21, 2019 and March 29, 2019.

Notice of this public hearing was published in the following newspapers in Maine, the Lewiston Sun Journal on March 1, 2019 and March 22, 2019; the Bangor Daily News on February 26, 2019 and March 22, 2019; the Kennebec Journal on February 27, 2019 and March 22, 2019; and the Portland Press Herald on February 28, 2019 and March 22, 2019.

Notice was also send to the parties as well
as those persons and/or entities set forth in Chapter 3 and all those who specifically requested notification.

During the daytime portion of the hearing, the Department will receive evidence from the Applicant and Intervenors. Intervenors in this proceeding are organized by group and include: Group 1, Friends of Boundary Mountains, Maine Wilderness Guides and Old Canada Road; Group 2, West Forks Plantation, Town of Caratunk, Kennebec River Anglers, Maine Guide Services, Hawk's Nest Lodge and Mike Pilsbury; Group 3, International Energy Consumer Group, City of Lewiston, International Brotherhood of Electrical Workers Local 104 and Maine Chamber of Commerce and the Lewiston/Auburn Chamber of Commerce; Group 4, Natural Resources Council of Maine, Appalachian Mountain Club, Trout Unlimited; Group 5, Wagner Forest Management; Group 6, The Nature Conservancy and the Conservation Law Foundation; Group 7, Western Mountains and Rivers Corporation; Group 8, NextEra; Group 9, Office of the Public Advocate; and Group 10, Edwin Buzzell, Carrie Carpenter, Eric Sherman, Kathy Barkley, Kim Lyman, Mandy Farrar, Matt Wagner, Noah Hale, Taylor Walker and Tony DiBlasi.

Some of the Intervenors are Intervenors for the Department portion of the hearing only, some are Intervenors for the Commission's portion only and some are intervenors in both proceedings.

Testimony of the parties was filed in writing in advance of the public hearing. That pre-filed testimony is part of the record and all of the parties have received copies. Today's hearing will begin with opening statements from all of the parties followed by and overview of the proposed project from the Applicant. Then we will begin with a summary of the testimony from the Applicant's first witness panel, cross-examination will follow that. As you will see throughout this hearing, many witnesses have group -- been grouped into panels to allow for an efficient hearing. Please note that counsel for the Department and Department staff may ask questions at any time, although the Department will generally hold its questions until the completion of cross-examination.

A copy of today's agenda is located on the a table in the back of room as well. And I just want to just make one minor note, which is that we inadvertently did not add an opening statement block for Group 10, so we're going to add that at 9 'oclock

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
after Group 8 is finished.
The Commission and Department will hear testimony from the general public on Tuesday, April 2 starting at 6 p.m. The Department will hear testimony from the general public on Thursday, April 4 starting at 6 p.m. Any testimony from members of the public that is focused on the topics of the Commission portion should be given tomorrow night as the Commission will not be present at the evening session Thursday night. Testimony on Thursday night will be limited to the Department's hearing topics. All witnesses at this hearing will be sworn. All evidence already entered into the record will be available during the course of the public hearing for inspection by anyone who wishes to do so. A copy of the project file is located also on that back round table. Please speak with a representative from the Department if you wish to look at portions of the file. After the hearing, the project file will be available for public review by arrangement during regular business hours at the Department's Bangor office.

At this time, I ask all persons planning to testify today to stand up and raise their right-hand so I can swear you in. I think we've got everybody.

Okay. Do you swear or affirm that the testimony you are about to give is the whole truth and nothing but the truth?

## (Witnesses affirm.)

MS. MILLER: Thank you. All participants in the public hearing are expected to conduct themselves professionally both in their dealings with the Department, with each other and the general public. If a party or member of the general public is unable to conduct themselves professionally, I will take appropriate action which may include excluding the individual from further participation in the proceedings.

In closing, the goal is a fair and productive public hearing. Please be aware of time constraints and adhere to the time allotted to you in the agenda. Please be concise and keep testimony relevant to the licensing criteria set forth in the Department's and Commission's procedural orders.

Department staff have read the pre-filed direct and rebuttal testimony. The Department is here to listen and consider all of the evidence. The purpose of this public hearing is to collect information as part of the license application process for the Department to be able to based upon
the administrative record as a whole make an informed decision based on the facts and statutory requirements. Thank you all for your participation. With that, we will get the proceeding started beginning with opening statements and we'll start with the Applicant.

MR. MANAHAN: Good morning. Can you hear me okay? My name is Matt Manahan representing Central Maine Power and with me is Lisa Gilbreath also representing Central Maine Power. Is it okay for me to speak here in this location as opposed to the podium?

MS. MILLER: Yes.
MR. MANAHAN: Great. Thank you. The New England Clean Energy Connect project, or NECEC, has been prominent in the news of late, but our task today is removed from all of the politics and the media hype. CMP will demonstrate this week that the proposed project meets all DEP approval criteria as it relates to the four hearing topics. CMP has carefully and thoughtfully sited and designed the project to avoid impacts whenever possible, to minimize unavoidable impacts and to compensate for those unavoidable impacts.

First, with respect to alternatives, the
evidence will show that there is no practicable alternative that would be less damaging to the environment. In reviewing alternatives, CMP's primary consideration was identifying the existing transmission line corridor closest to the Canadian border, which is Section 222 in The Forks and evaluating the optimal route from the Canadian border to connect to it. CMP's project route and Alternatives analysis avoided siting the project in the state and national parks, recreation areas, areas with protected or natural or cultural resources and areas with high scenic values and sensitivity. CMP's witnesses will show this week that the alternatives to the chosen route would add significantly greater adverse impacts.

Second, with respect to hearing topics on scenic character and existing uses, the evidence will show that the project will not adversely affect scenic character and will not unreasonably interfere with existing scenic aesthetic or recreational uses. CMP carefully sited the project to maximize the use of existing conditions and natural buffers such as topography and intervening vegetation to minimize the visibility of project. For example, one, to the extent possible when avoiding the sensitive areas I
just mentioned choosing the straightest route between the Canadian border and the existing CMP transmission line Section 222 corridor, thus minimizing the length of new transmission line corridor to less than 54 miles. Two, co-locating more than 70 percent of the proposed transmission line with existing transmission lines within existing corridors avoiding or minimizing new visual impacts that can occur with new corridors. Three, maximizing the use of natural buffers such as topography and intervening vegetation to minimize the visibility of the project by, for example, avoiding ridge lines and siting the transmission corridor alongside slopes and low points. Four, orientating the transmission line perpendicular to Route 201 where the corridor crosses that road so that the transmission line corridor is visible for the minimum amount of time to passing motorists. And five, locating the transmission line along the west side of Johnson Mountain and along the shoulder of Coburn Mountain to reduce its visibility from Route 201.

CMP also carefully designed the project to minimize its visibility. For example, one, using self-weathering steel structures in most locations to support transmission line corridor conductors to make

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
them less obtrusive and more compatible with their natural surroundings. Two, proposing to shorten the structure close to Beattie Pond to minimize its visual impact and visibility to recreational users of that pond. Three, reducing the height of structures along the west side of Moxie Lake to minimize their visibility. And four, proposing to cross beneath the Upper Kennebec River utilizing horizontal directional drilling, or HDD, rather than an overhead crossing to eliminate visible conductors, aviation markers and structures from the Kennebec River and to maintain that river's segment scenic and recreational values. CMP also proposed to create new buffers to minimize the project's visual impacts. Examples include roadside buffer plantings in several areas and tapering of vegetation along the edges of the transmission line corridor segments visible from the summit of Coburn Mountain from Rock Pond.

Third, with respect to the next hearing topic wildlife habitat and fisheries, the evidence will show that the project will not unreasonably harm significant wildlife habitat or threatened or endangered plant habitat. CMP's proposal including the following measures specifically intended including Roaring Brook Mayfly and Northern Spring

Salamanders. One, riparian buffers and 100 feet will be maintained adjacent to all perennial streams within Segment 1 adjacent to all cold water fishery streams crossed by the project adjacent to all streams containing threatened or endangered species and adjacent to all four outstanding river segments crossed aerially by the project. Two, at the request of IF\&W, CMP is proposing expanded riparian buffers of 75 feet for all other streams. And three, CMP modified the design to include eight taller structures to avoid and minimize impacts by allowing full height canopy within the 250 food wide conservation management areas of two streams containing threatened and special concern status species.

To avoid habitat fragmentation, CMP is co-locating more than 70 percent of the new transmission line within or immediately adjacent to existing transmission line corridors rather than creating a new corridor for the entire transmission line. You will also hear about several other measures to minimize habitat fragmentation within Habitat 1, which is the new corridor portion of the project. For example, within the Upper Kennebec River dewintering area establishing maintaining 10

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
new deer winter travel corridors.
With respect to cold water fisheries, the project proposal includes several measures to avoid, minimize and compensate for unavoidable impacts including, one, permanently preserving over 12 miles of cold water habitat and almost eight miles of habitat and frontage along the Dead River. Two, replacing missing non-functional and improperly installed culverts to reconnect isolated cold water fishery habitat to downstream areas. Three, donating $\$ 180,000$ to the Maine Endangered and Nongame Wildiffe Fund to pay for additional mitigation for unavoidable cold water impacts. And four, performing stream crossings by heavy equipment during construction through the installation of equipment spans with no in-stream disturbances. Fourth, and with regard to the final hearing topic with respect to compensation and mitigation, the evidence will show that CMP has proposed a very robust compensation plan to address all unavoidable impacts.

CMP has offered compensation for unavoidable impacts in many forms and for numerous purposes, offered in lieu fees total more than $\$ 3$ million and other compensation fees total over $\$ 2$ million for a total of over $\$ 5$ million. Land proposed for

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
permanent preservation total nearly 2,800 acres, provisions for tapering of transmission corridor vegetation at two locations, Coburn Mountain and Rock Pond, Three Slide Mountain near Gold Brook, increased vegetation maintenance costs by more than $\$ 22,000$ per year and maintenance of winter deer travel corridors in the Upper Kennebec deer wintering, increased vegetation management costs by more than $\$ 9,000$ per year. Conserved land will include over 2,000 acres to offset wetland impacts, an additional 717 acres within the Upper Kennebec deer wintering area. We believe this is the most, one of the most, if not the most, robust compensation plans for any development project in Maine history especially given be the project's minimal natural resource impacts. It includes numerous design, construction, maintenance and monetary components that far exceed what is required for compensation by statute and regulation and that very effectively compensate for unavoidable impacts.

So in short, the evidence will show that the New England Clean Energy Connect meets all DEP approval criteria and that there is no other practicable alternative that will be less damaging to the environment and that meets the project purpose,
which is to deliver 1,200 megawatts of clean energy generation from Quebec to New England at the lowest cost to ratepayers. Thank you for your time and consideration.

MS. MILLER: Thank you. Before we move on to Group 1, I just want to mention that April sitting over here is helping me keep time, so throughout these proceedings as -- if you see her lift up a red piece of paper it's going to tell you when you have about a minute left. I'm also going to be looking at that so just -- so we can do our best to stay on track today.

So now we'll go ahead and go to Group 1, Mr. Haynes.

MR. HAYNES: Thank you. Does this sound okay to everybody? Good morning and I thank you for attending the first day of DEP hearings regarding the NECEC proposal to cross western Maine for the new power line corridor. I am Robert Haynes, a Maine licensed forester --

MS. MILLER: I'm sorry, can you move the microphone just a little closer for the transcriptionist?

MR. HAYNES: I can do that. I can do that. MS. MILLER: Thank you.

MR. HAYNES: I'm Robert Haynes, a Maine licensed forester, coordinator of the Old Canada Road National Scenic Byway Incorporated, spokesperson for Group 1 and an abutter to the project. Group 1 consists of the Friends of Boundary Mountains, Maine Wilderness Guides Organization and Old Canada Road Scenic Byway.

I'd like to give you an overview of the components of Group 1. Friends of the Boundary Mountains witness Janet McMahon, an eminent ecologist who has long studied the intact forested region of the western Maine mountains will bring testimony to your attention on how the habitat fragmentation caused by the CMP power line will bring dire ecological consequences to the core habitat of a region significant at a continental scale. These will be permanent ecological consequences affecting biodiversity that cannot be mitigated or compensated away.

The Maine Wilderness Guides Organization calls to your attention that CMP's proposed project will have significant negative impacts on existing wilderness guiding operations. The largest unfragmented forest of the region, wildlife and wildlife habitat and will show its concerns that CMP
has not made adequate provisions for fitting the development harmoniously into the existing natural environment and that the development will adversely affect existing uses and scenic character.

The Maine Wilderness Guides Organization is a non-profit organization whose mission is to provide the unified voice for the profession of wilderness guiding while maintaining the highest professional, educational and stewardship standards for the conservation of remote woods and waters. MWGO has approximately 100 members including members who guide in the forest, rivers, streams and lakes that will be affected by this proposal.

The National Scenic Byway Program selected distinguished roads of national significance across the country. To date there are only 150 across the nation. Old Canada Road was selected in 2000 by the Secretary of Transportation. Funded with competitive grant money from the Federal Highway Administration, OCR has invested over a million dollars over the 78 mile byway corridor from Solon to Canada promoting positive visitor experience and creating opportunity for travelers to stay longer and spend more money.

One of the intrinsic values that caused OCR to be selected in 2000 as a national byway was its

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
outstanding scenery, small towns and working forests. We work closely with the Maine Department of Transportation in completing projects. The most recent was a 6 mile trail project in cooperation with Central Maine Power Company on the Kennebec and Dead Rivers. Tourists come to the Upper Kennebec Valley for what it has and for what is missing, night sky, lack of self-service, if desired, lack of chain stores and, of course, the Maine woods. Our visitors come from around the world and all over the United States not just for what this new road designation can offer but for what guides and the recreational industry have provided for decades, a continuous, positive outdoor experience from wild water rides to snowmobiling to just enjoying being away from it all.

The Upper Kennebec Valley has provided memories for years. We want to continue helping to provide that experience for generations, however, the design of the NECEC project has caused concern with its potential impact on the scenic quality and existing uses. The OCR directors have serious concern that an HVDC power line from Canada as proposed will be detrimental to the traditional Maine woods experience. Return customers are the best and we want them to come back for years. Returning to
see a very tall power line cutting across Old Canada Road, over Coburn Mountain and through the Moose River basin may not be what they have in mind. I will bring testimony to your attention that demonstrates how critical the scenic character and existing uses along the Old Canada Road area are to the people, business and experience of this region. Thank you.

MS. MILLER: Thank you. Group 2.
MS. CARUSO: Good morning. Thank you for this opportunity. My name is Elizabeth Caruso, I'm the First Selectman of the Town of Caratunk.

Caratunk is a remote rural town nestled along the Kennebec River on the Appalachian Trail and is home to Pleasant Pond, many years the state's cleanest body of water.

Once a historic logging town, now Caratunk's rugged natural landscape and non-industrialized natural resources lure tourists and vacation home owners from all over the country to live and recreate here. The region's snowmobile trails, rivers, native brook trout fisheries, hunting grounds, remote beautiful ponds and nearby mountains with spectacular non-industrialized views are the treasures that these urban people seek as well as our own residents.

Like The Forks area, Caratunk's year-round residents either make their livelihoods within the recreation and natural resource-based tourism industry or in the construction, logging and service industries catering to the needs of seasonal and year-round landowners. Along with the West Forks Plantation, we represent two of the towns and plantations along the 53 miles of new corridor, all of whom have officially opposed this project.

Additionally, Group 2 consists of the Kennebec River Anglers, a unique fishing guide service that focuses on guiding their clients who come from all over the country to catching wild brook trout in remote and niche rivers, ponds and lakes of the new corridor. Maine Guide Service similarly guides hunters, anglers, snowmobilers and hikers visiting all over the country and is also the Kennebec River Ferry Service for the Appalachian Trail in Caratunk. Hawk's Nest restaurant and lodge in the West Forks is another business based on the natural resource tourism in our area.

This large scale industrial project does not belong in Maine and certainly not in the last unfragmented forest we are so blessed to have in our region. The negative impact on the scenic character
and existing uses along the first 53 miles will diminish the quality of life and economic possibility around the growing outdoor industry and the area towns. CMP has failed to demonstrate that their proposal would not cause unreasonable impacts to the socioeconomic conditions for the people who live, work and visit the first 53 mile segment.

Group 2's testimony and the testimony of other opposition Intervenors will show that CMP has failed to demonstrate that this proposed industrial project will not unreasonably interfere with the scenic character, existing scenic, aesthetic, recreational or navigational uses and has failed to show that an industrial project of this scale and size could possibly fit harmoniously into the natural environment. CMP has failed to demonstrate that this industrial project will not unreasonably harm any significant wildiffe habitat, fresh water wetland plant habitat, threatened or endangered plant habitat and specifically the endangered species Roaring Brook Mayfly, spring salamanders, brook trout habitat, habitat fragmentation and buffer strips around cold water fisheries. We do not agree that CMP has met its burden of proof that there is no practicable alternative. Even assuming that they have, CMP has
not minimized the proposed alteration to Maine's natural resources as much as possible. This industrial activity will have an unreasonable impact on protected natural resources and wildlife.

And finally, CMP has failed to provide adequate mitigation and compensation for a loss of wetland function since they have failed to even adequately assess the impacts on cold water fisheries habitat, the outstanding river segments and wetlands. For all of these reasons Group 2 expects the Department will find that CMP has failed to meet its burden not only with the respect to the hearing topics, but also on other necessary review criteria relevant to a determination to issue a Natural Resource Protection Act permit and Site Location Development Act permit. So Group 2 urges the Department to reject CMP's project and deny its application. Thank you.

MS. MILLER: Thank you. Group 3.
MR. BUXTON: Thank you and good morning, all. I am Tony Buxton of Preti Flaherty representing Industrial Energy Consumer Group this week. With me is Benjamin Borowski of Preti Flaherty and later this week we'll be joined by Jerry Petruccelli of his firm.

Group 3 is composed of Industrial Energy Consumer Group, City of Lewiston, Lewiston/Auburn Chamber of Commerce, the International Brotherhood of Electrical Workers and the Maine State Chamber of Commerce. Most of our testimony has been designated for comment status, but we are pleased to offer brief testimony by Robert Myers, Executive Director of the Maine Snowmobilers Association on the value of the project to snowmobiling. These groups are united in our support to CMP's application because we think CMP has met both the letter and the intent of the law that has been recited by others here today. We understand the importance of carefully analyzing each of these issues and we welcome this opportunity -the opportunity to join in this effort, however, our analysis of those issues and of the application of CMP convinces us that those standards are being met by CMP and indeed that CMP in this proceeding and in others has made an extraordinary effort to make this a good project that fits harmoniously into the environment of Maine. We understand the importance of these statutes and this project to society and we understand that if we are to meet the needs of society that we have both a practical and a moral obligation to find reasonable solutions; in this
instance, to find ways to transport clean, renewable energy from the Quebec border to Lewiston, Maine.

We thank and congratulate all of the parties here today for their participation whatever their position may be. We believe civilization survived because we reason together and we look forward to doing that this week. Thank you.

MS. MILLER: Thank you. Next, we have Group 4.

MS. ELY: Good morning. My name is Sue Ely and I am here to represent Group 4 consisting of the Appalachian Mountain Club, The Natural Resources Council of Maine and the Maine Council of Trout Unlimited. We plan to show that this project would cause irreparable damage to Maine's north woods. We are most concerned by the approximately 53 new miles -- miles of new permanently clear transmission corridor that would bisect the largest remaining block of intact temperate forest in the U.S., a globally significant forest region. We are also very concerned about the negative wildife impacts of the expanding the existing corridor. Aside from the underground crossing of the Kennebec River, CMP's proposed line utilizes 100 foot tall above-ground transmission lines that will negatively impact the

Appalachian Trail, hundreds of wetlands and streams, dozens of inland waterfowl and wading bird habitat areas and deer wintering lot -- yards and encroaches upon Beattie Pond, a Class 6 remote pond.

Even the Maine Public Utilities Commission, with which we disagree vehemently on the recent hearing examiner's report on this project, concedes that the project would have a significant adverse effect on scenic and recreational values including the associated impacts on tourism and the economies of communities near this project. The Public Utilities Commission advocated its responsibility to protect Maine's --

MR. MANAHAN: Ms. Chairman, I'd have to object to discussion of the PUC proceeding here today.

MS. BENSINGER: Do you want to respond to that objection?

MS. ELY: It's a -- it's a public record directly relevant to this project and they actually specifically called out their lack of evaluating scenic -- acting on scenic and recreational impacts on the presumption that this body will do that.

MS. BENSINGER: I would recommend that you sustain the objection and limit -- limit any
discussion about the PUC's analysis.
MS. MILLER: So I will sustain it. Limit it to what is relevant to this proceedings. Thank you.

MS. ELY: So I am still unclear.
MS. BENSINGER: I mean, try not to dwell on the PUC process. We're here to talk about the DEP's statutory criteria and not the PUC's criteria. So your opening statement is more about your position on whether the Applicant has met the criteria that the DEP has to apply.

MS. ELY: Okay. We believe -- we agree that the hearing examiners are correct in that there will be impacts on scenic and recreational values including impacts on tourism and economies of communities near the project. And because of these impacts and because this is the body that is being tasked with doing this analysis and it's clear that there are not other bodies doing a similar analysis or any other parallel analysis like the PUC, it makes the work that we're doing this week even more critical and vitally important and we thank you for the opportunity to provide information about these numerous and significant concerns.

On the scenic character and existing uses,
this proposed project is not consistent with and would negatively impact the scenic character and existing uses of the region, for example, this project would significantly degrade the remote undeveloped scenic character of the region and harm the experience of existing recreational users including hikers, boaters, paddlers and those who hunt and fish in these remote and beautiful areas. The proposed line will also degrade the hiking experience for users of the Appalachian Trail. It would be the first crossing of the AT by a transmission line of this size anywhere in the state.

On wildlife habitat and fisheries, the western Maine mountains is the heart of a globally significant forest region that is notable for this relatively natural forest composition, lack of permanent development and high level of ecological connectivity. The proposed new corridor would be one of the largest permanent fragmenting features bisecting this region and would have an unreasonable adverse effect on wildlife habitat, wildlife life cycles and travel corridors. CMP's assessment of these impacts is cursory, overly general, lacking in specific analysis and inappropriately conflates the impacts of the corridor with those of timber

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
management.
MS. MILLER: Can we wrap this up?
MS. ELY: This region is the heart of the largest block of impact aquatic habitat in the northeast supporting populations of native brook trout that has been identified as the last true stronghold for brook trout in the United States. It would substantially fragment its habitat with multiple stream crossings, the impact for trout habitat, the creation of a new corridor that could be a vector for increased human use and the introduction of invasive species.

The clear cut away for the project would impact hundreds of vernal pools and important travel routes to and from these pools, again, resulting in impacts ranging from complete destruction of some vernal pools to greatly compromised habitat for others. The project would also dramatically impact deer wintering areas, a habitat type that is critical to help Maine deer survive Maine's long winters when food and shelter are critically limited.

CMP has also failed to demonstrate that there is not a practicable alternative to the proposed project that is less damaging to the natural environment such as burying the project underground
or considering alternatives to reduce impacts on the unfragmented forest, brook trout habitat, vernal pools and deer wintering areas. Finally, CMP has failed to provide adequate mitigation or compensation of the projects many impacts. CMP's proposed mitigation is inadequate to compensate for fragmentation of Maine's north woods as well as specific impacts on brook trout habitat, vernal pools or deer wintering areas. For this reason and the reasons stated above, Group 4 respectfully asks the Department to deny CMP's permit application.

MS. MILLER: Thank you. Group 5.
MR. NOVELLO: Good morning. Thank you for the opportunity to speak with you today. My name is Mike Novello. I'm an employee of Wagner Forest Management. I am here representing Group 5. We are taking no position for or against this project.

Our client borders the proposed transmission line for much of its travel through The Forks Plantation. We originally filed for Intervenor status to ensure that our client's interests were represented and protected in these proceedings. Our concern is limited to one topic that several photos in the derived photosimulations were taken from our client's land without their permission. As this land
is privately owned, we do not believe it is appropriate for views from this private land to be considered in evaluating the scenic impact or other topics before this -- before the parties. Thank you.

MS. MILLER: Thank you. Group 6.
MR. WOOD: Hi. Good morning. Rob Wood with The Nature Conservancy representing Group 6, the Nature Conservancy and Conservation Law Foundation. The Western Maine region contains globally and regionally significant wildlife habitat. The Nature Conservancy's science shows that this area is unique in the eastern United States for its high level of habitat connectivity and its high level of resilience to climate change. Western Maine provides a key linkage to wildlife movement especially for species that require mature forests and full canopy cover and the reason will become more important over time. We are concerned about the habitat fragmentation that would occur from Segment 1 of the proposed transmission corridor. Unlike the impact of forestry in the region, this transmission corridor would traverse the entirety of the core forest block, would be wider than standard logging roads and would create a permanent fragmenting feature and connected a resilient forest habitat. We believe that more can
be done to avoid, minimize and compensate for these habitat fragmentation impacts to ensure no net loss biodiversity. For example, the line to be sited along the Spencer Road to reduce a new forest edge with portions potentially buried along the road, the corridor could also be narrowed through additional vegetative tapering and fragmentation could be reduced through additional wildlife travel corridors. For any remaining habitat, fragmentation habitats, additional compensation could be provided to conserve land in the region, which could reduce habitat fragmentation elsewhere in the region and prevent future habitat fragmentation. Thanks.

MS. MILLER: Thank you. Group 7.
MR. SMITH: Good morning. My name is Ben
Smith. I'm here on behalf of Western Mountains and Rivers Corporation, also known as WMRC, a Maine non-profit corporation.

WMRC was formed in August 2017. As a non-profit, WMRC's mission is to expand conservation along western Maine's rivers including the Kennebec, Dead, Sandy, Moose, Sebasticook and Carrabassett and also surrounding natural resources and also to develop recreation projects, educational programs and increase economic development in the area through
nature-based tourism.
Contrary to some claims of Intervenors, some Intervenors, board members of WMRC are entirely comitted and they are legally obligated to follow the laws, federal and state, surrounding charitable missions of non-profit organizations. There can be no private inurement, period. There have also been criticisms about WMRC's members in the press including that the members are unknown, that they're not from the area, that they're not devoted to the region, that they're working at CMP's directions, that there are only a few handpicked rafting organizations and they don't have any other experience with outdoor recreation. All these criticisms are unfounded. The current board member of WMRC or the current board membership is close to 1,500. Board members include business and community leaders from the greater Forks region, career public servants and people dedicated to the communities in and around The Forks area.

I'll give you some examples. Ben Towle from Caratunk, owner of Maine Lakeside Cabins, owner of Maine Outdoor Sports, president of the local ATV club. John Philbrick, Caratunk, owner of Adventure Bound and member of the recreational industry and
recreational guide for years, also previously worked for New England Outdoors another recreational outfitter. Judith Hutchinson, The Forks, local select person, assessor, past president of The Forks Fish and Game Club, currently works as a tax auditor for the state. Susie Hoffmeyer, Caratunk, vice president and co-founder of Northern Outdoors in The Forks. She's a registered Maine Guide, master license, hunting, fishing, recreation and whitewater rafter to the first female to hold that license. Pam Christopher, Moxie Gore, executive director at The Forks area Chamber of Commerce for 10 years. Rachel Prominent, West Forks, owner and operator of 15 Mile Stream Lodge, the largest guiding camp and outfitter in the region. Peter Mills, Cornville, lawyer, 16 year legislator in the House and Senate, executive director currently of the Maine Turnpike Authority, has held that position since 2011. Robert Peabody, Solon, owner and operator of Crabapple Rafting Company, signatory to the Harris Station FERC licensing, son of the owner of Moxie Trail Rentals, family is very involved in recreational industry. Russell Walters, Kingfield, co-owner and president of Northern Outdoors, a four-season adventure resort based in The Forks. Tom Coleman, West Forks,
district forester for LandVest to large real estate management and holding company overseeing land in western Maine. Lloyd Trafton, West Forks, Somerset County Commissioner and long-time select person for West Forks U.S. Border Patrol. Chris Savage, executive director for Somerset Economic Development Corporation. And then you also have with me here Larry Warren and Joe Christopher. Larry is one of the founders of the Town of Carrabassett Valley and former president and controller of Sugarloaf Mountain Corporation and he's the founder of Maine Huts and Trails. Joe Christopher, owner of several businesses including Three Rivers Rafting, Inn By The River, Sugarloaf Inn, lives in The Forks, has lived there for 30 years, makes it a weekly adventure to actually swim down the Kennebec Gorge.

Sometime after CMP began participating in the Section 83D process, WMRC approached CMP in order to explore ways it could protect the Kennebec Gorge. The Gorge had long been established by CMP as a potential for transmission line crossing. WMRC wanted to suggest and did suggest to CMP that they would co-locate facilities along Harris Station and Harris Dam. Unfortunately, this was not possible. Part of that is because of a very arduous, difficult
and time consuming and expensive FERC relicensing and also there would be no assurance after such a proceeding that the sort of benefits and accommodations that are currently under the arrangement with Brookfield would remain the case, so that was simply not a feasible alternative. WMRC then began negotiating with CMP whether or not they could pursue an underground solution. That was not a preferred alternative for many reasons and I think the Applicant can actually speak to.

As a result, WMRC had basically one option to do whatever it could to try to protect the Kennebec Gorge through negotiating a mitigation package and compensation package that would protect any type of intrusion and impact upon the Kennebec Gorge area under any of the alternatives that could occur and that's exactly what it did.

MS. MILLER: Can you wrap this up?
MR. SMITH: I will. We have two witnesses that will speak at the Department's proceeding. We have Joe Christopher and Larry Warren. They will speak to the first issue identified by the Department, namely whether the project will have an unreasonable impact on the existing recreational aesthetic, scenic and other uses. As shown by their
testimony, we believe that the Department can find and should find that the project has been designed in a manner that seeks to minimize the adverse impact of the project on such uses and that any impact is not unreasonable. Thank you.

MS. MILLER: Thank you. Group 8.
MS. TOURANGEAU: Good morning. This is
Joanna Tourangeau on behalf of NextEra, also known as Group 8. We are here to talk about the alternatives that need to be considered under the Site Location of Development Act and the Natural Resources Protection Act, 38 MRSA Section 487-A4 specifies that the Department shall consider whether any proposed alternatives to the proposed location and character of the transmission line may lessen its impacts on the environment or the risks it would engender to public health or safety without unreasonably increasing its cost. The Department may approve or disapprove all or portions of the proposed transmission line and shall make such orders regarding its location, character, width and appearance and will lessen its impact on the environment having regard for any increase cost to the Applicant.

Under NRPA, as we all know, the question
that's presented is whether the preferred alternative for achieving the project purpose is reasonable balancing cost, logistics, technical aspects against impacts to the protected resources. Here, the impacts are significant and adverse. The Applicant's supplement to its application documents the benefits of undergrounding a portion of the new transmission line as it crosses the Upper Kennebec. Other portions of the transmission line and the undergrounding alternative and its benefits associated therewith are not documented in the application at all. After this flaw in the application came to light the Applicant responded that whether they considered the alternative or not it's just too expensive. This isn't substantial evidence upon which the Department can determine reasonableness. The Applicant failed to meet its burden under SLODA and NRPA to show that the costs and benefits, both sides of the scale, so that the Department can determine how to balance those scales. Thank you.

MS. MILLER: Thank you. And now we have Group 10.

MR. BUZZELL: Hello. I'm Ed Buzzell and I'm an Intervenor for Group 10 against CMP's NECEC
project. We're a group of local residents and recreational users. The Applicant CMP's proposed project will perversely and permanently scar the western mountains of Maine with towers and transmission lines cutting through unique forest ecosystems and rising well above the tree canopy. This will make an industrial infrastructure starkly visible within far too many of Maine's wild landscapes. It will slice 53 miles of new corridor from Canada through the last and largest undeveloped contiguous forest east of the Mississippi. It will further cross the iconic Kennebec Gorge and most of the benefits will not be for Maine but will be more Canada and Massachusetts.

The Department of Environmental Protection should deny these permits based on the following: Alternatives exist for transmitting electricity from Quebec to Massachusetts, alternatives that would not damage the State of Maine. An alternative underground project already permitted in the State of Vermont exists to transmit electricity to

Massachusetts with no damage to Maine. The Applicant itself chose not to pursue practical alternatives that would have avoided or greatly lessened the damage that would be caused by its own proposal. The

Applicant failed to study or even consider burying the transmission line from Canada to The Forks. Two alternate projects, one in Vermont and a similar project in New Hampshire, both offered to go underground. The Applicant until recently strongly proposed to run transmission lines across the Kennebec Gorge. The Applicant stated in many hearings that it did not know if it was even possible to drill under the Gorge. Because of Maine popular opposition the Applicant then decided to directional drill under the Gorge. No visual assessment has been done or study of what damage directional drilling will do to the surrounding area, Kennebec Gorge or the cold stream fisheries located just below the crossing. Once this damage is done it can never be undone.

The proposed NECEC corridor will be a permanent visual scar on the base of Coburn Mountain. That scar will be seen from over 12 miles away from any elevated area, while the damage done by cutting will heal, deadly herbicides will ensure that this scar will never heal. The project will be most harmful to most wildlife along the corridor. A large corridor will be detrimental to the deer population as hunters looking for an easy kill will be able to
hunt the long open stretches of corridor and for a deer population faced with harsh winters and just starting to recover this will be tragic.

Since 2015, almost 150,000 commercial
whitewater rafting guests and almost 30,000 private boaters came to enjoy not just the Kennebec Gorge, but also to enjoy a remote wilderness area that no longer exists in the urban areas that they live. The additional upswing in private boaters proves that this is still a developing resource. Not all these guests and private boaters come to just boat the river. Many came to enjoy the natural resources such as Moxie Falls, Coburn Mountain, Number 5 Mountain, thousands of other outdoorsmen and women also come to the area to fish, camp, hunt, canoe, hike and many of the other outdoor activities. They do not come to see views of development. These are existing uses that may be irrevocably destroyed.

The Public Utility Commission staff admits, quote, with respect to the effects of the project on scenic and recreational values and the associated impacts on tourism --

MR. MANAHAN: Could I just object for the record? This is not in the pre-filed testimony and in addition could I just comment, I didn't want to
interrupt his flow earlier and I'm sorry that I had to here, but he's also said that he's testifying on behalf of all of Group 10 Intervenors, most, other than Mr. Buzzell, they're all non-intervenors in the DEP process, they're at the LUPC, so I would object to him speaking on behalf of LUPC Intervenors before the DEP here.

MS. MILLER: I will sustain both of those. And just try to limit your comments to not what's happening in -- oh, I'm sorry, did you want to respond to that, Ms. Boepple?

MS. BOEPPLE: Yes, I would, please. First of all, Mr. Buzzell was not representing that he was speaking on behalf of all of Group 10. We know that the other Intervenors are part of the LUPC process and not the DEP. He's hear speaking as a DEP Intervenor. Yes, he was grouped in Group 10, excuse me, and therefore he should have an opportunity to speak in group -- on behalf of himself in Group 10 as a DEP Intervenor, so I hope that objection won't be sustained.

And second, with respect to the reference to the PUC, again, this is merely reminding the Department what the role of the Department plays versus what the PUC's role played and therefore it is
relevant to the hearing topics and he's almost concluded, so.

MS. BENSINGER: But I think the Presiding Officer's sustaining of the objection is to the quoting from the PUC decision, so if you would just proceed without quoting from the PUC decision.

MS. BOEPPLE: Could I get clarity on the objection with respect to Mr. Buzzell speaking here today?

MS. MILLER: Yeah, Mr. Buzzell can speak on behalf of Mr. Buzzell.

MS. BOEPPLE: Thank you.
MR. BUZZELL: I was about ready to wrap this up anyways, so. With this in mind, how can the Department of Environmental Protection permit this destructive process? And thank you for your time and consideration.

MS. MILLER: Thank you very much. So the next thing we have on our agenda is to start with the Applicant's overview of the project. We'll do -we'll start that at 9:05, so we have a quick opportunity for a break.
(Break.)
MS. MILLER: Okay. We need to reconvene this. We're a little later than we had hoped in our
break. So right now on the schedule we have an overview of the project from the Applicant.

THORN DICKINSON: Good morning. My name is Thorn Dickinson. I'm the Vice President of Business Development at Avangrid Networks and I'm happy to be here today to give an overview related to the project.

The main purpose or need of the project is for New England Clean Connect is to build a transmission line and the related facilities necessary to deliver 1,200 megawatts of renewable generation from Quebec to the ISO New England electricity grid. It's proposed in response to a request for proposal in Massachusetts, which there are 46 other proposals for long-term contracts for clean energy projects that were issued by the Massachusetts Department of Energy Resources and the electric distribution companies of Massachusetts.

The power from the project will provide firm, guaranteed and tract year-round energy deliveries that reduce winter electricity prices by reducing the stress on the natural gas infrastructure, also substantial reduction and wholesale cost of electricity for the cost of benefits of retail customers.

MS. MILLER: I'm sorry to interrupt you -THORN DICKINSON: Yes.

MS. MILLER: I just want to mention I just noticed in our redacted testimony that was stricken that last paragraph -- that last bullet at the bottom of the page was some of the testimony that we had struck from the record, so I just wanted to clear that up.

THORN DICKINSON: Okay.
MR. MANAHAN: Excuse me, Ms. Miller, I don't believe that that was stricken. My -- as we read the order it was just the last bullet in the discussion that Mr. Thorn -- Mr. Dickinson had in his testimony and not the -- what preceded that last bullet. Yeah, that language that's on that slide was language that was not stricken by Procedural Order, it was after that language in that slide. What was stricken was the last piece about Massachusetts Energy rules in the final bullet.

MS. BENSINGER: No, it was the last paragraph in the purpose and need, so that's from we'll provide on down. So why don't we move on from this slide.

THORN DICKINSON: Sure. The overall in the project is 193 miles of transmission corridor from

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

Quebec to Lewiston, Maine and from Windsor to Wiscasset. The Quebec to Lewiston is the direct current portion of the line and Windsor to Wiscasset is part of the investments making in the alternating current or AC portion of the line. 139.5 miles of the route is within existing corridors. The -- we have -- Central Maine Power has full control and ownership of the entire route. There are substation upgrades in Cumberland, Lewiston, Pownal, Windsor and Wiscasset. Overall, the project cost is $\$ 950$ million and we expect it to be fully operational by the end of 2022 .

When we drilled down and looked a little closer at the project just looking at it in three segments going from north to south, you have a -this is the part of the DC line, the direct current portion of the line going from the Quebec border. The yellow portion of the line is the new corridor, the 53 miles from the Quebec border to The Forks. That joins up on the black area of the DC line, which represents the part where it's parallel to the existing corridor, the existing transmission line, and heading south towards Bingham. The next segment further south goes from Moscow down to Jay. And then last segment from the -- that ends up in Lewiston
where the converter station will be located. And then to the east you also see the alternating current transmission line from Windsor to Wiscasset.

This is a graph that -- a map that we use quite a bit to demonstrate how we laid out the project, as I mentioned previously. In order to minimize the impact on the environment of the project, 72 percent of the route is -- of the DC line is along the existing corridor. In addition, the 28 percent or the 54 or 53 miles from the Quebec border through The Forks was through a privately owned working forest, land that we now control and own, and was done in a way to avoid sensitive and kind of conserved areas in an area of a working forest.

Lastly, this is just meant to represent the overall permit and time line of the project. Here you'll see various state approvals, regional approvals, federal and municipal approvals and, again, with a goal of our expectation of being able to bring the project online by the end of 2022.

GERRY MIRABILE: Good morning. My name is Gerry Mirabile and I am Manager of NECEC permitting for Central Maine Power Company. Today, we will summarize our --

MS. MILLER: Can you speak up a little bit
more, the transcriptionist needs to hear.
GERRY MIRABILE: Good morning. My name is Gerry Mirabile and I am manager of permitting for NECEC project for Central Maine Power Company. Today, we will summarize our pre-filed direct testimony the four hearing topics designated by the Presiding Officer in the Second Procedural Order. As part of Panel 1, I will begin by discussing hearing topic two, Wildlife Habitat and Fisheries, in particular Roaring Brook Mayfly and Northern Spring Salamander, brook trout habitat, habitat fragmentation and buffer strips around cold water fisheries. I will then discuss hearing topic four, Compensation and Mitigation including cold water fisheries habitat, outstanding river segments and wetlands.

First, regarding the Roaring Brook Mayfly and Northern Spring Salamander. CMP has worked very closely with the Maine Department of Inland Fisheries and Wildlife to protect these state-threatened and special concern species and as a result has proposed eight taller structures at Gold Brook and Appleton Township and at Mountain Brook and Johnson Mountain Township within their conservation management areas. These will allow full-height vegetation within those
conservation management areas and allow -- and avoid any unreasonable disturbance or harm to their habitat.

Next, we proposed a fee payment based upon the DEP's In Lieu Fee Program of $\$ 470,000$ to the Maine Endangered and Nongame Wildlife Fund to compensate for impacts to these two species in other locations. CMP has also expanded buffers around streams from the standard 25 feet to 100 feet wide adjacent to all perennial streams in Segment 1, all cold water fishery streams crossed, all streams containing threatened or endangered species and adjacent to all four outstanding river segments that are crossed aerially. All other streams will have 75 foot buffers. Within these buffers stringent protective work practices and vegetation management will be implemented. Finally, any necessary in-stream work, which is not anticipated at this time, with the exception of culvert replacement will be done between July 15 and September 15 and frozen ground conditions will be utilized to the extent possible during initial clearing and construction to reduce soil compaction, vegetation damage and the need for crane mat uses.

Next, I will summarize brook trout habitat.

To protect brook trout habitat specifically, we proposed avoidance of cold water streams wherever possible through careful siting of the project, expanded buffers of 100 feet rather than the standard 25 feet within all cold water fisheries habitat including all brook trout habitat. Within these buffers there will be no foliar herbicides used, no vehicle fueling or maintenance will be done unless on an existing paved road or with secondary containment, mats will be used across all streams, initial tree clearing will be during frozen ground conditions when possible, mats will be used to support mechanized equipment, travel lanes or reach-in techniques will be used for clearing, taller non-capable will be retained outside of the wire zone within the corridor and site specific erosion sedimentation control plans will be developed and implemented for any structures within these buffers. These measures demonstrate that CMP has avoided unreasonable disturbance to brook trout habitat and has made adequate provisions for protection of brook trout and its habitat.

Next, I will talk about habitat
fragmentation. Habitat fragmentation has many definitions but can be summarized as a division of a landscape into smaller and more isolated pieces. CMP
has avoided and minimized additional fragmentation by thoughtfully and siting the NECEC project. As noted earlier, more than 70 percent of the project is within existing corridors, avoiding new fragmentation of and direct impacts to resources such as wetlands and vernal pools and all of Segment 1 is located within a working forest that is regularly and periodically fragmented and harvested by way of clearcuts and strip cuts on a 30 to 50 year cycle. The transmission line corridor will revegetate with shrubs and smaller trees and thus will remain a viable habitat for and traversable by a wide variety of wildlife species. This is very different than hard development such as roads where habitat is entirely lost and where the remaining habitat is thereby isolated from surviving viable habitat. Tree clearing impacts and fragmentation within the Upper Kennebec deer wintering area will be minimized and mitigated by maintaining deer winter travel corridors and creating and maintaining eight other deer winter travel corridors where vegetation will be allowed to grow up to heights of 35 feet and provide cover and shelter from the elements and predators as deer cross the transmission line corridor, which they will. The above measures demonstrate that the project will not
unreasonably harm significant wildlife habitat or travel corridors through habitat fragmentation.

Next, I will describe project buffer strips around cold water fisheries. The NECEC project has been designed and will be constructed to avoid and where this is not possible to minimize and compensate for impacts to cold water fisheries. For example, we will permanently preserve more than 12 miles of cold water fisheries habitat. We will replace non-functional and improperly installed culverts on the project site and off-site to reconnect upstream fish habitat. CMP will donate $\$ 180,000$ to the Maine Endangered and Nongame Wildife Fund for cold water fisheries impact mitigation and during construction CMP will cross streams with no in-stream disturbance. We have also expanded riparian buffers to 100 feet and 75 feet described earlier and in consultation with the Maine Department of Inland Fisheries and Wildlife and this measure will minimize ground disturbance during construction and maintenance, minimize insulation of water temperature increases and protect water quality. These measures demonstrate CMP has made adequate provisions for buffer strips around cold water fisheries and the project will not unreasonably harm cold water

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
fisheries.
I'll now move on to issue four, compensation and mitigation, and $I$ will summarize first the cold water fisheries habitat protection. The project will avoid and where this is not possible minimize and compensate for cold water fishery impact in several ways including preservation of more than 12 miles of cold water fisheries habitat, culvert replacements on-project and off-project to reconnect viable habitat of $\$ 180,000$ donation to the Maine Endangered and Nongame Wildife Fund for cold water fisheries impact mitigation and expanded riparian buffers within stringent and protective measures will be implemented. These mitigation measures have been developed in consultation with the Maine Department of Inland Fisheries and Wildlife to which has stated that CMP has addressed its remaining project resource impact concerns. CMP has therefore adequately avoided where possible and mitigated and compensated for unavoidable cold water fishery impacts.

Regarding outstanding river segments crossed by the project, CMP has protected the outstanding natural and recreational attributes of the Kennebec River by crossing beneath the river thus avoiding any visual impacts to this resource. Undisturbed buffers
of 1,160 feet on the west side and 1,450 on the east side of the river will be maintained allowing full-height vegetation to grow in these areas. The four other outstanding river segments crossed aerially by the project, the Kennebec River below Wyman Dam, Carrabassett River, Sandy River and West Branch of the Sheepscot River will all be crossed by the transmission line within the existing corridors thereby minimizing the visual impacts. Also, CMP will maintain 100 foot riparian buffers along each of these river segments. These buffers will protect water quality, minimize ground disturbance and the potential for pollutants and sediments to enter the water, minimize insulation and water temperature increases and retain wildlife travel corridors. Because CMP is crossing beneath the Upper Kennebec River and because the four aerial outstanding river segment crossings would be co-located within existing corridors which minimizes resource impacts by avoiding creation of new corridors and new crossings, no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of these outstanding river segments.

I will now discuss CMP's mitigation and compensation of wetland impacts. CMP designed and

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
sited the project to avoid wetland impacts wherever possible and to minimize and compensate for unavoidable impacts. For example, many angles in the transmission route are a direct result of routing around wetlands. Construction access across wetlands where that is necessary will be located at the narrowest point of wetlands if that is feasible. CMP has developed a robust compensation plan that includes significant land conservation and in lieu fees to offset unavoidable impacts. Compensation for even temporary wetland impacts, which is required by the Army Corps consists of preservation of three tracts collectively containing 511 acres of wetlands to be preserved and CMP has offered in lieu fees of nearly $\$ 975,000$ to compensate for wetland impacts alone. These avoidance, minimization and compensation measures demonstrate that CMP has avoided significant and unreasonable wetland impacts and has appropriately compensated for unavoidable impacts. Thank you.

MARK GOODWIN: Good morning. My name is Mark Goodwin. My colleague Lauren Johnston and I are employed as senior environmental scientists by Burns and McDonnell Engineering Company in Portland, Maine. We've been providing CMP with state, federal and

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
local permitting support on the New England Clean Energy Connect project since April of 2017.

Burns and McDonnell is an engineering construction services and environmental consulting firm with recent large project experience in Maine on CMP's Maine Power Reliability Program, also known as the MPRP. At over 450 miles of transmission lines the MPRP was arguably the largest project developed in Maine in the last 40 years. Through our experience of providing environmental services on large linear projects we have developed a thorough understanding of construction impacts and the avoidance, minimization measures and best management practices that can successfully result in no unreasonable impact or adverse effects to wildlife fisheries and their habitats.

CMP has successfully applied for and received approval from the DEP for multiple projects including the MPRP with essentially the same types of construction practices and impact types and in some instances less stringent requirements than those proposed as part of the NECEC application. DEP issued the permit for the MPRP with the finding that CMP had provided adequate provisions for the protection of fisheries and wildlife and that the
construction of the project would not unreasonably harm or adversely affect their habitats. With respect to deering -- excuse me. With respect to DEP hearing issues 2 and 4 and related subtopics my testimony draws the same conclusion that the project will not unreasonably harm or adversely affect wildlife and fisheries or their habitat. CMP will accomplish this through the implementation of the avoidance and minimization measures and construction best management practices including in its applications and through the execution of its proposed compensation plan to offset unavoidable impacts.

I will now present a brief summary of my testimony regarding hearing issue 2 and its subtopics followed by Lauren Johnston, who will provide a brief summary of our testimony on issue 4 which covers compensation and mitigation. Hearing issue 2, as Gerry stated previously, includes wildlife habitat and fisheries specific to the following subtopics as described in DEP's Second Procedural Order. Subtopic 1 Endangered Species including the state threatened Roaring Brook Mayfly and the Northern Stream Salamander, which is a species of special concern in Maine. Subtopic 2, brook trout habitat, Subtopic 3
habitat fragmentation and Subtopic 4 buffer strips around cold water fisheries.

Subtopic 1. As demonstrated by my testimony, CMP will not unreasonably harm or adversely effect Roaring Brook Mayfly or Northern Spring Salamander. Inland Fisheries and Wildlife identified the presence of Roaring Brook Mayfly and Northern Spring Salamander within the project area during its project review. In response, Burns and McDonnell supported by an entomologist and a herpetologist recommended by IF\&W conducted field surveys for those streams meeting the habitat parameters defined by IF\&W and identified two water bodies with the confirmed presence of both species. These waterbodies are Gold Brook in Appletown Township and Mountain Brook in Johnson Mountain Township. Following these surveys, IF\&W determined that due to the presence of both species in Gold Brook and Mountain Brook that those waterbodies were economically significant. Accordingly and upon consultation with IF\&W, CMP modified its proposal to incorporate taller structures to avoid and minimize clearing of full height canopy within the 250 foot management zones of Gold and Mountain Brooks. For all other waterbodies with confirmed or assumed
presence of these species, IF\&W determined that CMP's vegetation management practices and avoidance and minimization measures combined with a contribution to the Maine Endangered and Nongame Wildlife Fund would adequately protect and offset impacts to the habitat and these species.

Next, I will discuss the brook trout habitat subtopic. As demonstrated by my testimony, CMP will not unreasonably harm or adversely affect brook trout habitat. There are no in-stream activities proposed for the construction of the transmission line by CMP that would negatively affect brook trout habitat. CMP's erosion and sediment control practices, environmental control requirements and vegetation management practices included in its applications as well as environmental monitoring commitments made to DEP and others will adequately protect brook trout habitat from pollution. Studies on the effect of transmission line development on trout habitat demonstrate that tree clearing and the management of right of ways in an early successional vegetated condition would result in a minimal impact on the habitat. Specifically a study by Alan M. Peterson published in the Journal of Fisheries Management concluded that electric transmission right of ways,
quote, need not constitute an adverse effect on headwater trout population densities and forested basins. As noted in Lauren Johnston's rebuttal testimony, Exhibit 4, provided in the testimony of Jeffrey Reardon shows nearly the entire State of Maine as having intact subwatershed supporting brook trout populations despite the presence of human activity and disturbances. This is evidence that not all human activity necessarily causes unreasonable harm or adverse impact to brook trout or their habitat especially those activities that retain natural features like the proposed project.

I will now address habitat fragmentation. As demonstrated by my testimony, the project will not unreasonably impact wildlife and fisheries through habitat fragmentation. CMP has avoided and minimized habitat fragmentation by the following: One, co-locating more than 70 percent of the project in existing corridors; two, locating the remainder of the line close to existing fragmentation features, primarily logging roads and areas impacted by timber harvesting as shown on Exhibit CMP-3.1A and CMP-3.1B; modifying the alignment of the new corridor to avoid the majority -- excuse me; three, modifying the alignment of the new corridor to avoid the majority
of significant vernal pools and retain connectivity of their critical terrestrial habitats; four, implementing integrated vegetation management practices adopted by federal agencies including the U.S. EPA that are wildlife-friendly, promote early successional vegetation and produce a soft edge effect, which improves habitat connectivity and lessens the impact of fragmentation; and five, providing travel corridors for wildlife by maintaining early successional vegetation and by proposing riparian buffers and taller vegetation at site specific locations including the Upper Kennebec River deer wintering area as recommended by DEP and $I F \& W$.

Characterizations of the western Maine -characterizations of western Maine as unfragmented forests are as follows: This area is fragmented by a number of natural and manmade features including rivers and streams, the cleared and mowed area along the length of the U.S./Canada border, highways including Routes 6, 15, 16, 27 and 201, existing transmission lines, the Central Maine and Quebec Railway and forestry clearcuts, strip cuts, skidder trails and logging roads. The project will not promote fragmentation through the construction of

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
access roads or access to electricity. CMP will use existing public and private logging roads to access the project right of way. Access roads within the right of way will be temporary and restored following construction. In addition, there will be no development along the new corridor resulting from increased access to electricity because this electricity is not available for distribution, it's direct current power. What's available for distribution locally is alternating current. The project will not create a hard edge; in other words, the change in habitat is restricted to a change in vegetated cover type as opposed to the severe depletion of habitat like in the case of a highway. Comparing the project to a super highway like I-95 or the Jersey Turnpike, which are both essentially devoid of habitat is completely misleading.

In regards to habitat fragmentation and significant vernal pools, no significant vernal pool depressions will be destroyed or directly impacted through permanent fill as a result of the project and the majority of the significant vernal pool
depressions are located either in existing cleared right of ways or in forested areas not proposed for clearing. Further, nearly all of the significant
vernal pool critical terrestrial habitats by the project will remain partially forested and connected by way of forest and/or early successional cover through adjacent forested habitat following construction of the project. These areas will remain traversable by wildlife. As a result, impacts to significant vernal pools from habitat fragmentation will be minimal and will not cause unreasonable harm or adverse impact.

Although deer wintering areas impacted by the project are not considered significant wildlife habitat, CMP has provided adequate provision for the protection of these areas. There are no deer wintering areas intersected by the project that have been determined to be high or moderate value. Co-location of the majority of the transmission line have minimized impacts to deer wintering areas because fragmentation in these areas already exists. Additionally, IF\&W did not recommend mitigation for deer wintering areas in the co-located portions of the project because in these areas winter conditions are shorter in duration and snow depth are less of an impediment to deer movement. IF\&W determined that proposed corridors totaling 1.1 linear miles with vegetation at either full mature height or heights of
up to 35 feet would be adequate to maintain the integrity of the Upper Kennebec deer wintering area. Notably, this is the only deer wintering area within the area proposed as new corridor between Moxie Pond and the Canadian border. Additionally, CMP has proposed the preservation of seven tracts of land within the Upper Kennebec deer wintering area in an area that currently has little protection from development, which is further protecting this habitat.

Shortly following construction and restoration of disturbed areas the right of way will transition to an early successional habitat that remains permeable to wildlife movement. The transmission line right of way will not be a barrier, will not unreasonably impede wildlife movement and will not adversely affect wildlife life cycles. As a result, there will be no adverse effect to wildlife and fisheries through habitat fragmentation.

To wrap up of the summary of my testimony on hearing issue 2, I'll finish with a discussion of buffer strips around cold water fisheries. CMP has provided adequate provisions for buffer strips around cold water fisheries. CMP consulted with and incorporated the 100 foot riparian buffers for cold
water fisheries recommended and determined by the DEP and IF\&W that adequately protect wildlife and fisheries. The riparian buffer strips proposed by CMP for the project provide more protection to fisheries resources than the ones that were proposed and approved by the DEP in 2010 for the MPRP project. Some of these protective measures include restrictions on herbicide application and refueling and equipment maintenance, requirements for site specific erosion and sediment control plans for structures that can otherwise not be sited outside of the buffer areas and equipment travel over frozen conditions or on timber mats within the buffers to minimize soil disturbance. Notably, compensation was not required by the agencies for cold water fisheries impacts on the MPRP despite clearing of riparian areas associated with both Atlantic salmon and brook trout. This suggests that the agencies did not believe canopy removal constituted unreasonable harm or adverse effect.

Thank you four your time. Lauren Johnston will now present a summary of our testimony on the issue four, compensation and mitigation.

LAUREN JOHNSTON: Thank you, Mark. I'm Lauren Johnston. I'm a senior environmental

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857
scientist with Burns and McDonnell. I assisted in the state and federal permit applications, the agency consultation process and prepared application supplements and agency data request responses for the New England Clean Energy Connect.

CMP's compensation plan achieves a no net loss of the ecological functions and values. The plan is robust, multifaceted and uses a number of compensation methods such as a payment to the DEP In Lieu Fee Program, preservation of land that contain regionally significant and natural resources and implementation of a number of wildlife enhancement projects and funding contributions. CMP's plan meets and in the case of compensation for wetlands it exceeds the applicable compensation requirements. In total, the compensation plan includes 13 parcels that contain nearly 2,800 acres of land for preservation to be placed in conservation in perpetuity, over $\$ 3$ million to the In Lieu Fee Program to be placed in the Maine Natural Resources Conservation Fund and used for grant awards at the discretion of the administrators, a nearly $\$ 650,000$ payment to the Maine Endangered and Nongame Wildlife Fund, a $\$ 200,000$ commitment for culvert replacements and a \$12 million payment to the Maine Natural Areas

Conservation Fund. The total land preservation at over $\$ 5.1$ million in monetary compensation requirements, compensation surpasses the requirements set forth in the compensation rules.

MS. BENSINGER: Could you pull the microphone a little closer for the live-stream -LAUREN JOHNSTON: Sure.

MS. BENSINGER: -- so it can pick you up?
LAUREN JOHNSTON: Sure.
MS. BENSINGER: Thank you.
LAUREN JOHNSTON: Issue 4 Compensation and Mitigation includes the following subtopics as described in DEP's Second Procedural Order. Compensation and mitigation for cold water fisheries habitats, outstanding river segments and wetlands. Projects that are subject to the Natural Resources Protection Act, or NRPA, like the NECEC, are required to provide appropriate and practical compensation to resource impacts that cannot be otherwise avoided, minimized or further mitigated.

First, I'll provide a summary of the compensation and mitigation proposed for indirect impacts to cold water fisheries habitat. I'll describe how the project will not result in an unreasonable disturbance of cold water fisheries
habitat. Proposed avoidance and minimization measures include no in-stream work for the purposes of construction, temporary crossings which fully span the resources, implementation of erosion and sediment controls as per CMP's environmental guidelines and Maine's Erosion and Sedimentation Control Law, the expansion of buffers and riparian areas to 100 feet for cold water fisheries resources. As demonstrated in our testimony, the project will not adversely impact brook trout habitat. Nonetheless, CMP has proposed compensation to address indirect impacts to approximately 11 linear miles of streams.

In a December 2017 information request the DEP noted that this mitigation package should compensate for impacts to cold water fisheries, quote, the Department envisions this mitigation package will be the responsibility of $C M P$ to implement not simply providing ILF monies. CMP fully responded by proposing a multifaceted package of compensation to mitigate for indirect impacts to cold water fisheries habitat. These include the preservation of approximately 12 linear miles of stream on the Grand Falls, Lower Enchanted and basin tracts, which total over 1,053 acres. The contribution of $\$ 180,000$ to Maine Endangered and

Nongame Wildlife Fund, this contribution will be used at the discretion of IF\&W for cold water fisheries habitat enhancement and an implementation of $a$ culvert replacement program, which includes repair, removal or replacement within CMP controlled lands during construction as well as a $\$ 200,000--$ as well as $\$ 200,000$ of funding to replace culverts on lands outside CMP's ownership. CMP is comitted to working with IF\&W and cooperating environmental advocacy groups to identify the most valuable culvert replacement projects to undertake with a goal of maximizing cold water habitat fisheries -- cold water fisheries habitat connectivity. CMP has fully addressed DEP and IF\&W's recommendations to provide a comprehensive mitigation plan for the minor unavoidable impacts to cold water fisheries habitat. As a result, the indirect impacts associated with forest conversion will not unreasonably harm or adversely impact this habitat.

Next, I'll discuss compensation and mitigation for outstanding river segments. The project crosses five locations that are protected as outstanding river segments. The Upper Kennebec River between West Forks and Moxie Gore, the Kennebec River below Wyman Dam in Moscow, the Carrabassett River in

Anson, the Sandy River in Farmington and the West Branch of the Sheepscot River in Windsor. At a considerable expense of approximately $\$ 31$ million, CMP has proposed to cross under the Upper Kennebec River using horizontal drill -- directional drill technology eliminating project views from the river and preserving the aesthetic and recreational value of this river segment. CMP has minimized impacts to the other four outstanding river segments by co-locating within existing rights of way to limit clearing impacts generally to 75 feet. CMP is also comitted to retaining a 100 foot riparian buffer on all outstanding river segments. Only 850 feet of outstanding river segment frontage will be impacted by the removal of forested canopy. The Grand Falls, Lower Enchanted and basin tracts preserve -- proposed for preservation contains 7.9 miles of river frontage along the Dead River also an outstanding river segment. These parcels offer a wealth of recreational opportunities, which are not limited to hiking, fishing, whitewater rafting, wildlife viewing and hunting and also include the protection of the Grand Falls Waterfall, the largest horseshoe waterfall in the state. Impacts to outstanding river segments have been minimized to the extent possible
by co-locating in existing rights of way and will not unreasonably impact existing recreational uses of these rivers. The preservation of 7.9 miles of river frontage on the Dead River is nearly 50 times greater far exceeding the 850 feet of river frontage that would be impacted by the project.

Next, I'll discuss the compensation and mitigation for wetlands. Recommended compensation for unavoidable impacts to wetlands are quite clear and well-defined under NRPA and under Section 404 of the Federal Clean Water Act. The compensation plan addresses both state and federal requirements for both wetland compensation and not only achieves a no net loss of wetland ecological functions and values it exceeds the recommendation -- recommended state and federal compensation amounts or ratios of compensation to impact. Field surveys were conducted in all areas of the project to inform CMP's avoidance and minimization of wetland impacts during the engineering and design process. Unavoidable impacts -- impact types include the placement of direct fill such as poles and substation development, temporary access roads for construction and forested wetland conversion. The DEP regulates permanent wetland fill but does not require compensation for
temporary access of forested wetland conversion, however, the Army Corps does. For the purposes of the DEP public hearing, I'll focus on compensation of direct fill, which is relevant to the DEP. The compensation plan addresses the guidance of both agencies, the recommended land preservations -preservation ratios differ however. The DEP requires an 8 to 1 ratio whereas the Army Corps requires a 20 to 1 ratio of land to wetland impacts. Where ratios differed the higher one was applied. CMP's compensation plan offers a ratio of 30 to 1 for permanent fill and wetland well exceeding both the state and federal recommendations. The Flagstaff Lake, Little Jimmie Pond and Pooler Pond tracts proposed for wetland preservation total approximately 1,022 acres of land and contain 510 acres of wetland. There will be -- there will be 4.1 acres of permanent wetland fill as a result of placement of transmission poles and substation development. CMP is proposing

123 acres of wetland preservation to be used to offset permanent wetland fill impacts. This is a ratio of 30 to 1 greatly exceeding the DEP's preservation ratio of 8 to 1 . Temporary wetland impact and forested wetland conversion will also be offset by a portion of the 510 acres of wetland as
required by the Army Corps. For permanent wetland fill and significant vernal pool and inland wading bird and waterfowl habitats, CMP has chosen to compensate using In Lieu Fee Program. The fees were calculated using the prescribed compensation formula described in DEP's 2017 In Lieu Fee fact sheet with the appropriate resource multipliers. The calculated In Lieu Fee for permanent wetland fill associated with significant vernal pools and inland wading bird and waterfowl habitats totals over $\$ 245,000$.

I'll conclude my discussion related to compensation and mitigation by saying that the project has been designed and sited in a manner that avoids and minimizes impacts to the greatest extent possible. Where unavoidable impacts cannot be further mitigated, CMP has proposed a robust and comprehensive compensation plan. The plan not only achieves the goal of no net loss, it far exceeds the minimum requirements under NRPA. Thank you.

MS. MILLER: Thank you. This is -- so I just want to clarify for the agenda this was the project overview and summary of direct testimony for the Panel 1.

MR. MANAHAN: Right. And I've discussed with Mr. Beyer we're reserving the remainder of the

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
time for this panel to go up for the next panel so we won't exceed the total, but $I$ think we've got basically 40 minute reserved for Panel 2.

MS. MILLER: Okay. I would propose a 10 minute break, so cutting that to 30 minutes, and then we'll go ahead after this 10 minute break, we'll start with cross-examination and we'll just continue through until noon for lunch. We may have to reconsider whether we start the next panel before lunch because we might have to break that up with the time, so we'll think that through, but for now, let's take a 10 minute break. We'll start back up at 10 o'clock and we'll start with cross-examination and I believe we have Group 1 is going to be the first Intervenor group to cross-examine the Applicant panel. Thank you.
(Break.)
MS. MILLER: So we'll get started with Intervenor Group 1 for cross-examination.

MR. WEINGARTEN: Good morning. My name is Bob Weingarten.

MS. MILLER: Does the set volume go up on that any more or?

VIDEOGRAPHER: Yup. I can... Yup.
MS. MILLER: We just need to make sure the
mic works so the transcriptionist can hear, so just bear with us just a second.

MR. WEINGARTEN: Okay. Well, my name is Bob Weingarten. I'm with a group called Friends of the Boundary Mountains. We're part of Group 1 . I am not an attorney. I have never done cross-examination before, so bear with me, but I'm just a citizen who lives in western Maine who loves the woods and loves the wildlife and that's where I'm coming from.

So my first set of questions for Mr. Goodwin. Mr. Goodwin, I see that you have been an environmental professional for 20 years working with clients primarily with the electrical transmission and natural gas pipeline industries; is that correct?

MARK GOODWIN: Yes.
MR. WEINGARTEN: And these projects that you have worked on in the course of your career are primarily for linear energy development projects; is that correct?

MARK GOODWIN: That is correct.
MR. WEINGARTEN: Okay. And as part of your in environmental assessment for your private clients such as CMP, would you study and analyze the critical environmental impacts that these linear development
projects have on the landscape, on the environment, on the habitat and the many different species that depend on the habitat?

MARK GOODWIN: I'm not sure I understand your question.

MR. WEINGARTEN: Well, my question is would you be assessing the environmental risks to those features as part of your job?

MARK GOODWIN: Certainly not on every project that I've worked on. I've been tasked with assessing environmental impacts, but I have been responsible for assessing environmental impacts for various projects through the NEPA process.

MR. WEINGARTEN: Okay. And having worked on these linear projects and doing assessments on the linear projects you must have encountered a number of projects that were fragmented or that fragmentation might be part of the issue with that project; is that correct?

MARK GOODWIN: This is probably the first project that I've been involved with where the fragmentation topic has taken sort of a more of a front stage, I would say.

MR. WEINGARTEN: So you've never actually analyzed fragmentation in any prior projects in your

20 years?
MARK GOODWIN: Not for any particular environmental report that was produced as part of a permit.

MR. WEINGARTEN: Well, I was wondering if you came across a fragmented project or project that might fragment the habitat, would you recommend against proceeding ahead with that project if you felt that that fragmentation was significant?

MARK GOODWIN: I would recommend mitigation for any project that might have an unreasonable habitat fragmentation impact.

MR. WEINGARTEN: But you would never actually say, no, we shouldn't do that because of the fragmentation?

MARK GOODWIN: Depends on whether or not adequate mitigation could be achieved.

MR. WEINGARTEN: So you feel that mitigation can somehow take away any of the adverse effects that species and the woods and the environment would suffer because of fragmentation?

MARK GOODWIN: Can you repeat the question?
MR. WEINGARTEN: So you believe that mitigation is the only response to a adverse situation due to fragmentation? In other words, you
would never say after studying all of this as an environmental scientist we should not proceed ahead on this?

MARK GOODWIN: I mean, the first recommendation would be to try to avoid the impact.

MR. WEINGARTEN: But say you can't.
MARK GOODWIN: If you can't avoid the impact then you put mitigation or minimization measures in place to make the impact so that it's not going to create an adverse effect or be causing unreasonable harm.

MR. WEINGARTEN: But you never tell your client, no, don't do it, let's not move ahead on this?

MARK GOODWIN: You know, I can't recall a specific project where $I$ told a client that I didn't believe it was -- yeah, a project that couldn't have minimization measures or mitigation that could offset the impact.

MR. WEINGARTEN: So your role is not so much to advise the client as to whether this fragmentation is a real serious issue but just a way of getting it approved?

MARK GOODWIN: No, I'm a consultant. My job is to make recommendations to the client to help make
their project successful. If I feel like their project is not going to be successful, I'm going to make recommendations to them and measures that they could use to further their project.

MR. WEINGARTEN: But as an environmental scientist isn't there a point where you feel that something should not be built?

MARK GOODWIN: Well, if you take it to the extreme, yeah, obviously if -- if someone said, all right, well, we're going to build a transmission line and we're going to make it a, you know, we're not even going to maintain the right of way in an early successional vegetated state but the proposal is to, you know, maintain the right of way as a paved, you know, boundary to boundary feature that stretches for 100 miles, obviously I'm going to say that's not a reasonable impact. So I guess it depends on what extremes you want to take it to.

MR. WEINGARTEN: Well, it's -- but the question is what -- it's not the extreme of the project the question is what does the fragmentation do to the habitat, what does the fragmentation do to the wildlife, and you're saying to me that it's just a question of figuring out how to get around it rather than saying, no, don't do it?

MARK GOODWIN: This project -- the application that's before the Department is recommending, you know, a certain vegetation management practices or proposing them and that's the application in front of the Department and that's what I'm here to testify on.

MR. WEINGARTEN: Well, so speaking about your testimony, on Pages 113 to 114 , which is part of the CMP total testimony package, it seems that you try to deflect the serious impact of the habitat fragmentation in Segment 1 by calling attention to how admirable it is that CMP will place other segments of the transmission line in pre-existing corridors. I want to ask you how will utilizing existing corridors for other segments eliminate or reduce any adverse impacts whatsoever on the 53 miles of the habitat that is in the most sensitive environmental section of the corridor?

MARK GOODWIN: Our job is to permit a project and take the impacts as a whole. You can't just focus on one portion of the project over another. So we try to minimize impacts in total and by co-locating we're able to minimize impact in total and by using that co-locating corridor and getting it to a location just north of Moxie Pond it also brings
that co-located section to an area that has the shortest distance from the Canadian border back to that existing transmission line. So we look at it -we look at it as a whole.

MR. WEINGARTEN: Well, it sounds like you were saying let's throw the 53 mile Segment 1 under the bus because we can't do anything about that so we'll just talk about the other segments and how good they are.

MARK GOODWIN: Is that a question?
MR. WEINGARTEN: Yeah. Do you agree with that?

MARK GOODWIN: No, I don't.
MR. WEINGARTEN: Yeah. Well, okay. Sounds like you were proposing that.

MS. MILLER: Let's limit it to questions, please.

MR. WEINGARTEN: Excuse me?
MS. MILLER: Please limit it to questions.
MR. WEINGARTEN: Okay. Well, I want to ask you then about your -- your testimony dealing with forestry activities. In your testimony you seem to try to divert attention from the fragmentation caused by the corridor to talk about the activities of the -- of the logging that goes on in this area. I
want to ask you, are you aware of the vast difference between temporary forestry activities and the permanence of a 53 mile long or linear fragmentation that will exist forever?

MARK GOODWIN: They're different impacts.
MR. WEINGARTEN: Yes, and how come you tried to divert attention to that as a way of pacifying the questions about the fragmentation?

MARK GOODWIN: I don't attempt to defer from that. The transmission line on Segment 1 is routed relatively close to existing logging roads and traverses through areas that have been previously forested. If you look at the Exhibits CMP-3.1A and 3.1B, you can see that they are -- it's located relatively close to those features as opposed to, you know, I guess what I want to say is these are not intact forest areas. These are not -- because we're closer to these fragmenting features, we're not placing the line in interior forest. Interior forest is forest that has not been influenced by human activity.

MR. WEINGARTEN: Well, that's a definition of a true wilderness under the United States Wilderness Act. It doesn't necessarily follow that intact forest has nothing but wilderness in it.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. MANAHAN: Ms. Miller, I would object to the questioner testifying instead of asking questions.

MR. WEINGARTEN: Okay. I'm sorry.
MS. MILLER: And I agree with that. Please hold your comments and ask questions. Thank you.

MR. WEINGARTEN: Sorry. So I want to direct on this subject your testimony on Page 115 where you claim that CMP's corridor will be promoting, quote, the movement of wildlife across the corridor and increasing habitat connectivity in these areas. Mr. Goodwin, are you aware that the transmission corridor will actually divide many large forest habitat blocks into smaller blocks which will compromise habitat for forest specialist species and those that require forest interior habitat?

MARK GOODWIN: I don't know what you're defining as a large forest block.

MR. WEINGARTEN: The existing.
MARK GOODWIN: I'm not aware of what that would -- how are you defining a large forest block?

MR. WEINGARTEN: Well, I'm asking the questions.

MARK GOODWIN: I can't answer that question. MS. MILLER: Can you restate the question so
it's a little more clear?
MR. WEINGARTEN: Well, I'm asking the question is aren't you aware that the corridor will divide the existing large forest habitat blocks into smaller blocks, which will compromise habitat for forest dwelling specialists?

MARK GOODWIN: I don't know. Does anybody else have a answer for that? I'm not sure I understand what you're asking me. Can you -- are you saying that the entire -- I guess I don't understand the question.

MR. WEINGARTEN: All right. Well, I tried to make it as clear as I could.

MS. MILLER: Can you try to restate it again so he can answer?

MR. WEINGARTEN: We have a corridor that's running through an existing large habitat block, won't that create smaller habitat blocks?

MARK GOODWIN: There are already smaller habitat blocks in that area. That area is a mosaic of different age/class clearings from the forestry industry.

MR. WEINGARTEN: But those are temporary; is that correct?

MARK GOODWIN: They are temporary, but it's
a constantly changing mosaic, so one area might be temporary for, $I$ don't know, I'm not a forester, but, I don't know, 15 or 20 years and then, you know, the next thing you know you have a different area that's open and clear so it's constantly changing up there.

MR. WEINGARTEN: And the corridor will be permanent; is that correct?

MARK GOODWIN: That's correct.
MR. WEINGARTEN: Mr. Goodwin, can you
honestly say that the 53 miles of the corridor will fit -- will fit harmoniously into the natural environment there?

THORN DICKINSON: Is it okay if we follow-up on one specific thing before we go?

MS. MILLER: Yes.
THORN DICKINSON: I was just going to say that, you know, the idea that this transmission project will be permanent, you know, is something I've heard, but, you know, that we're expecting a 40 year life related to this project. No one knows what technology is going to change in the future, whether that project at the end of that 40 year life is going to continue or not. Eventually the project is going to be decommissioned, the poles will be taken up, the wire will be rolled up and --

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MS. BOEPPLE: Ms. Presiding Chair, I'm going to object. This is way beyond the scope of the hearing topics and $I$ believe this is an attempt at CMP to get in testimony that is not relevant on what's supposed to be before the Department today.

MR. MANAHAN: The witness is answering the question that was posed.

MS. BOEPPLE: Actually, no, he's not. The question that was posed was to the environmental --

MR. MANAHAN: Well, this is a panel. This is a panel and the panel is responding to questions and the questioner asked whether the transmission line would be permanent and Mr. Dickinson is on the panel which is answering questions.

MS. MILLER: I'm going to deny the objection because the question -- the question pertained to the permanence of the line and the impact and they were just trying to -- what $I$ understood was they were just trying to answer that question. So go on. So Mr. Weingarten --

MR. WEINGARTEN: Can I go on?
MS. MILLER: Yes, please.
MR. WEINGARTEN: Well, this is also to Mr. Goodwin. Mr. Goodwin, in your testimony you spend a great deal of time extolling the virtues of
something called integrated vegetation management, IVM, as a standard practice within utility right of ways and this is practice that's done after the corridor is built, after everything is finished is how you maintain the corridor as I understand it; is that correct?

MARK GOODWIN: Partially. The -- you know, the vegetation -- the project submitted a vegetation clearing plan, it's Exhibit 10-1 of the Site Law application, which defines the practices that will be used to clear -- do the initial clearing of the right of way and there is protective measures in that document. And then, yes, the IVM is management primarily after construction.

MR. WEINGARTEN: Yes, and so since there's management after construction, why is it placed in your testimony as a way of trying to explain that there is no fragmentation because you have this vegetation management plan?

MARK GOODWIN: I don't believe that it -that it's in the application to explain that there won't be -- or in my testimony to explain that there won't be fragmentation. It's in there to show that there are practices that can help to promote wildlife connectivity with this type of activity and soften
that fragmentation effect.
MR. WEINGARTEN: But isn't this kind of like extolling the virtues of a closed barn door after the cows have left?

MS. MILLER: Can you...
MR. WEINGARTEN: Well, in other words, we're talking about how the corridor will be maintained under the concept of this is how we minimize fragmentation, but this is after the fragmentation is on the ground; is it not?

MARK GOODWIN: Yes.
MR. WEINGARTEN: It is. So the integrated vegetation management really does not pertain to protecting or minimizing fragmentation; is that correct?

MARK GOODWIN: No one is arguing that the project won't have some level of impact. Innovative vegetative management is and vegetation practice to minimize those impacts.

MR. WEINGARTEN: I'm bringing this up because in your testimony under fragmentation you are trying to say all of the reasons why CMP will not really cause fragmentation or minimize fragmentation and you use integrated vegetation management as one of your arguments and I am asking you the question as
to isn't this like saying that we have a plan after the barn door is already open and the cows have escaped because the fragmentation is already done; is that correct?

MARK GOODWIN: It's a management technique to allow minimization of impacts to wildlife habitat.

MR. WEINGARTEN: Well, you also extol the management practice of integrated vegetation management to say that it promotes the development of early successional scrub/shrub habitat growth; is that correct?

MARK GOODWIN: That's correct.
MR. WEINGARTEN: And are you aware that early successional habitat is already abundant in this region?

MARK GOODWIN: I mean, IVM promotes early successional habitat. You have to take it into context as to how that's being used, you know, we're promoting that vegetation type in the corridor. It's not to promote an increase in that habitat for the entire region. It's just to manage that in the right of way.

MR. WEINGARTEN: But how can -- I asked you how can early successional habitat be considered a
good step environmentally or habitat-wise when there is so much of it already there, isn't this not really a benefit for the landscape and the environment?

MARK GOODWIN: In the context of the project that's being proposed it is a benefit because it's going to minimize the impacts.

MR. WEINGARTEN: But it's -- but it will take away vegetation that would be a lot more desirable there; is that correct?

MARK GOODWIN: Desirable?
MR. WEINGARTEN: For the habitat and for the forest dwelling species.

MARK GOODWIN: I think it's obvious that, you know, the ideal situation for certain habitats is probably forested cover, but this project is proposed for a certain purpose and, you know, what comes with that is proposals to avoid, minimize and mitigate and that's what we've done and that's what part of this IVM is part of.

MR. WEINGARTEN: Well, on Page 116 of your testimony you claim that this type of vegetation management will create something you call a soft edge and you tried to explain the soft edge by comparing it to building impervious surfaces such as roads or residential development and trying to say that this
type of edge effect is much better than building roads or residential development; is that correct?

MR. MANAHAN: Ms. Miller, can $I$ just ask, the question is referring to Page 115 of Mr. Goodwin's testimony and I'm not clear what he's talking about.

MS. MILLER: I think maybe -- I'm thinking it might be Page 17 of his testimony at the bottom. It's the last paragraph on Page 17 of his direct testimony which talks about CMP's best management practices will avoid the hard edge impact, is that what you're referring to?

MR. WEINGARTEN: Yes, that's what I'm talking about.

MR. MANAHAN: Thank you.
MR. WEINGARTEN: So what I am asking you is you are comparing the so-called soft edge that you're trying to create with how much more it could be damaged if there was roads being built or other kinds of impervious surfaces; is that correct?

MARK GOODWIN: Can you ask the question again, please?

MR. WEINGARTEN: Your proposal -- I mean, you're claiming that CMP's proposed development will not create a hard edge, that is the changes in
habitat is primarily restricted to a change in vegetation cover type from forested to scrub/shrub as opposed to the permanent removal of habitat. You say that it's better than creating impervious surfaces associated with residential and commercial surfaces; is that correct?

MARK GOODWIN: Correct.
MR. WEINGARTEN: So I'm asking you would it be more relevant and more straightforward to compare the impacts of the fragmentation caused by the corridor to the natural condition of no fragmentation in the habitat rather than to the hypothetical building of roads or other impervious surfaces, would that be more honest and direct and straightforward?

MARK GOODWIN: To compare the impact of --
MR. WEINGARTEN: Of the edge.
MARK GOODWIN: -- soft edge management techniques to what currently exists?

MR. WEINGARTEN: Yes. Yes.
MARK GOODWIN: I don't know that you can really make a comparison other than one has a soft edge fragmentation and one has no fragmentation other than, you know, those land uses that have already fragmented the habitat.

MR. WEINGARTEN: And that would be a much
more viable comparison; would it not?
MARK GOODWIN: Viable in what sense?
MR. WEINGARTEN: In that it would reflect the actual thing that is happening in terms of building a corridor where there is no corridor rather than saying, well, we could have built an impervious road like a residential development so look how much better this is, which is what you're saying, I think, right?

MARK GOODWIN: No. No. I'm simply saying that management of right of ways using innovative vegetation management practices or the management practices that CMP has proposed is a soft edge as opposed to an abrupt edge like a commercial development that has no vegetative features. They're two completely separate concepts.

MR. WEINGARTEN: Does your testimony have any comparison with what exists now?

MARK GOODWIN: I'd have to read through my testimony to answer that.

MR. WEINGARTEN: I don't think it does; is that correct?

MARK GOODWIN: Again, I'd have to read through my testimony.

MR. WEINGARTEN: Ms. Johnston, I'd like to
ask you a question, if I may. I'd like you to imagine that you're an endangered species and someone has come along and said, well, we're going to destroy your habitat but we're going to put a couple of thousand dollars into a fund managed by some state bureaucrats and that will be okay, right? I mean, that's a good thing to do, right? Right, Ms. Johnston?

LAUREN JOHNSTON: I don't understand your question.

MR. WEINGARTEN: My question is how does endangered species or threatened species get helped or have their habitat preserved by putting money into an endangered species fund for some other extraneous reasons?

LAUREN JOHNSTON: The In Lieu Fee Program is a program administered by the Department and put into fund for grant projects that will be used to protect natural resources or enhancement projects.

MR. WEINGARTEN: Would it be help -- would it help the endangered species in the area where the corridor is going to be built?

LAUREN JOHNSTON: I am not aware of where the funding will be appropriated at this time.

MR. WEINGARTEN: Neither am I. I guess I
want to move on to Mr. Mirabile, if I may. And I'm going to ask some questions about the scenic impact that concerns the Old Canada Road, okay. So in Volume 1 of the application, Page 24, Line 14, CMP acknowledges the presence of the Old Canada Road National Scenic Bypass, I mean, Byway and claims that the corridor has been located to minimize scenic impacts from this federally designated travel route; is that right?

GERRY MIRABILE: That is what the application says, yes.

MR. WEINGARTEN: So, Mr. Mirabile, are you aware that locating the corridor over the highest ridge line in the area, which is Coburn Mountain, does nothing to minimize the scenic impact from north to southbound traffic on the Old Canada Road?

GERRY MIRABILE: I don't believe the project is located on the ridge line of Coburn Mountain. And one mitigation measure for visibility from Route 201 is to orient the project perpendicular so that the amount of time it's viewable from Route 201 is minimized.

MR. WEINGARTEN: Well, is it true that you have no plan to minimize the views where the line crosses the Old Canada Road in Johnson Mountain

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

Township?
GERRY MIRABILE: Yeah, we have proposed a buffer planting plan at the Route 201 crossing in Johnson Mountain Township.

MR. WEINGARTEN: You have?
GERRY MIRABILE: Yes, we have.
MR. WEINGARTEN: I want to ask you then, does -- does not placing the corridor through existing conditional forest land used by many different people jeopardize the use and experience of the Maine woods and does that not conflict with the NRPA Chapter 315 , Page 1 , which states that the Applicant must demonstrate that a proposed activity will not unreasonably interfere with existing scenic and aesthetic uses; in other words, is there a conflict there?

GERRY MIRABILE: I don't agree that there is a conflict. I think the project starts out at the planning stage and then the location stage where the route itself, as Mr. Dickinson defined earlier, was defined in part by avoiding those areas most sensitive in terms of recreation and visual aspects and when we avoided those areas and we looked also at avoiding impacts to other resources. So the first of the three sort of criteria are avoidance, which we
have done from the very beginning of the project, planning location and design and then we look at minimizing impacts by working around them by minor or micro-rerouting and then we compensate for unavoidable impacts and I believe we have done all three of those as well.

MR. WEINGARTEN: Including --
MS. MILLER: Mr. --
MR. WEINGARTEN: Including unavoidable impacts?

GERRY MIRABILE: Including unavoidable impacts. That's what we mitigate for.

MS. MILLER: Mr. Weingarten, you have four minutes left in your testimony.

MR. WEINGARTEN: Okay.
MS. MILLER: Oh, sorry, cross-examination.
MR. WEINGARTEN: Well, are you aware that the tops of the metal towers will be visible along the entire length of the Spencer Road?

GERRY MIRABILE: I know that the tops will be visible from certain locations along its route.

MR. WEINGARTEN: Are you aware that when the abutting landowners cut the timber to the corridor property line entire poles, concrete foundations and the line will be exposed?

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

GERRY MIRABILE: What the abutting property owners do is not something that CMP has any control over.

MR. WEINGARTEN: You don't have control, but did you anticipate that or factor that in your scenic mitigation work?

GERRY MIRABILE: As Mr. Goodwin noted, it's a continuing changing mosaic of cuts, clearcuts and you can anticipate that the things that are visible now may not be visible in the future and vice versa.

MR. WEINGARTEN: Well, have you considered the possibility of minimizing the visual effect of the project for the length of the Spencer Road by placing the transmission line in the center of the 300 foot ownership that you have resulting in a 75 foot vegetated buffer on each side?

GERRY MIRABILE: Can you repeat the question, please?

MR. WEINGARTEN: Yes. Are you aware -- I mean, has CMP considered minimizing the visual effect of the project for the length of the Spencer Road by placing the transmission line in the center of the 300 wide right of way and in that way having a 75 foot vegetative buffer on either side?

GERRY MIRABILE: Early on in the process in the DEP review process we were asked to evaluate whether the north or the south side of the 300 foot corridor had greater impacts in terms of resources that would be encountered. We did that evaluation and determined that the south side had the fewer impacts overall, which means that we oriented on the southern 150 feet rather than the northern. To move it to the north at this point would entail additional impacts in our view.

MR. WEINGARTEN: But you never thought about putting it in the middle?

GERRY MIRABILE: I don't believe we considered that option.

MR. WEINGARTEN: So in other words, by clearing the whole property the whole long corridor, there is no way that you could minimize with a buffer on either side?

GERRY MIRABILE: There are existing buffers based upon existing adjacent land uses and those will come and go as clearing is done and we are proposing tapering to create buffers within the corridor in certain areas.

MR. WEINGARTEN: Well, if I may ask, as shown on the exhibit that the Old Canada Road
submitted there was publicly owned land and land purchased for public use, about 16,000 acres of the Leuthold Preserve, which abounds the west of the Old Canada Road accessible only through the Spencer Road, travelers and residents use this road exclusively for traditional recreation to two very popular hiking destinations are Tumbledown Mountain and Number 5 Mountain for which have sweeping views of the Maine woods. Is it not true that the application contains no remedy or attempt to or reduce the destructive scenic impacts of this 100 foot plus commercial structure from these elevated viewpoints?

GERRY MIRABILE: I don't believe that's accurate. The average height of the structures to begin with is around 94 feet, somewhat less than 100. And the routing from the beginning was intended to reduce and avoid impacts to scenic resources while at the same time meeting the need to get from the Canada border to Section 222 in The Forks.

MR. WEINGARTEN: So you had to compromise in other words?

GERRY MIRABILE: There were choices and decisions made along the route to avoid certain resources.

MS. MILLER: Mr. Weingarten, I'm going to

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
have to ask to you wrap up your testimony -- I mean, your cross-examination, sorry.

MR. WEINGARTEN: Okay. It was cross-examination, I hope.

MS. MILLER: Yes.
MR. WEINGARTEN: Okay. Thank you.
MS. MILLER: Thank you. So now we'll call up Groups 2 and 10 .

MS. BENSINGER: And just a reminder that the time allotments for cross-examination were given as a block to allocate between Panel 1 and Panel 2 as you choose. So in the note on the bottom of Page 1 of the schedule, keep in mind that, you know, the 85 minutes allotted is for both panels.

MS. BOEPPLE: Good morning. Can you hear me? Good morning. My name is Elizabeth Boepple and I represent the Intervenors in Group 2, West Forks Plantation, Town of Caratunk, Kennebec River Anglers, Maine Guide Services, Hawk's Nest Lodge and Mike Pilsbury and one Intervenor from Group 10, Ed Buzzell and all of them have been admitted into these proceedings before the Department.

Good morning, Mr. Dickinson.
THORN DICKINSON: Good morning. My first questions are for you, but as we go along if it's
appropriate for others on the panel to respond, please feel free to jump in.

THORN DICKINSON: Thank you.
MS. BOEPPLE: So do you have your pre-filed testimony in front of you?

THORN DICKINSON: Yes.
MS. BOEPPLE: So on Page 3 you describe the location of the project. So if you could go to Page 3, please. And if you could please read the line beginning with the majority of the project.

THORN DICKINSON: The majority of the project will be constructed adjacent to existing transmission lines in existing transmission corridors owned by CMP with the remainder constructed on commercial forest land owned or controlled by CMP.

MS. BOEPPLE: Thank you. Now, is the area you are describing as commercial forest land, is that the first segment of the route?

THORN DICKINSON: From The Forks to the Quebec border.

MS. BOEPPLE: So that's the 53 miles?
THORN DICKINSON: Correct.
MS. BOEPPLE: Okay. And can you tell me how you would define a commercial forest?

THORN DICKINSON: It's a working area that
is used for forest products utilization where you'll see logging roads and various areas with different stages of cutting.

MS. BOEPPLE: Stages of cutting. Do you see installation of industrial structures?

THORN DICKINSON: There are various lay down areas, hosting areas for the equipment that need to be done. I would probably put those into the industrial category.

MS. BOEPPLE: But does that include installation, actually permanent planting in the ground an industrial structure typically?

THORN DICKINSON: I would assume so, but, you know, off the top of my head, I don't remember specifically if there are any permanent structures that the logging and forest project companies use in that area.

MS. BOEPPLE: So is it CMP's position that by locating a transmission corridor in a commercial forest that that's a similar kind of impact on the environment?

THORN DICKINSON: Yeah, there are many similarities. I think, you know, they -- just come to mind is the bridges too. There are obviously bridges along these logging loads and trails, but I
think the ultimate goal in trying to lay out the project would be, number one, try to utilize existing corridors as much as possible and then places where you don't have an existing corridor to try to find areas that avoid those scenic and visual impacts, those environmental impacts as much as possible and we believe that a corridor like this is a -- would be a more of a similar type.

MS. BOEPPLE: So I believe -- I believe it was Mr. Goodwin who stated during a summary -- the summary of his testimony that there was an attempt to locate this corridor in close proximity to logging roads, one of you made that statement, was that you, Mr. Goodwin?

MARK GOODWIN: Yes.
MS. BOEPPLE: And you said that was a form of avoidance or mitigation in some fashion?

MARK GOODWIN: It's a minimization measure by placing it close to already existing fragmented -fragmenting features.

MS. BOEPPLE: Okay. So is it fair to say that CMP is comparing logging roads to a transmission corridor cut through a forest?

MARK GOODWIN: I mean, they're certainly not the same thing.

MS. BOEPPLE: You seem to be indicating that there is not a comparison there because somehow that's going to minimize the impact of the transmission corridor, isn't that what you were saying? I mean, if I'm wrong, correct me.

MARK GOODWIN: It minimizes in the sense that instead of going through, you know, having the transmission line sited through a forest that doesn't have any nearby roads or extensive cutting. Does that answer your question?

MS. BOEPPLE: If what? If it doesn't do that -- I'm sorry.

MARK GOODWIN: It meant by placing -- by placing it close to existing fragmentation features and in areas that are routinely disturbed by the forest products industry it minimizes the impact as opposed to putting it in an area that doesn't have any nearby logging roads or cutting.

MS. BOEPPLE: Okay. And so CMP's position is that this corridor with industrial structures that are planted in the ground, which, I mean, you have to admit you're going to put poles in this corridor, correct? Steel poles are going in this corridor, yes or no?

MARK GOODWIN: Yes.

MS. BOEPPLE: Okay. You're saying that that's the same impact as a logging road; is that correct?

MARK GOODWIN: No. A logging road isn't vegetated.

MS. BOEPPLE: So that's -- and therein lies the similarity that it's the lack of the vegetation and not the additional structure that's added to the corridor?

MARK GOODWIN: Is that a question?
MS. BOEPPLE: I'll move on.
MARK GOODWIN: Okay.
MS. BOEPPLE: Mr. Dickinson, can we go back to your testimony, please, on Page 3 --

THORN DICKINSON: Yes.
MS. BOEPPLE: -- where you're discussing the purpose of the project. And do you see where on Page 3 you talk about the selection of this project under the Mass RFP?

THORN DICKINSON: Just so we're looking at the same place, where specifically are you referencing?

MS. BOEPPLE: I may be looking at your rebuttal testimony. Do you have your rebuttal testimony in front of you?

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

THORN DICKINSON: Yes.
MS. BOEPPLE: Okay. I believe it's on Page 3 of your rebuttal testimony.

THORN DICKINSON: Okay.
MS. BOEPPLE: And you see where you're discussing the Massachusetts RFP?

THORN DICKINSON: Again, just to avoid any confusion --

MS. BENSINGER: Actually, it's in the direct. The beginning of the last paragraph on Page 3 of the direct.

MS. BOEPPLE: Okay. Thank you.
THORN DICKINSON: So we -- here we're talking about the response to the Massachusetts RFP?

MS. BOEPPLE: Correct.
THORN DICKINSON: I see now.
MS. BOEPPLE: Okay. And does your testimony say that -- could you read what you have stated with the line that begins this route is shorter?

THORN DICKINSON: It's above -- I'm sorry. So above you're saying this route is shorter than other routes for deliveries from Quebec to New England and represents the lowest cost path for delivery of clean energy from Quebec.

MS. BOEPPLE: Right. And is it your
testimony that that's why this project was selected?
THORN DICKINSON: I think there were a number of reasons. The analysis that the Massachusetts EDCs selected looked at the various costs and benefits associated with the project and selected the project with the overall best combination of cost and benefits.

MS. BOEPPLE: Okay. So if I could pull up Group $2 \mathrm{C}-1, \mathrm{please}$. The first image. I'm showing you a comparison of three projects. One of them is obviously your project on the far right, the one in the middle is the Northern Pass project and the one on the left is the Vermont Clean Power Link. Are you familiar with this -- these -- all of these -obviously you're familiar with your own, but are you also familiar with the Northern Pass and the Clean Energy Connect?

THORN DICKINSON: Yes, I am.
MS. BOEPPLE: I believe those were all mentioned in your testimony. CMP has talked about the different projects that you were competing against?

THORN DICKINSON: That's correct.
MS. BOEPPLE: And I'd like you to just note that the Northern Pass project, which was picked
first before your project was actually a more expensive project. Do you see that?

THORN DICKINSON: Well, this is the -- this is the publicly available information?

MS. BOEPPLE: Yes, it is.
THORN DICKINSON: And I'll tell you that -and I do believe that both of those projects were more expensive than this project.

MS. BOEPPLE: And yet the Northern Pass was the one that was chosen first, correct?

THORN DICKINSON: Yeah, my estimation of why that project was built first was that --

MS. BOEPPLE: Well, it wasn't built.
THORN DICKINSON: I mean, it was picked. Sorry. Thank you. It was picked first because it had an earlier expected in-service date and when the valuation team reviews projects like these, they'll do them generally on a net present value basis and if there are benefits that occur earlier sometimes that can outweigh the fact that it's own cost may be more expensive.

MS. BOEPPLE: So what I'm curious about though is that Northern Pass was selected and the route is approximately the same length as your proposed project, correct?

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

THORN DICKINSON: It's a little bit longer, but.

MS. BOEPPLE: Okay. And the Northern Pass project has a segment that is approximately 52 miles in length that was going to be buried, were you aware of that?

THORN DICKINSON: Yes, I am.
MS. BOEPPLE: And your project, you have represented and testified that the northern stretch of this project can't be buried because it's cost prohibitive, correct?

THORN DICKINSON: So I'm happy to talk in detail about my rebuttal testimony and the impacts associated with this if this is the right time. I know that we're also coming back --

MS. MILLER: We'd like to hear it today and at the next --

THORN DICKINSON: Great.
MS. BOEPPLE: And if I could, before you continue, I'm going to ask that -- I'm not waiving my right to make objections to the rebuttal testimony and I'm also not waiving my requested additional time for the next hearing date on this topic.

MS. BENSINGER: And one other question, are you going to offer that as an exhibit to be admitted?

MS. BOEPPLE: Yes. This is part of some additional slides that are part of...

MS. BENSINGER: And do you have paper copies of those?

MS. BOEPPLE: I have paper copies of this, yes. And I can distribute those.

MS. BENSINGER: Can we do that now?
MR. MANAHAN: Could I just say Ms. Boepple reserved her right to object to this witness, but she's past the deadline for that. The April 19 deadline is the deadline to object to new rebuttal witnesses, not current direct testimony.

MS. BENSINGER: That's correct.
MR. MANAHAN: Thank you.
MS. BOEPPLE: And that's what $I$ was referring to.

MS. BENSINGER: So the parties will have a couple minutes to look at this proposed exhibit. If you could just hold off for a minute while the parties look at it.

MR. MANAHAN: Could we just ask, it appears that this exhibit was prepared by staff Michael Fisher and it contains several descriptions of these other -- these other projects. We don't know who this person Michael Fisher is or where he got his
information.
MS. BOEPPLE: All of the -- would you like me to respond? All of the information is public information and it was a compilation that was done by staff at the Society for the Protection of New Hampshire Forests in conjunction with the Northern Pass hearing. Each one of the maps was taken from information, again, it was publicly available as well as all of the data that's incorporated within this. It was simply pulling three maps together into one compilation.

MR. MANAHAN: Okay. Well, we would just put on the record our objection to this because we don't have the ability to cross-examine the person that prepared this so that we can't find out whether this information is accurate or not, but $I$ just want to say that for the record.

MS. BENSINGER: Do you want to respond to that?

MS. BOEPPLE: Yes. I'm not submitting this and saying that the data is 100 percent accurate. I think it's common knowledge and it's out there in the public realm. The general numbers that have been used to both describe the length and the terrain that these three different projects propose as well as the
monetary figures, so I'm not trying to get this in as proof positive of any one of these projects. I'm simply using it as a comparison chart to solicit some answers to some questions from your panel.

MR. MANAHAN: Well, I would just -- I would just say it's not general knowledge what the length of these corridors -- my understanding is you're introducing this as -- in order to cross-examine Mr. Dickinson in respect -- with respect to his rebuttal testimony and to impeach him, I guess, with respect to the length of these corridors. And so the fact that this document contains the lengths of these corridors, and I don't know whether this is accurate and we haven't heard anyone who can testify that it's accurate, and to these grounds be excluded, but I have an objection.

MS. BENSINGER: I would recommend that with Ms. Boepple's caveats the Presiding Officer admit it.

MS. MILLER: I'll allow it.
MS. BOEPPLE: Thank you. Have you had an opportunity to take a look at this, Mr. Dickinson?

THORN DICKINSON: Yes, I have.
MS. BOEPPLE: Okay. So --
MR. MAHONEY: Can we just get a sense of when -- what date these maps were because these
projects, particularly the Northern Pass project changed over time, so I assume this is not as initially proposed, but this is post site evaluation committee hearing or --

MS. BOEPPLE: No.
MR. MAHONEY: -- pre-site evaluation committee?

MS. BOEPPLE: Sure.
MR. BUXTON: Excuse me --
THE REPORTER: I'm sorry, could you identify yourself, please?

MR. MAHONEY: Yes, I'm sorry. Sean Mahoney, Conservation Law Foundation.

THE REPORTER: Thank you.
MR. BUXTON: Tony Buxton for the International Energy Consumer Group. Could I be heard, please? If this proceeding is to compare in any way this project with other projects, we would request that there be witnesses who are expert in those projects to support the data which is suggested because the analysis is completely worthless without having the accurate data. Some of the parties in this room, including us, have been in proceedings where we've had that information and as the gentleman from the Conservation Law Foundation points out the
information changed dramatically in the proceedings pertaining to those particular projects. We need accurate data. Thank you.

MS. BENSINGER: A couple of things. One, I would ask that the spokesperson for each group be the person making objections or asking questions pertaining to objections. But I would recommend to the Hearing Officer that the proposed exhibit be admitted for the purposes of discussion and cross, but obviously the lack of witnesses testifying to the specifics would go to the weight it would be given.

MS. MILLER: So I'll allow it for that purpose.

MS. BOEPPLE: Okay.
MS. MILLER: We do need to number this exhibit, so I'll just throw that this will be Group 2 Cross 1.

MS. BOEPPLE: Thank you. Okay. So, Mr. Dickinson, you've had an opportunity to look at this and I'll go back to the question that I asked originally before distributing the copies and that is assuming that this information is accurate or roughly correct the Northern Pass project was going to cost approximately $\$ 1.4$ billion and it included a third of the corridor buried. If you will take that as an
assumption and talk a little bit about comparing it to your project, could you explain to me how it is that a corridor that you are proposing that's a little bit shorter but has no underground route is going to be, I mean, obviously it's less expensive but how it could be that proposing a similar length in your corridor would put the project cost so high that you couldn't do the project, which I believe is what your rebuttal testimony said.

THORN DICKINSON: It is. And so we have a valuator report that was completed as part of the evaluation and the column that existed for all ranked projects was available and that I had a column in it that was the levelized dollar per megawatt hour benefits associated with each of the different proposals. So with that piece of information we can then evaluate what it -- what the additional cost would reflect to and our overall ranking. And so we're, again, the evaluator report was after Northern Pass had already been removed, so the subsequent evaluator report had us ranked number one. If you put the costs of underground in just the 53 mile portion, our rank would drop from one -- first to nineth.

MS. BOEPPLE: So assuming that's all correct

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
and I -- and I only make that statement because I have not had an opportunity to really dig into that report in your rebuttal, but I'm going to ask you then how is it that the third project illustrated here, which is estimated at a $\$ 1.6$ billion, which has already been permitted, and the majority of that route is buried not only underground but under the water. How is it -- I'm still trying to understand these numbers. I'm trying to understand how it is that it's so expensive for CMP to do this in Maine, but somehow Eversource could do it in New Hampshire and the Clean Power Link could do it in Vermont. That's what I'm asking --

MR. MANAHAN: Ms. Miller, I would object. She's testifying. She's not asking a question. If she could ask a question of the witness as opposed to saying how she feels or what she would like to understand that would be helpful.

MS. BOEPPLE: I'm grappling with
understanding the information. Do you have a -- can you answer my question?

THORN DICKINSON: So the first thing is we don't know what they bid. So publicly, the Vermont project, the project in New Hampshire could have publicly said any number that they had wished. In
addition, the capital cost isn't the only important aspect of the project. Property taxes, operating costs, different payments that were made to communities in order to site the project all are going to go into the overall cost. So just looking at the capital related cost isn't an appropriate way to consider the overall impact. You have to look at the whole cash flow of the whole revenue requirement from the project which includes much more than just capital. And then secondly, the time associated with these projects, so when -- when is the expected in-service date for these projects. So if a project is providing net benefit, the earlier those projects provide net benefits, the higher the net present value benefit will be and those -- all those factors go into the overall evaluation.

MS. BOEPPLE: And it is correct that you didn't do this evaluation when you submitted the application for this project?

THORN DICKINSON: When you say this evaluation, could you just --

MS. BOEPPLE: The evaluation that's part of the rebuttal testimony that you filed just days before these hearings began.

THORN DICKINSON: So the -- the specific

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
analysis where we measured the -- our estimated cost from a full -- fully kind of engineered solution of underground and then the recalculation obviously we didn't have the evaluator's report at the time we bid was done in my rebuttal testimony, that's correct.

MS. BOEPPLE: So at the time of the PUC hearings when you testified that you didn't have information about the cost that was correct?

THORN DICKINSON: Are you -- are you pointing to me to a specific quote? I -- just to make sure we have it right.

MS. BOEPPLE: Yes. And I believe it's in NextEra's -- an exhibit that's part of NextEra's... A portion of the transcript --

MS. BENSINGER: You'll have to point us to what you're referring to.

MS. BOEPPLE: Well, there is a couple of places where it's in the record. One is in the Group 2's exhibit, which was a transcript from the PUC hearings. We cited part of that in our motion to strike. And it's also an exhibit -- could you help me out with the exhibit?

MS. TOURANGEAU: I believe it's NextEra, Chris Russo Exhibit 1. That exhibit is labeled on the table as the Maine PUC transcript from November

28, 2018. I believe, the first two pages are from November 28, 2018.

MS. BENSINGER: Okay. We have it.
MS. TOURANGEAU: And the second two pages are from January 9 of 2019.

THORN DICKINSON: So I think I have the -- I have it in front of me if you wouldn't mind just pointing me to the right place.

MS. BOEPPLE: I'm trying to find it in my records. I think Ms. Tourangeau just pointed out -oh, you've got the transcript in front of you or the exhibit?

THORN DICKINSON: I do. I have it. Do you want a page from it just to look at it?

MS. BOEPPLE: No, I'm sorry for not having this in front of me.

MS. BENSINGER: So that is a NextEra exhibit...

MS. MILLER: It's the first exhibit second page and that's where Mr. Dickinson's testimony is. Is that what you're referring to?

MS. BOEPPLE: Yes. Thank you.
THORN DICKINSON: So there is a -- I mean, I could read you the question if that's helpful.

MS. BOEPPLE: What I'd like is your response
with respect to the question about the underground and the underground pricing.

THORN DICKINSON: Right. So the question -just so we're -- we're both speaking from the same set of facts, they mention a memo, they said there -and the question is whether there was similar memo or effort, this was related to the underground portion underneath the Kennebec River to consider undergrounding the 57 miles of the greenfield corridor and I said, no, there wasn't.

MS. BOEPPLE: Thank you. Further -- well, I'll leave that for now. I don't have -- I'll pick this up later.

THORN DICKINSON: Okay.
MS. BOEPPLE: So thank you for looking at that. So going back to my earlier question about the timing on your consideration of the pricing for what it would cost to go underground, is it fair to say that you engaged in the application process before the DEP without that information as part of your analysis?

THORN DICKINSON: The engineering analysis we did for the rebuttal testimony was after the application was made at the DEP.

MS. BOEPPLE: Thank you. I'd like to move
on and talk to you a little bit about a couple of other things that came up. I believe, Mr. Dickinson, you stated that this is when I interrupted you earlier during Mr. Weingarten's questioning and I apologize for interrupting you. I believe you stated that this is a 40 year project; is that correct?

THORN DICKINSON: So the financial analysis associated with the project is 40 years. You know, I also said that the future of technology is uncertain and the specific needs that this project is really built for, I think, are uncertain whether 20 or 30 or 50 years from now there is going to be other alternatives that are even better at delivering that need and my point was that to assume that this is an ever present permanent impact I think doesn't represent how much technology changes and how many different solutions we can have to deal with a real crisis that -- and needs that in front of us.

MS. BOEPPLE: So you said we shouldn't think about this as a permanent line; is that correct?

THORN DICKINSON: If at the end of 40 years there is a belief amongst policy makers that a continued operation of this line past the commercial operation that we imagine the length we have there is an opportunity $I$ would imagine to extend it through

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
additional investments in the line.
MS. BOEPPLE: So is there a decommission
plan you've submitted as part of this application?
THORN DICKINSON: No, there is not a specific plan.

MS. BOEPPLE: So you don't have a restoration plan either, correct?

THORN DICKINSON: No, but my point is just that the assumption that it is permanent and forever is inaccurate.

MS. BOEPPLE: Well, that would be a little like saying that any house that's built is assuming that it's there permanently but it might fall down in 20 years.

THORN DICKINSON: I guess the way -- the way that $I$ think about it is this project this is for a specific need and that need is, I believe, very adequately addressed and demonstrated. If that need no longer is met in the future there would be no reason for the line to continue to be in operation.

MS. BOEPPLE: So if that were the case then what you're testifying to today is that you'll take those poles and lines down; is that correct?

THORN DICKINSON: I think -- yeah, assuming the appropriate mechanism for how it's done and the
appropriate methodology, yes, of course.
MS. BOEPPLE: And you'll restore the corridor?

THORN DICKINSON: I mean, again, the -- the devils are in the details as far as restoring the corridor. As we've talked about this is kind of a mosaic of an area with a lot of different impacts associated with it, so, I mean, I think it's reasonable as a good neighbor and a good developer of a project that if the project were to be determined that it should be taken down that we work on making sure just as thoughtfully I believe the project has been proposed, we would thoughtfully restore to, you know, have these same kind of conversations about removal.

MS. BOEPPLE: And does that mean you would also give up the easements that you have?

THORN DICKINSON: Can you define give up?
MS. BOEPPLE: Would you sell them to the landowners? Would you relinquish them to a conservation organization? Would you no longer use them for transmission purposes?

THORN DICKINSON: I mean, to know what's going to happen 50 years from now and to know what challenges our region, our planet, you know, our
future children are going to face, how can you say whether or not that this corridor won't be something that ultimately will be really important for solving future needs.

MS. BOEPPLE: Right. And but, Mr. Dickinson, typically with utility corridors and projects, if they have a useful life and that's defined typically you would have a decommission plan with them, isn't that fair to say?

THORN DICKINSON: No, I don't think that's true in the case of transmission.

MS. BOEPPLE: Right. Because usually they're built and they're never taken down, right?

THORN DICKINSON: No, I -- no, I don't agree with that. I think, again, the assumption that because for the last 100 years or 50 years a transmission line was put in place and provided value whether it was economic reliability, safety, all of the things that we currently rely on, the 3,000 miles of transmission throughout CMP's service territory if -- if in the future those transmission lines aren't continuing to provide value they will be reevaluated to determine whether they should be. And I think just to say that a transmission line in the past may have existed for a longer period of time, I
don't think there is an accurate representation of what the future may hold.

MS. BOEPPLE: So in your experience -- how many years have you been in this industry?

THORN DICKINSON: 30 years.
MS. BOEPPLE: And in that time, have you been involved in decommissioning a transmission line?

THORN DICKINSON: I mean, that's not my -my specific skill set is not in the engineering and permitting of specific transmission lines, but I can think of a number of lines that had to be removed because they were past their useful life.

MS. BOEPPLE: A transmission corridor is what we're talking about.

THORN DICKINSON: Well, I mean, as an example many of the parcels of land that are now being conserved and provided as part of the mitigation associated with this land were because there were 100 years ago someone at Central Maine Power that believed there is potential value in these corridors and lands that might be needed for the future and the future changed. And those lands no longer were needed in the future and they've been now provided and protected for the people of Maine and for the region.

MS. BOEPPLE: And that's not the same thing as building a transmission line in a corridor and taking it down, is it?

THORN DICKINSON: No, I think it is. There is a corridor that -- and land that was envisioned to have a future use and $I$ would imagine if you probably interviewed -- could go back in time and interviewed all those people, they'd say that land will definitely be used for this use because they maybe didn't have a broad enough understanding about how the world changes.

MS. BOEPPLE: Do you have an example of that?

THORN DICKINSON: Well, I mean, there are a lot of parcels of land that were provided that were -- many of them around the idea of additional hydro development and so, but, I mean, there are, you know, I don't have off the top of my head a huge amount of those examples. But my main point is that if this -- if this corridor and if this line continues to provide value and the need that's been identified, which is a critical need, that most of the earth has realized is important that that project will continue to provide value. And if not, then -then the -- I don't see a future of that transmission
line in that corridor.
MS. BOEPPLE: I understand the point you're making. Thank you. I won't belabor this further. I would like to talk a little bit about another project that CMP was engaged in. And if I could move to the next slide, which is a little fuzzy and I apologize for that. I assume you're familiar with the Maine Power Reliability Project?

THORN DICKINSON: I am.
MS. BOEPPLE: Okay. And the reason I'm going to ask some questions about this is I'm going to show you some pictures of some transmission towers and part of a line and ask if there are some similarities between that is what is going to be constructed here and there might not be, but I'd like you to help educate us a little bit.

MR. MANAHAN: Could I just ask, are these in the records somewhere or are these --

MS. BOEPPLE: They will be.
MR. MANAHAN: You're going to establish some foundation through Mr. Dickinson?

MS. BOEPPLE: Yes. So could you tell me what the goal of the Maine Power Reliability Project was, Mr. Dickinson?

THORN DICKINSON: I was not the project
manager of that project, but in general the main focus was reliability.

MS. BOEPPLE: Okay. And what does that mean in utility terms?

THORN DICKINSON: It means making sure that the lights stay on.

MS. BOEPPLE: Okay. And so this is actually a photo of a segment of the project that was to re-energize a 13.9 mile 115 kV transmission line connecting the Riley Substation in Jay to the Rumford IP Station in Rumford, does that sound -- I know you weren't the project manager, but does that sound like that was a component of the MPRP?

THORN DICKINSON: I mean, it -- really when we're getting that specific I'd want to have a map. I'd want to have somebody that --

MARK GOODWIN: Can I answer that for you?
THORN DICKINSON: Oh, okay.
MS. BOEPPLE: Okay. Great. Mr. Goodwin.
MARK GOODWIN: Yeah, I believe that's Segment 39 of the MPRP project.

MS. BOEPPLE: Thank you. And were there other areas of the state that had similar upgrades and improvements?

MARK GOODWIN: Yes.

MS. BOEPPLE: And I'd like to show you a few -- the next slide, please. The other way. There we go. The next photos were all taken from the website of a company called Irby, are you familiar with that company?

MARK GOODWIN: I am.
MS. BOEPPLE: And did they do most of the construction or some of the construction on the MPRP project?

MARK GOODWIN: They did.
MS. BOEPPLE: So if they're using these photographs on their website to illustrate their work for utility work, would they probably be fairly accurate if they say they're from the MPRP project? Would that be probably correct?

MARK GOODWIN: I mean, I guess you could speculate that it's correct.

MS. BOEPPLE: Okay. So does this look like the kind of installation of towers that were installed during the MPRP project?

THORN DICKINSON: I mean, again, to get into the specifics, the $H$-frame structure and those things, I think we'd really want the engineering folks that worked on MPRP.

MS. BOEPPLE: Okay. I'm not looking to
validate whether or not those were the actual structures that were put in, but do they look -- do they look like the kind of structures that you would install that might be called steel weathering poles?

THORN DICKINSON: I mean, that wouldn't surprise me, no, and, again, this is a -- just to point out if we're talking about particularly the DC component of the project, this is not the structures we're thinking about just to be clear. This is an H-frame structure as opposed to a monopole.

MS. BOEPPLE: Okay. So these are not examples of monopoles? These are -- these would be an H-frame?

THORN DICKINSON: Yeah, I believe so, although they're still in the process of being built.

MS. BOEPPLE: Okay. Could we have the next slide, please? Does this look like a familiar area as part of the MPRP project?

THORN DICKINSON: It wouldn't surprise me if that was from there, yeah.

MS. BOEPPLE: Okay. And the kind of structures that we're seeing here, what kind of structures are those?

THORN DICKINSON: So on the left those would be an H-frame structure, so obviously why it's called
an H-frame. And then they're -- they're single pole structure, on the right.

MS. BOEPPLE: And are either of those similar to the kind of structures we're going to see -- we would see if this project is approved?

THORN DICKINSON: I mean, the panel later on is -- does have engineering people on it that are going to be -- I was an engineer at one time, but.

MS. BOEPPLE: Okay. So someone else can respond to this a little bit better.

THORN DICKINSON: I think so, yeah.
MS. BOEPPLE: Okay. So could I move on to the next slide? Then we'll skip over this one as well. I'll just talk with the engineers about these. THORN DICKINSON: Yeah, you can. I mean, We talked about H-frames, a single pole and then these would be more lattice structures, so.

MS. BOEPPLE: Okay. And the next slide, please. And, again, these are lattice structures? THORN DICKINSON: Yes.

MS. BOEPPLE: And these were all -- all of these were put in as part of the MPRP as far as you know, but you guys aren't the engineers.

THORN DICKINSON: Yeah, I'd prefer that someone --

MS. BOEPPLE: Okay.
THORN DICKINSON: -- that was
well-acquainted with the MPRP.
MS. BOEPPLE: Okay. Is it fair to just say that the MPRP as you've described before was to improve the reliability in the State of Maine, correct?

THORN DICKINSON: That's the main goal of the project, right.

MS. BOEPPLE: Okay. Could I have the last slide, please? Well, not that one. This one. So are you familiar with the U.S. Energy Information Administration?

THORN DICKINSON: At a very high level.
MS. BOEPPLE: Okay. Are you aware that they did a report that was dated April 5, 2018 that showed the average frequency --

MR. MANAHAN: Ms. Miller, I object to this whole line of questions. This -- this hearing is about DEP's approval criteria and Mr. Dickinson's testimony and to be talking about a reliability project when she has made no foundation for any of these exhibits and has made no connect to Mr. Dickinson's testimony, I object to this whole line of questioning.

MS. BOEPPLE: It -- may I respond?
MS. BENSINGER: Yeah, if you could respond, please.

MS. BOEPPLE: Yeah. So one of the things that the Department is doing in a hearing is assessing and evaluating the credibility of the witnesses and the credibility of the testimony that's being provided, so I think it's appropriate to question and ask whether or not the information that you are being given is valid and whether or not the word that's being given by the witnesses is credible and my questions are going to that.

MR. BUXTON: Madame, Tony Buxton for the Industrial Energy Consumer Group, if I may. This particular slide is from a study about the distribution systems in the United States not the transmission systems and this is an excellent example of the failure to properly identify what's being used in cross-examination, so we join in CMP's objection.

MR. MANAHAN: But, frankly, just to respond to what Ms. Boepple said, this isn't addressed at Mr. Dickinson's credibility. There is no -- I see -she has made no connection to Mr. Dickinson's testimony. She's just throwing this out there in order to get it out and so I object to it.

MS. BENSINGER: On this slide, I would recommend that the Presiding Officer not allow it and not allow questions about it because as Mr. Manahan pointed out this was not addressed in the witnesses testimony and it does not seem to address the statutory criteria.

MS. MILLER: So I'm not going to allow it in. I would like to stick with what's in his testimony and the criteria, the DEP criteria. Thank you.

MS. BOEPPLE: Okay. Thank you. So just to wrap up --

MR. MANAHAN: Are we going to get copies of those other exhibits? Are they going to be admitted into the record and we just saw them and they're gone?

MS. BOEPPLE: Well, since nobody was able to talk in great depth about the components of the MPRP on this panel, I thought I would try and discuss it with your next panel, so I'd like to reserve trying to admit those until then.

MR. MANAHAN: Well, I object to using exhibits, not marking them as exhibits, not admitting them into the record, not establishing a foundation and just sort of hoping they'll fly. I object to
this whole line of questioning.
MS. BOEPPLE: If I could just respond to that. So typically you would also use exhibits for illustration purposes, which is exactly what $I$ was using those photographs for. And I was asking Mr. Dickinson and the panel if these were illustrations of towers that might be constructed as part of this project, so it doesn't necessarily have to come in as evidence.

MR. MANAHAN: Ms. Boepple never asked a question. She's tried to ask the question but then she withdrew them apparently after making certain statements, but they're not in the record --

MS. BENSINGER: I would recommend that they -- they have not been offered to be admitted, so they're not admitted at this time. If she -- if you do offer them to be admitted, I think Ms. Boepple will have to establish more clearly where they came from.

MS. BOEPPLE: Understood. Thank you. Could the time keeper let me know how much of my 85 minutes I have left?

MS. KIRKLAND: You have 39 minutes and 45 seconds.

MS. BOEPPLE: Okay. I'd like to reserve the
rest of my time then. Thank you.
MS. MILLER: Thank you. So we'll move on to Group 3.

MR. REID: Susanne, $I$ just have one quick question of this panel. And this exhibit I think we've marked it as Group 2-10 Exhibit 1 for cross-examination. And I'm not asking you to certify the accuracy of the information in that document, but if any of you now that you've had a chance to review it see anything that's inaccurate or misleading in the information contained in that document, I'd like you to tell us.

THORN DICKINSON: I mean, they're generally like in the ballpark of what $I$ would expect to see. Generally, what $I$ would like to do is go back and take a look at, you know, what $I$ know to be true and verify it, but $I$ think in a general perspective.

MR. BUXTON: If I may. Tony Buxton from the Industrial Energy Consumer Group. The Commissioner did not ask the rest of us, but $I$ would assert that some of the information is clearly incorrect, for example, the total cost of Northern Pass is clearly incorrect.

MS. MILLER: Okay. Let's get started with Group 3. Thank you.

MR. BOROWSKI: Good morning. My name is Benji Borowski, counsel to the Industrial Energy Consumer Group. And just for clarification, it is Industrial not International for the record. And I'm representing Group 3 up here.

I have some questions for you, Mr. Goodwin. How much money is CMP proposing to compensate for impacts to Jack pine stands?

MARK GOODWIN: I believe that number is $\$ 1.2$ million.

MR. BOROWSKI: And why did CMP propose that compensation amount?

MARK GOODWIN: Well, CMP initiated some rare plant and unique natural community surveys and identified a bunch of rare plants and some unique natural communities. One of the habitats was Jack pine forest. That was identified, I believe, it's in Bradstreet Township. And we met and had some consultation with Maine Natural Areas Program and they indicated that if the impact was unavoidable that it merited compensation at an 8 to 1 ratio and the compensation area included a 250 foot zone around the -- around the impact.

MR. BOROWSKI: Thank you. And it is clear to CMP that it was required to compensate for those
impacts?
MARK GOODWIN: At the time that the compensation was calculated, CMP believed that the dollar amount -- well, that compensation was required based on the information that we knew at the time. Maine Natural Areas Program has not been out to look at the site to verify the quality of the site or give it an appropriate rank. Subsequent to that, we have -- we since through some evaluation of stand data provided by the Weyerhaeuser, hopefully I pronounced that right, Weyerhaeuser Company, we noticed in the GIS data they were identified as pine plantations, which suggests that they were, in fact, planted. So we requested some additional information from Weyerhaeuser Company and, in fact, it came back that the stand data adjacent to these areas indicated that it was containerized plantings of Jack pine in the mid-'80s. So we've alerted MNAP of that fact and we're waiting for them -- a response from them in terms of what -- what that means from the standpoint of the quality of the habitat and the compensation that is ultimately needed or not needed, but the current proposal is to compensate $\$ 1.2$ million.

MR. BOROWSKI: Thank you for that clarification. Now, Mr. Dickinson, I have a few
questions for you. Mr. Dickinson, didn't CMP submit various proposals to the Massachusetts RFP including combinations with solar and wind?

THORN DICKINSON: Yes, we did.
MR. BOROWSKI: Did one proposal jointly made with NextEra include new solar and wind facilities being constructed in Maine near the Canadian terminus of the NECEC project?

THORN DICKINSON: Yes. And it included also battery technology and further investments further down the corridor.

MR. BOROWSKI: Would that proposal, the NextEra proposal --

MS. BOEPPLE: Objection. This line of questioning is not going to the hearing topics.

MS. MILLER: Do you want to respond to that?
MR. BOROWSKI: Sure. Depending on how expansive your view is of an alternative it goes to alternatives. Moreover, it goes to the credibility of NextEra's testimony about undergrounding.

MS. MILLER: I'm going to go ahead and allow it.

MR. BOROWSKI: Thank you.
MS. TOURANGEAU: I'm going to go ahead and object then. This is Joanna Tourangeau on behalf of

NextEra that the -- Chris Russo will be testifying on direct and if you wish to challenge his credibility you can ask him those questions. It's inappropriate to challenge his credibility as the basis for the relevance of your questioning -- line of questioning when you're questioning CMP's witnesses.

MR. BOROWSKI: It's my understanding that Mr. Russo works for a consulatancy, but Mr. Dickinson submitted proposals on behalf of CMP. One of those proposals was jointly made with NextEra, so he has direct knowledge of the questions -- of the answers to the questions I'm asking.

MS. TOURANGEAU: Except for those proposals were to the Massachusetts PUC not to the DEP.

MR. BOROWSKI: Exactly, but they would have had impacts in Maine in the same area where this project is.

MS. TOURANGEAU: But it's not relevant to the alternatives analysis. The only relevance would be to credibility and then you would have to ask Mr. Russo directly.

MS. BENSINGER: I would recommend that the Presiding Officer allow it.

MR. BOROWSKI: Thank you. So would the NextEra proposal have required a transmission line to

Lewiston?
THORN DICKINSON: Yeah, it would have essentially used the same corridor that we had proposed as part of NECEC.

MR. BOROWSKI: Would that transmission line have been buried?

THORN DICKINSON: No. It was an overhead transmission facility as proposed.

MR. BOROWSKI: Did NextEra ask CMP to propose a buried line to Lewiston as an alternative?

THORN DICKINSON: They did not.
MS. TOURANGEAU: Again, I'm going to object as to relevance.

MR. BOROWSKI: Same answer.
MS. BENSINGER: I would, again, recommend that it be allowed.

MR. BOROWSKI: Thank you. Do you think that the NextEra proposal would have created a larger or smaller environmental footprint than the NECEC project given that NextEra's proposal included both generation facilities and transmission facilities in Maine?

THORN DICKINSON: Definitely a larger footprint in Maine, yes.

MR. BOROWSKI: Did CMP have any say in which
of its submissions to the Massachusetts RFP won?
THORN DICKINSON: No. None.
MR. BOROWSKI: Thank you. That's all.
MS. MILLER: Thank you. Group 4 is next. I want to note we have about 25 minutes until we need to break, so we can split that testimony up. We're going to continue to do cross -- I mean, sorry. We're going to split that cross-examination up. We're going to have to continue cross-examination into the afternoon. As you know, we have time blocks for each of the parties, so it does shift some of the scheduling back, but it doesn't mean that we're not going to all fit it in with the general time frame for the Applicant panel.

MR. BOROWSKI: May I ask for a time check on how much I have left?

MS. KIRKLAND: Let's see, you've used 3 minutes and 26 seconds.

MR. BOROWSKI: Thank you.
MS. MILLER: So Group 4.
MR. PUBLICOVER: David Publicover for Group 4 and I will be crossing Mr. Goodwin and Mr. Mirabile and then Jeff Reardon will be crossing Miss Johnston.

MR. MANAHAN: Could I just ask, we were -the instructions at the prehearing conferences were
to cross-examine by panel absent some unique special circumstances, so I would object to Mr. Publicover's effort to try to break up this panel. They're available as a panel for one questioner as per the instructions of the Presiding Officer.

MS. BENSINGER: Well, certainly we said it was okay for different questioners to focus on different witnesses and that could be within a panel, but I would agree with you that if a witness on the panel feels unable to answer the question or feels that another member of the panel would be better able to answer the question that would be allowed.

MR. PUBLICOVER: All right. And my
questions are primarily for Mr. Goodwin unless otherwise noted. Throughout CMP's presentations and in your summary of the project, you noted how the new corridor has been routed through a gap in the landscape between higher value areas as shown on the project overview map. If I were to -- if someone were to look at an aerial photo say on Google Earth of the broad region, would they be able to identify any gap in land -- in the actual physical landscape?

MARK GOODWIN: I don't know what gap you're -- what kind -- what do you mean by gap?

MR. PUBLICOVER: Well, that is a term that
has been used in CMP's presentations on the project and Mr. Bradley has used that term in presentations on the project.

MARK GOODWIN: If you're referring to changes to topography and siting the line to make it less visible using intervening vegetation and topography then I would say yes. I mean, that's one of the considerations.

MR. PUBLICOVER: Well, I'll ask Mr. Mirabile that question. Do you -- do you recall using the term gap in the landscape between higher value areas for the routing of the corridor?

GERRY MIRABILE: I was making reference when I said that to an exhibit that roughly gathered into two clusters some of the highest profile areas --

MR. PUBLICOVER: I think that's --
GERRY MIRABILE: -- and identified that there was a gap between those two clusters between the Canadian border at Beattie Township and Section 222.

MR. PUBLICOVER: But if one looked at a high level aerial photo, would they be able to identify that gap in the physical landscape?

GERRY MIRABILE: The clusters were a mapping exercise not something that was on the ground, so I
don't believe that there would be a visible gap with respect to those clusters of high value recreation and visual areas. You would see gaps for land uses including forestry.

MR. PUBLICOVER: Okay. Thank you. Mr. Goodwin the Application's Section 7.3.1, which discusses cover types and wildlife habitat includes a specific discussion of early successional habitat. Given that the State Wildlife Action Plan considers mature forest to be very limited in Maine, why is there no corresponding discussion of mature forest habitat?

MARK GOODWIN: I suppose there is no discussion of mature forest habitat because we're going through relatively smaller amounts of that because of the existing land uses.

MR. PUBLICOVER: All right. Application Section 7.4.1.1, which is habitat conversion states, and I quote, habitat conversion is most pronounced in those areas where the proposed transmission line corridor traverses mature forest stands, end quote. Did you conduct any analysis of how much mature forest habitat would be lost to mature corridor clearing?

MARK GOODWIN: We generally just calculated
impact of forest clearing, but we didn't evaluate, you know, the age, you know, the class, ages of those trees.

MR. PUBLICOVER: Mr. Mirabile, can you define the term umbrella species?

GERRY MIRABILE: Umbrella species in what context? Where does that term come from?

MR. PUBLICOVER: It's a wildlife habitat management term. Have you heard the term?

GERRY MIRABILE: I'm not sure I've heard it.
MR. PUBLICOVER: All right. I'll ask Mr. Goodwin. Can you define the term umbrella species?

MARK GOODWIN: No. I'm not really aware of the exact definition of that term. I am aware of the term.

MR. PUBLICOVER: All right. If I told you that the definition of umbrella species was a species which if its habitat needs are met means that multiple other species will also have their habitat needs met. Would you agree with that definition?

MARK GOODWIN: I would.
MR. PUBLICOVER: All right. Are you aware that American marten is considered -- widely considered to be an umbrella species for a mature
forest habitat in the state?
MARK GOODWIN: I am.
MR. PUBLICOVER: All right. Does Section 7 of the application include the word marten anywhere in it?

MARK GOODWIN: It does not.
MR. PUBLICOVER: Does your testimony include the word marten anywhere in it?

MARK GOODWIN: I don't believe so.
MR. PUBLICOVER: Mr. Mirabile, does your testimony include the word marten anywhere in it?

GERRY MIRABILE: I don't believe it does.
MR. PUBLICOVER: All right. Thank you. Section -- the same section on Habitat Conversion also states, and I quote, habitat conversion along transmission line corridors results in a loss of habitat types which in turn may adversely impact species that are reliant on the original habitat types. Conversely, such alteration provides benefits to several species, end quote. The rest of this paragraph discusses the habitat benefits of transmission line corridors. Where is the corresponding discussion of which species may be adversely affected? This is for Mr. Goodwin.

MARK GOODWIN: Can you just repeat the
question?
MR. PUBLICOVER: Yes. The section talks about habitat conversion and it says it may adversely impact some species reliant on the original habitat types and that such alteration also benefits several species. And then the rest of this paragraph talks about which species benefit and I'm asking where in the application is the discussion of which species may be adversely affected by habitat conversion.

MARK GOODWIN: I'd have to have the application right in front of me to fully answer that. You know, the application doesn't necessarily go into detail on every single species that would be impacted by the project. The standards don't require you to list every single species that could potentially be impacted by the project.

MR. PUBLICOVER: Right. Where is there any general discussion on other than a statement that some species may be adversely affected? Does the application contain any discussion of these adverse effects of habitat conversion?

LAUREN JOHNSTON: Want me to answer that?
MARK GOODWIN: Yeah.
LAUREN JOHNSTON: We talk about adverse effects in the context of rare, threatened and
endangered species and also significant wildlife habitat.

MR. PUBLICOVER: All right. This is for
Mr. Mirabile. In your pre-filed testimony on Page 13 you state the NECEC project, and I'm quoting, the NECEC project will create a swath of permanently maintained scrub/shrub habitat in an area with the scarcity of such habitat, end quote. Where is the evidence in the application to support the contention that this habitat is scarce in the region?

GERRY MIRABILE: I don't know if there is specific evidence in the application. I think the point of that statement in the pre-filed was that it's a habitat type that is maintained on a permanent basis in this type of land use.

MR. PUBLICOVER: But you specifically state it is scarce and I'm asking where is the support for that statement?

GERRY MIRABILE: Right. And I think that the reason it was stated that way was because it is a early successional type of land cover that is present in forestry operations between clearcuts and the next harvest, but it's transitional and not on a permanent basis and so from that information we conclude that it's relatively scarce.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. PUBLICOVER: All right. This is also for Mr. Mirabile. You also state on Page 13, inclusion of scrub/shrub habitat within the larger landscape while will advantage some plant and animal species or others will not adversely impact overall habitat and species diversity and may improve it, closed quote. Where is the evidence in the application to support the idea that clearing of this new corridor will result in an improvement in wildlife habitat in the region?

GERRY MIRABILE: Can you point me to where on Page 13?

MS. MILLER: It's the very last sentence and goes on to Page 14.

GERRY MIRABILE: Right. The -- we contend that when we remove trees we don't remove habitat, we convert habitat from forested to something other than forested to scrub/shrub and so it's not a loss of habitat, it's a conversion of habitat. And the idea that it may improve diversity is based upon the ecological principle that in many cases at the edge of habitats where there is an ecotone or a transition from one habitat to another there is actually greater diversity of species than there would be in more of the monoculture such as a spruce/fir forest.

MR. PUBLICOVER: All right. And this is for Mr. Goodwin. On Page 17 of your pre-filed testimony you quote an EPA website on the benefits of integrated vegetation management in transmission line corridors and in includes the statement, and I quote, these transmission landscapes in turn reduce wildlife habitat fragmentation and allow species to be geographically diverse remaining in areas from which they might otherwise be excluded, end quote. Is the region of the new corridor an area from which wildlife species might otherwise be excluded if the corridor is not constructed?

MARK GOODWIN: I don't think so.
MR. PUBLICOVER: All right. And I am going to show you a copy of the screenshot of that EPA website that you quote and I have 20 copies. What do I do with them?

MS. BENSINGER: If you would give one to each and some to us.

MR. PUBLICOVER: All right. And I'm going to ask you to read the highlighted sentence which directly precedes the material you have quoted. Can you read that highlighted sentence?

MARK GOODWIN: As wildlife habitats in the United States are lost to development these right of
ways become increasingly important.
MR. PUBLICOVER: All right. Is the region of the new corridor an area where wildlife habitats are being lost to development?

MARK GOODWIN: I am sure there are some habitats that are being lost to development. There is some development going on up there.

MR. PUBLICOVER: In the region of the new corridor? Can you give me an example?

MARK GOODWIN: Sure. I'm sure there are camp lots that are developed and so on and so forth.

MR. PUBLICOVER: All right. Why did you omit that sentence when you quoted this material?

MARK GOODWIN: Why did I omit it?
MR. PUBLICOVER: Yes.
MARK GOODWIN: I don't have any reason for why it was omitted.

MR. PUBLICOVER: Now, when this entire paragraph is considered in context when it talks about wildlife habitat being lost to development and wildlife species that would otherwise be excluded, isn't it apparent that this paragraph is primarily talking about the benefits of wildlife habitat, benefits of transmission line corridors in more developed landscapes where habitat is being lost to
development and natural habitat is becoming increasingly limited?

MARK GOODWIN: I don't think you can restrict your review to one paragraph of the entire content that is on the EPA website on this topic. For example, the website also says that IBM is not restricted to only developed areas. The fact sheet says that I -- excuse me, hold on one second. The fact sheet identifies a variety of areas that IBM is helpful on including wildlife refuges, parks and forests, so you can't, you know, you're asking me if I cherry picked from the EPA website. I'm using this information only to demonstrate that IBM methodology is helpful in minimizing impact to habitat fragmentation and softening edge effects.

MR. PUBLICOVER: Isn't it true that in this dominantly undeveloped landscape that it is the clearing of the corridor that will cause the loss of native habitat?

MARK GOODWIN: Can you repeat that again, please?

MR. PUBLICOVER: Isn't it true that in this dominantly undeveloped landscape that it is the clearing of the new corridor that will cause the loss of native forest habitat?

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MARK GOODWIN: Forest habitat will be lost through the construction of the project.

MS. BENSINGER: Excuse me, Mr. Publicover, are you going to offer this as an exhibit?

MR. PUBLICOVER: I can if necessary. It's a reference cited in his testimony, so I assumed it was already part of the record.

MR. MANAHAN: I mean, we would object to it not being introduced. I mean, he's used it and so I would request it.

MS. BENSINGER: Are there any objections?
MR. PUBLICOVER: That's fine.
MS. BENSINGER: Okay. So this will be...
MS. MILLER: Group 4 Cross 1.
MS. BENSINGER: Group 4 Cross 1. Thank you.
MR. PUBLICOVER: All right. Mr. Goodwin, in your rebuttal testimony to Janet McMahon on Page 4 you state, and I quote, in the context of landscape scale resiliency in 1880 Somerset County was only 60 percent forested. The region has not always had the same large unfragmented forest she describes, end quote. Would you agree that in 1880 the non-forested area was mostly agricultural land?

MARK GOODWIN: I don't know that it was mostly or not.

MR. PUBLICOVER: Well, what else could it be?

MARK GOODWIN: I can assume that a significant amount of it was probably in agriculture.

MR. PUBLICOVER: Okay. And would you agree that this agricultural land was dominantly located in the more heavily settled southern part of the county, the area that is now organized towns?

MARK GOODWIN: That could be.
MR. PUBLICOVER: All right. So how is the fact that the southern part of the county saw extensive agricultural clearing relavent to the landscape through which the corridor would pass, which is most likely remained and continuously forested?

MARK GOODWIN: Um...
MR. PUBLICOVER: At least between -- oh, at least between the Canadian border and Route 201.

MARK GOODWIN: I mean, my rebuttal testimony is specific to the entire county. It didn't consider the southern versus the northern part of Somerset County.

MR. PUBLICOVER: Okay. All right. Continuing with Mr. Goodwin. Application Section 7.4.1.2 on habitat fragmentation states application,
and I quote, some bird species within the NECEC project area that may be sensitive to forest fragmentation are the long distance neotropical migrants that rely on forest interior habitats, but plentiful suitable habitat is available near the NECEC project area for these interior forest species. Then in your rebuttal testimony on Page 9 you state, and I quote, the fact is that a significant portion of Segment 1 is not interior foresting, i.e., free from the influence of edge effects due to the existing widespread logging and resulting fragmentation in this area. These two statements appear to contradict each other. Would you care to explain that?

MARK GOODWIN: Sure. It depends on the land, you know, the landscape scale that you're looking at. If you look at what others have defined as the western Maine mountains, you know, we're talking I think what was quoted in Janet McMahon's -one of her publications, 5 million acres of forest and that's what my rebuttal testimony is referring to not necessarily, you know, within 3 miles of the project area just to throw a number out there.

MR. PUBLICOVER: Did you actually conduct any analysis to document the extent of interior
forest habitat in the vicinity of the new corridor and how much would be lost to the clearing of the corridor and associated edge effects?

MARK GOODWIN: No.
MR. PUBLICOVER: All right. Now, in your response to a question from Mr. Weingarten, and I'm paraphrasing here, I believe you said interior forest as forested has not been impacted by logging, is that what you said?

MARK GOODWIN: I think what I said was intact interior forest is what $I$ would consider a forest that's been -- that's free of human disturbances.

MR. PUBLICOVER: So you would essentially consider it primarily wilderness, is that how you're defining interior forests?

MARK GOODWIN: I'm defining it as a forest that lacks human disturbance.

MR. PUBLICOVER: Okay. Is it your contention that timber management is incapable of maintaining areas of interior forest?

MARK GOODWIN: I am not a forester, so I don't know the answer to that.

MR. PUBLICOVER: All right. So where is the factual evidence to support your statement that
habitat for interior forest species is plentiful in the region as stated in the applications?

MARK GOODWIN: That statement was just specific, again, to the overall size of the western mountain region and nothing else.

MR. PUBLICOVER: Okay. So the fact that there is parts of Bigelow Preserve or ecological reserve means that there is plenty of interior forest in the region?

MARK GOODWIN: You know, I guess what I would say is testimony provided by Janet McMahon indicates that there is, you know, it's one of the -and hopefully $I$ won't misspeak here, but it's one of the biggest globally intact forest habitats.

MR. PUBLICOVER: All right. Now, this section, the application section on habitat fragmentation also states, and I don't have the page reference, but it's a fairly short section, 53.5 miles of new right of way which as discussed previously is located in an intensively managed timber production area and therefore not likely to significantly alter existing fragmentation. And, again, basically you're saying that because there is already fragmentation from timber harvesting the corridor timber is similar to that impact; is that
correct?
MARK GOODWIN: The corridor is going to create a soft fragmentation impact.

MR. PUBLICOVER: Okay. Now, one of the references you cited in the application, which was the Willyard, et al, 2004 reference states the effect of transmission line right of ways could be more severe than some other types of edges because rights of way cover long distances and are more permanent than edges resulting from more temporary openings such as clearcuts. So, again, is it your contention that the new corridor is just another big clearcut?

MARK GOODWIN: You know, to compare it to a forestry clearcut is probably not exactly accurate. It's a transmission line right of way that is managed in early successional vegetated state. Clearcuts are, you know, when they regenerate they're going to be in -- as far as that mosaic of forest types in that area they're going to be in different stages of growth.

MS. MILLER: Mr. Publicover, are you close to a wrapping up point and we'll start back up again?

MR. PUBLICOVER: I am about halfway through.
MS. MILLER: Okay. Can -- can you -- is
there a stopping point and you can start back up

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
after lunch?
MR. PUBLICOVER: Yeah. Three more
questions?
MS. MILLER: Yup.
MR. PUBLICOVER: Okay. All right. Is it your belief that most of the harvesting in the vicinity of the new corridor consists of clearcutting?

MARK GOODWIN: No.
MR. PUBLICOVER: Do you have any idea of how much -- what percentage of harvesting in the state consists of clearcutting?

MARK GOODWIN: Maine Forest Service data indicates that between 2015 and 2017 the clearcutting was approximately $61 / 2$ percent.

MR. PUBLICOVER: Okay. All right. So where is the evidence in the application to support the conclusion that the fragmenting impacts of the new corridor are no different than timber harvesting? That statement is made, but where is the supporting evidence?

MARK GOODWIN: Where is the statement made?
MR. PUBLICOVER: In -- I believe you said and quoted in the application 53.5 miles of new right of way, which is discussed previously, is located in
an intensively managed timber production area and therefore not likely to significantly alter fragmentation. That's in Section 7.4.1. -- whatever the habitat fragmentation section of the application is. So I'm asking you where is the evidence to support that statement in the application?

MARK GOODWIN: I think if you go into Google Earth and you look at aerial imagery and you use the application that allows you to look back in time you're going to see a constantly shifting pattern of forestry activities throughout that area and it's very clear that the transmission line goes through these areas that are already being impacted.

MR. PUBLICOVER: One follow-up question. Have you looked at Google Earth imagery of the Northeast Kingdom of Vermont?

MARK GOODWIN: No, sir.
MR. PUBLICOVER: Are you aware there is a transmission line corridor that runs through -north/south through that area in land that was for a long time commercial timberland?

MARK GOODWIN: I am not aware of any transmission line development in Vermont.

MR. PUBLICOVER: All right. So you're not aware that there is a large transmission line running
north/south through the Northeast Kingdom of Vermont?
MARK GOODWIN: It wouldn't surprise me if there was, but I -- I don't have any knowledge of transmission lines in the State of Vermont generally.

MR. PUBLICOVER: Okay. So you haven't looked at the Google Earth imagery and seen that the transmission line corridor appears distinctly different than the harvesting patterns?

MARK GOODWIN: I'm -- I'm not arguing that the -- that the transmission line corridor is going to look different than harvesting patterns. That's not the point of my testimony.

MR. PUBLICOVER: All right. I can break there.

MS. MILLER: Okay. Thank you. I appreciate your flexibility. So we'll break for lunch. We'll start promptly at 1 o'clock and we'll start back up with Mr. Publicover.
(Luncheon break.)
MS. MILLER: Okay. We're going to go ahead and get started now. I think we're finally ready and we'll turn the cross-examination back to Mr. Publicover. Thank you.

MR. PUBLICOVER: All right. Before we move on, Mr. Goodwin, I just want to clarify one answer
you gave earlier, which I think you answered correctly, but I just want to make sure people understand it when I asked how much of harvesting in the state consisted of clearcutting and you said 6.5 percent and I just want to make sure that that's -of all of the acres that were harvested over that period 6.5 percent of those acres were harvested by clearcutting.

MARK GOODWIN: I may have slightly misspoke on that.

MR. PUBLICOVER: No, I think you answered it correctly.

MARK GOODWIN: The -- the percentage is specific to Franklin and Somerset Counties.

MR. PUBLICOVER: Okay. That's fine. It's approximately what I have too. I just wanted to make sure you're not talking about 6.5 percent of the state was clearcut during that time.

MARK GOODWIN: No, 6.5 percent was the average approximately for Franklin and Somerset Counties between 2015 and 2017.

MR. PUBLICOVER: 6.5 percent of harvested acres were harvested by clearcutting?

MARK GOODWIN: Yes.
MR. PUBLICOVER: Okay. All right. Moving
on. Application 7.4.1.3 discusses edge effects and the Willyard, et al, 2004 reference that's cited in the application states fragmentation produced by right of ways is likely to have a negative impact on the greatest number of species as a result of edge effects. Given their potential significance, how do you justify the fact that the application includes only a single brief paragraph, a mere seven lines, on the negative consequence of edge effects?

MARK GOODWIN: I don't believe the standard specifically requires the Applicant to fully assess what the edge effects would be. And in addition, the edge effects are somewhat muted by the fact that you have a transition of, you know, lower growing vegetation in the wire zone which is the area that's, well, approximately 54 feet centered underneath the wires and as you move to the edges of the corridor you get taller scrub/shrub vegetation, so it's the -the edge effect isn't as extreme in that scenario as it would be if you were mowing the entire width of the right of way to the ground.

MR. PUBLICOVER: All right. That's not what I asked, but we'll move on. Does this section of the application contain any discussion of which species might be adversely affected by the large increase in
permanent edge and subsequent loss of interior forest habitat?

MARK GOODWIN: I don't recall exactly, but I don't believe it goes into detail on specific species and the impacts of that edge effect on those species.

MR. PUBLICOVER: All right.
GERRY MIRABILE: Can I add to that,
Mr. Publicover?
MR. PUBLICOVER: Sure.
GERRY MIRABILE: We consulted closely through the application process with Inland Fisheries and Wildlife and they identified for us the species that they were most concerned about and those were the species we focused on. They also did not identify edge effect as a concern.

MR. PUBLICOVER: All right. The last paragraph of this Section 7.4.1.3 is almost identical to the last paragraph of the previous section 7.4.1.2 and concludes this transmission line segment is therefore not likely to significantly alter or increase the existing edge effect. Given the lack of analysis and the extremely limited discussion of edge effects, where is the factual basis in the application to support this statement? This is for

Mr. Goodwin.
MARK GOODWIN: I'm going to defer that to Gerry.

GERRY MIRABILE: Would you ask the question again, please?

MR. PUBLICOVER: Yes. The last paragraph of Section 7.4.1.3 concludes this transmission line segment is therefore not likely to significantly alter or increase the existing edge effect. Given the extremely limited discussion of edge effects, where is the factual basis in the application to support this statement?

GERRY MIRABILE: I believe that statement was based on the idea that the edge effect as it exists currently based upon forestry practices would simply would be, you know, an extension of the edge effects created by forestry practices.

MR. PUBLICOVER: All right. Now, Mr. Goodwin, I'd like to turn your attention to the screen. This is Page 18 of your rebuttal testimony and the second paragraph. You estimate the amount of edge created by clearcutting in Somerset and Franklin Counties over a three year period; is that correct?

MARK GOODWIN: It's not an estimate. It's a number that is derived from a Maine Forest Service
report.
MR. PUBLICOVER: Yeah. No, but you derived the estimate of how much edge is created?

MARK GOODWIN: I did, yes. Yup.
MR. PUBLICOVER: All right. And you estimated that the 27,368 acres of clearcuts over this period created 3,836 miles of edge, correct?

MARK GOODWIN: That's correct.
MR. PUBLICOVER: All right. And you base this on the amount of edge one would get from 27,368 one acre circles, correct?

MARK GOODWIN: That's correct.
MR. PUBLICOVER: All right. The clearcuts aren't one acre size. By your own testimony, the average clearcut over that time is 30 acres. Why did you base your edge calculation on one acre?

MARK GOODWIN: Just a minute. Let me reread this, please.

MR. PUBLICOVER: Okay.
MARK GOODWIN: I think I used the one acre because I was trying to, you know, use a standard number. The clearcuts that are reported in the Forest Service documents that $I$ was referring to they have, you know, they report on varying sizes of clearcuts and I -- I don't quite recall if it tells
you -- I don't believe it tells you what each size clearcut was. It just gives you, for instance, how many clearcuts were 30 acres or more, how many clearcuts were 75 acres or more and then it gives you the total acreage. So I had to basically start from a base assumption of one acre because the information that's in those reports doesn't give me the exact acreage of every single clearcut.

MR. PUBLICOVER: But why did you use one acre rather than the average clearcut size of 30 acres?

MARK GOODWIN: I just didn't.
MR. PUBLICOVER: All right. Did you
calculate the amount of edge that would result from using 30 acre circular clearcuts instead of one acre?

MARK GOODWIN: I did not.
MR. PUBLICOVER: All right. Well, I did the math and the amount of edge resulting from assuming 30 acres --

MR. MANAHAN: I object to the questioner testifying. He can ask it as a question as opposed to what his math calculation was.

MR. PUBLICOVER: All right. If I told you that the amount of edge resulting from assuming 30 acre circular clearcuts is only about 18 percent of
what you have estimated, would you question that?
MARK GOODWIN: I have no idea -- excuse me. I have no reason to doubt you.

MR. PUBLICOVER: All right. So doesn't using one acre clearcuts seriously and erroneously overstate the amount of edge that resulted from clearcutting?

MARK GOODWIN: I'm sure it's not, you know, again, I didn't use the exact acreages and perhaps I should have used the 30 acres as a baseline. And I'm sure that number is -- is going to be smaller than the number that I used.

MR. PUBLICOVER: All right. Thank you. I believe in your rebuttal testimony but also in the summary of your testimony you listed various fragmenting features that exist in this region from highways to the railroad and various other places. Do you seriously believe that the fragmenting impact of the new corridor is equivalent to that created by streams and skid trails?

MARK GOODWIN: They're different types of fragmentation. I wouldn't say they're the same.

MR. PUBLICOVER: All right. Now, Section 7.4.1 of the application notes the transmission line corridor may affect species movement and dispersal.

Among other sources, let's use comprehensive land use plan also makes the point that transmission line corridors may affect species movement and dispersal. Where in the application do you discuss the impact that the new corridor may have on species movement for which species may be adversely affected?

MARK GOODWIN: I don't recall if we
discussed exactly species movement across the corridor. You know, the quote of it may -- may cause those effects. You know, our application and supplemental materials that have been submitted support CMP's efforts to manage a right of way in a manner that allows that connectivity to be significantly retained.

MR. PUBLICOVER: Is there more?
MARK GOODWIN: Yeah, I was going to say, you know, clearly, you know, if -- if someone built a transmission line corridor and, you know, mowed it to the ground and maintained it in a mowed state then, yeah, maybe it would have significant impacts, but that's not what CMP is doing or proposing to do.

MR. PUBLICOVER: All right. Can you please pull up Exhibit CMP 3-I? It's in -- it's an exhibit from Goodwin's rebuttal testimony.

MS. MILLER: Are you referring to $3-\mathrm{I}$ in the
direct testimony?
MS. BENSINGER: Rebuttal.
MR. PUBLICOVER: Rebuttal.
MS. MILLER: That is direct?
MR. PUBLICOVER: It is. It's from his
pre-filed testimony.
MS. MILLER: Pre-filed?
MS. BENSINGER: Pre-filed direct.
MR. PUBLICOVER: Direct. Okay.
MR. BEYER: Which exhibit?
MR. PUBLICOVER: So this would be under Goodwin's Direct 3-I. All right. So this shows the typical vegetation management within the stream buffers, correct?

MARK GOODWIN: No, that's -- that's a typical for the -- typical right of way conditions throughout the right of way.

MR. PUBLICOVER: I believe when it's
referenced in your direct testimony, if I can... All right. It's on Page 21 of your direct testimony.

MARK GOODWIN: Yup. I see it.
MR. PUBLICOVER: Okay. And it says within that portion of the stream buffer that is within the wire zone all vegetation over 10 feet in height whether capable or non-capable will be cut back to
ground level, Exhibit CMP 3-I. So you're referring to this exhibit in a discussion of vegetation management in the stream buffers.

MARK GOODWIN: Yes, but it's also relevant to other portions of the corridor.

MR. PUBLICOVER: Okay. But it is relevant to the stream buffers, correct?

MARK GOODWIN: It is.
MR. PUBLICOVER: All right. So outside the wire zone capable species will be removed, correct?

MARK GOODWIN: That's correct.
MR. PUBLICOVER: And when you say capable species you mean trees, correct?

MARK GOODWIN: Any species that's capable for -- generally trees, yes, but any -- any species that's capable of growing to heights tall enough that could enter the conductor safety zone.

MR. PUBLICOVER: All right. So even outside the wire zone vegetation will be maintained in an early successional condition as compared to the adjacent forest, correct?

MARK GOODWIN: That's correct.
MR. PUBLICOVER: So how does this maintain connectivity for species such as marten that require minimum levels of more mature forest vegetation and
avoid areas of early successional vegetation?
MARK GOODWIN: You're asking me how it maintains their preferred habitat? I think I've already answered that question. In other ways it's not, you know, when you clear the right of way and return it to an early successional vegetative state it's clearly not the preferred habitat of the marten. You know, IF\&W did not indicate to CMP during their project review that marten was a significant concern. Actually, I don't even believe they ever really brought it up as a potential issue. And, you know, our efforts were focused on protecting the endangered species that were a concern to IF\&W. Do you have anything to add to that, Gerry?

GERRY MIRABILE: No.
MR. PUBLICOVER: Okay. But so you admit that this will not maintain connectivity for marten or other species that avoid early successional habitat?

MARK GOODWIN: I understand that marten typically avoid early successional habitat. I don't think it precludes them from crossing that habitat to get to other portions of the forest.

MR. PUBLICOVER: All right.
MARK GOODWIN: On the other side.

MR. PUBLICOVER: Are you familiar with the work of Dan Harrison and Payton and others that were -- or Payer that were cited in my testimony describing how marten will avoid areas such as this?

MARK GOODWIN: No, sir, I'm not.
MR. PUBLICOVER: Now, you state in your pre-filed testimony, Page 17 or your direct testimony, CMP's vegetation management practices establish areas of dense shrubby vegetation and taller vegetation where topographic conditions allow, e.g., steep ravines, thereby providing a vegetation bridge for wildlife movement across the NECEC corridor. Are these areas of taller vegetation discussed anywhere in the application?

MARK GOODWIN: I believe they are discussed in the vegetation management plan and possibly the vegetation clearing plan.

MR. PUBLICOVER: Is there any information in the record that documents the location and extent of these areas where taller vegetation will be maintained?

MARK GOODWIN: There is not. The -- these areas during construction will be evaluated by the construction superintendent forester and they'll make a determination whether or not the condition is --
would allow for taller vegetation to remain in those areas. A similar practice was executed that way on the Maine Power Reliability Program.

MR. PUBLICOVER: But so in terms of whether there is any information in the record as to where they will be the answer is no.?

MARK GOODWIN: That's correct.
MR. PUBLICOVER: All right. And so it could be there won't be any, correct?

MARK GOODWIN: That's possible.
MR. PUBLICOVER: All right. Now, many references including some that have been included in CMP materials note the importance of coarse, woody debris retained in early successional areas as refuge or bridges that enhance the ability of small animals particularly amphibians to move through these areas. How would coarse, woody debris be maintained in the corridor given that all trees will be removed?

MARK GOODWIN: I think what that's referring to is the early successional woody vegetation that grows to heights at which they determine the need to be removed for management of -- well, protecting the conductors for safety and reliability reasons.

MR. PUBLICOVER: Okay. But you're not going to have any 12 inch diameter rotten logs in the
corridor?
MARK GOODWIN: No. No, sir.
MR. PUBLICOVER: Okay. Now, in your rebuttal testimony on Page 18 you state the maximum width of the right of way on Segment 1 will be 150 feet, likely far less than the significant widths created by clearcuts of 30 acres or more. And you used this to support your contention that the impact on species movement of the corridor will be no more significant than the impact of clearcuts, correct?

MARK GOODWIN: I'm sorry. I'm just flipping to that page. Can you ask the question again, please?

MR. PUBLICOVER: Okay. You see the quote -you're comparing the maximum width of the right of way of 150 feet?

MARK GOODWIN: Yes, sir.
MR. PUBLICOVER: You say it's likely far less than the significant widths created by clearcuts 30 acres or more and you use this to support your conclusion that the impact on species movement of the corridor will be no more significant than the impact of clearcuts, correct? It's easier for them to go across the corridor than it is for them to go across a wider clearcut, is that your point?

MARK GOODWIN: That's not what my testimony says.

MR. PUBLICOVER: Okay. Well, what is the point of that statement?

MARK GOODWIN: The point -- if I could, I'll read it. If wildlife continue to thrive and remain connected in a region that routinely has new edge created at significant widths and distances over a very large area by the forestry industry then it is reasonable to conclude that wildlife connectivity will not be unreasonably impacted by 150 foot wide vegetated right of way.

MR. PUBLICOVER: Okay. Animals that require continuous forest cover can go around clearcuts, can't they?

MARK GOODWIN: Yes.
MR. PUBLICOVER: All right. Thank you. That's all I have.

MS. MILLER: Thank you. Did Group 4 --
MR. PUBLICOVER: And, yes, now Mr. Reardon will take over.

MR. REARDON: Good afternoon. My name is Jeff Reardon. I work for Trout Unlimited. And my questions are primarily for Ms. Johnston, but I'm comfortable with anybody on the panel answering if
that's appropriate. I want to go back to the idea that streams are a fragmenting feature on the landscape. For fisheries, do streams serve as corridors of connectivity or as fragmenting features?

LAUREN JOHNSTON: I would say they serve as both.

MR. REARDON: How do streams fragment aquatic habitat?

LAUREN JOHNSTON: They don't -- it wouldn't fragment aquatic habitat, it would be terrestrial habitat.

MR. REARDON: Okay. So my question said for fisheries.

LAUREN JOHNSTON: Okay. All right. I understand.

MR. REARDON: Okay. So you agree they're features for connectivity?

LAUREN JOHNSTON: Correct.
MR. REARDON: What about for wetland dependent species like turtles, salamanders, frogs?

LAUREN JOHNSTON: I would say so.
MR. REARDON: Small mammals? Beaver, otter, mink, marten?

LAUREN JOHNSTON: I would say so.
MR. REARDON: Large mammals like deer and
moose that tend to be associated with riparian systems particularly in winter?

LAUREN JOHNSTON: Yes.
MR. REARDON: Thank you. I want to -- this figure -- it wasn't my intention, but the figure is still up on the screen. This does represent what we would see in the buffer within the, quote, widened 100 foot riparian buffers, that's approximately what we would expect for the vegetation there?

LAUREN JOHNSTON: Yes.
MR. REARDON: So the maximum height of the non-capable vegetation within the roughly 45 foot wide corridor, how high would that grow?

LAUREN REARDON: That would be allowed to grow up to 10 feet before cut stage.

MR. REARDON: How much shade would 10 foot high vegetation provide in mid-summer?

MARK GOODWIN: I'm going to make a correction here. The -- in the wire zone, the woody vegetation over 10 feet in height would be removed on a four year cycle. Outside the wire zone only the capable woody vegetation is removed. If during vegetation management review of a particular area or during that cycle if they see capable species out there that are approaching the conductor safety zone
then they might remove them. So it would not be uncommon for there to be shrubs outside of the wire zone that exceed 10 feet in height.

MR. REARDON: Okay. Exceed 10 feet in
height by how much?
MARK GOODWIN: Probably 15 to 20 feet maybe.
MR. REARDON: 15 to 10 feet total or 10 plus 15 to 20?

MARK GOODWIN: Probably 15 to 20 total.
MR. REARDON: And that would be within the wire zone?

MARK GOODWIN: No, sir. That would be outside of the wire zone.

MR. REARDON: Okay. So what would be the maximum height within the wire zone?

MARK GOODWIN: 10 feet.
MR. REARDON: Which is the same as what Ms. Johnston said, isn't it?

MARK GOODWIN: I believe Ms. Johnston was discussing outside the wire zone.

MR. REARDON: My question referred to within the wire zone, but okay. So maximum height of 10 feet within the wire zone and 15 to 20 feet in the -outside the wire zone. Within the wire zone, how much shade on say an 80 foot wide stream would that

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

10 foot high vegetation provide?
LAUREN JOHNSTON: I can't say for sure. It depends on -- it depends on the conditions of the -of that particular stream.

MR. REARDON: Okay. At high noon in August.
LAUREN JOHNSTON: I would say it probably receives direct sunlight.

MR. REARDON: Thank you. Will any canopy trees be allowed to remain -- remain anywhere within the widened 100 foot wide riparian buffers?

LAUREN JOHNSTON: No. Well, canopy trees, any capable species would not be allowed to remain within the --

MR. REARDON: Right. So no vegetation over approximately 20 feet?

LAUREN JOHNSTON: Correct.
MR. REARDON: And maybe a few get a little bit higher than that before they get cut? On the four year rotation, I'm just --

LAUREN JOHNSTON: It depends if it's a capable species or not capable species.

MR. REARDON: Thank you. Are you familiar with the Maine Department of Environmental Fisheries -- sorry, Maine DIF\&W's forest management recommendations for brook trout? This was an
attachment to my rebuttal testimony and I believe it was an attachment to at least one of the CMP's witnesses testimony as well.

LAUREN JOHNSTON: I am familiar with IF\&W's performance standards for riparian buffers, which they provided in some of the consultation that we've had with them.

MR. REARDON: Can you put up it's Attachment 2, I believe, to my rebuttal testimony. It's about a three page document.

MS. BENSINGER: So that would be Group 4 Reardon rebuttal.

MS. MILLER: Mr. Reardon, just to clarify, I think I have that -- is that the forest management for brook trout?

MR. REARDON: Yes.
MS. MILLER: Okay. That's -- I have that listed as Exhibit -- Group 4 Exhibit 20. Rebuttal.

MR. REARDON: Thank you. I'm sorry.
MR. BEYER: You want rebuttal testimony, Jeff?

MR. REARDON: Yeah, it was rebuttal testimony, I believe. Group 4. And the attachment at the very end after the...

MR. BEYER: Yeah. Do you know what page?

MR. REARDON: I don't know if $I$ can find it.
MS. ELY: It's the last two pages.
MR. BEYER: It's the last one?
MS. ELY: The last two pages.
MR. REARDON: I believe it's the last two pages. Thank you. And actually the -- this document, are you familiar with that?

LAUREN JOHNSTON: I don't believe I read that one in detail.

MR. REARDON: Okay. This is on the Department's website. It's advice that they've been giving to foresters and folks like me for at least a decade that $I$ know of. Could you please scroll to the last paragraph on the last page of that, second page of that? So I'm just going to quote here that, MDIFW, this is their document, also recommends limiting the harvest of trees and alteration of under vegetation within 100 feet of streams and their associated fringe and floodplain wetlands to maintain an intact and stable stand of trees characterized by heavy crown closure at least 60 to 70 percent and resistant to wind-throw. In some situations a wider buffer should be considered where severe site conditions, steep slopes, vulnerable soils, poor drainage, increase risk to soil and stand stability,
any harvest within the riparian management zone should be selected with a goal of maintaining relatively uniform crown closure. Within the widened 100 foot riparian buffers will we be approaching 60 to 70 percent canopy closure?

LAUREN JOHNSTON: Likely not.
MR. REARDON: Likely not or absolutely not? You said earlier there were no canopy trees in there.

LAUREN JOHNSTON: It would not.
MR. REARDON: Thank you.
LAUREN JOHNSTON: These recommendations I would note are for forestry practices and they're -which is not compatible with a transmission line project. IF\&W provided us -- provided CMP with performance standards specific to riparian buffer management related to transmission line construction.

MR. REARDON: Do you believe that ecological impacts of a transmission corridor on brook trout with the same riparian conditions are different from the ecological impacts of a clearcut which would go right to the stream bank?

LAUREN JOHNSTON: Can you ask the question again?

MR. REARDON: Do you believe the ecological impacts of no canopy closure as recommended by IF\&W

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
from a clearcut next to a stream bank are different from the ecological impacts of the exact same condition resulting from a power line corridor?

LAUREN JOHNSTON: I believe the way that we manage riparian buffer areas is different than a clearcut would be managed.

MR. REARDON: Would a clearcut regrow eventually?

LAUREN JOHNSTON: Yes, it would.
MR. REARDON: Legally for a clearcut in Maine could I clear right to the stream bank?

LAUREN JOHNSTON: I don't believe so.
MR. REARDON: Thank you. In your rebuttal testimony on Page 12 you state that within CMP's project right of way, this is your rebuttal testimony to me, quote, moderate-sized woody debris will be contributed to streams from dense riparian zone, herbaceous and woody non-capable vegetation. Is that -- did I quote that accurately?

LAUREN JOHNSTON: Yes, I would say that's probably accurate.

MR. REARDON: Can you estimate what would be the maximum length of woody debris generated within the CMP right of way, not -- not within the herbaceous zone, can we stipulate that there is no
woody -- woody debris generated in the herbaceous zone? Or would you agree that there is no woody debris being generated by the herbaceous zone?

LAUREN JOHNSTON: Well, what I say in my testimony is there is a dense riparian zone with herbaceous and woody non-capable vegetation.

MR. REARDON: Okay. What would the maximum length of woody vegetation be that we could expect to be recruited into the stream because that's where my question is going from within your riparian buffer?

LAUREN JOHNSTON: I -- I can't say for sure, but it would be consistent with the heights that CMP would allow the growth to -- the vegetation to grow to.

MR. REARDON: So no longer than approximately 15 to 20 feet?

LAUREN JOHNSTON: That would be probably -probably accurate.

MR. REARDON: And what would you expect maximum diameters to be of the woody vegetation before it got cut?

LAUREN JOHNSTON: It would be -- vary depending on species and depending on what the non-capable vegetation we're talking about is.

MR. REARDON: Would there be anything larger
than anything about 4 inches, do you suspect?
LAUREN JOHNSTON: Probably not.
MR. REARDON: Are you aware of the functions that large, woody debris serves in fisheries in terms of its provision of in-stream cover?

LAUREN JOHNSTON: I am.
MR. REARDON: Do you believe that if what the woody debris being recruited from your riparian zones is no longer than 20 feet and no bigger around than 4 inches it's going to serve those functions?

LAUREN JOHNSTON: I can't say for sure.
This is not particularly my area of expertise.
MR. REARDON: Okay. Anybody else on the panel is welcome to answer.

MARK GOODWIN: It's obviously not going to serve to the same level of function as woody inputs from a forested situation, but it's still going to potentially provide some cover just from, you know, smaller pieces, you know, leaning over the stream channel or that sort of input.

MR. REARDON: So if a -- again, the question here is what falls into the stream channel and then becomes incorporated as in-stream habitat. If a 4 inch diameter 20 foot long piece of wood falls into a stream in Maine and suffers the rain event that we
had last night, where does it end up? Does it -does it remain in the stream channel or does it move down the stream to larger streams?

MARK GOODWIN: It could remain in the stream channel or it could move down stream. I'll note that we proposed originally a woody debris addition component to our compensation plan and IF\&W specifically told us that it would have no value and they, you know, they thought that, you know, culvert -- the culvert replacements and the contribution had more value and I can, you know, my personal opinion that is they didn't feel that, you know, over this course of 150 foot right of way crossing it was significant enough impact to merit woody additions.

MR. REARDON: Thank you. There are two studies that both Mr. Goodwin and Ms. Johnston cite fairly extensively in their pre-filed and their rebuttal testimony. One of those is a paper that I confess I couldn't find. I did find the abstract of it. It's the N.C. Gleason 2008 paper. I do have the abstract. I have some questions related to that. This was attached to my -- my testimony, but I -- I do have copies of this if that's easier than trying to bring it up on the screen.

MR. BEYER: Is it rebuttal, Mr. Reardon, or was it direct?

MR. REARDON: This was actually attached to my -- yeah, I'm sorry, this was attached to my rebuttal testimony.

MR. BEYER: Scroll down.
MR. REARDON: And I'll tell you it was included -- it's quite short. It was included in my rebuttal testimony about a page-and-half in if $I$ remember correctly.

MS. BENSINGER: We can just bring it up, but you can give it to them.

MR. BEYER: No, I think it's at the end.
MS. PEASLEE: At the end?
MR. BEYER: Yup.
MR. REARDON: Let's see. There is a quote from Goodwin on Page 2 of my testimony.

MS. PEASLEE: In the rebuttal?
MR. REARDON: Yup. So the quote says a study by N.C. Gleason on the impacts of power line rights of way on forest and stream habitat despite the open canopy condition, water temperatures were slightly lower than in off right of way areas and that more of the water quality parameters -- sorry, none of the water quality parameters were
significantly different between the on right of way and off right of way study areas. The Gleason study also found no correlation between percent canopy cover and mean percentage of fines and no significant difference in the Benthic Index of Biotic Integrity scores between on right of way and off right of way areas. I refer you to the abstract I just handed you. What did Gleason find regarding percent cover -- canopy cover in right of way stream segments versus upstream segments? What was the difference?

MARK GOODWIN: I think it would be pretty obvious to everybody that in the right of way itself there is less -- less canopy cover.

MR. REARDON: Did Gleason conclude in his abstract that, quote, overall the elements show a decrease from ideal salmonid habitat conditions?

LAUREN JOHNSTON: Gleason did conclude that there -- that there is a decrease from ideal habitat conditions, however, the standard is -- is for us to show that there is it not an adverse impact to this habitat.

MR. REARDON: Did Gleason -- thank you. Did the Gleason study study new right of ways or old ones?

LAUREN JOHNSTON: The study was on old right
of ways, right of ways that had been re-established for 30 to 50 years.

MR. REARDON: Okay. So we can conclude from Gleason's study that even after 30 to 50 years right of ways will still show, quote, a decreased -- a decrease from ideal salmonid habitat conditions.

LAUREN JOHNSTON: A decrease from ideal, yes.

MR. REARDON: Thank you. You also cite a study by Peterson.

MS. ELY: Excuse me, Mr. Reardon, do we want to add this as an exhibit now or? The one we handed out?

MR. REARDON: We can, yes. The abstract.
MS. ELY: Can we add it as Group 4 Cross Exhibit 2?

MS. MILLER: Any objection?
MS. ELY: Thank you.
MR. REARDON: And the second handout that I have is the full Peterson study.

MS. BENSINGER: Excuse me, Mr. Reardon, is this new or was it in the record already?

MR. REARDON: This was in the record already.

MS. BENSINGER: Okay.

MR. REARDON: This was attached to my rebuttal testimony, but just so people had hard copies in front of them. And this was a quote, I believe, from Goodwin's --

MS. MILLER: Mr. Reardon, I'm sorry --
MR. REARDON: I'm sorry.
MS. MILLER: -- so we're -- just so we're clear, where in the record...

MR. REARDON: This is, sorry, Attachment 1 to my rebuttal testimony that was dated March 18.

MS. MILLER: Thank you.
MR. REARDON: Filed on the 25th. Sorry. So you're -- the quote, and this was in Goodwin's direct testimony incorporated into Ms. Johnston's testimony and there was similar discussion in rebuttal testimony. A.M. Peterson had reported that removal of tree canopy on new transmission line corridors increases stream insulation during the short-term, but within two years the areas were bordered by dense shrubs and emergent vegetation and water temperatures were not significantly higher than upstream forested regions. Similarly, Peterson found the stream reaches in electric transmission right of ways were exposed to more light and denser stream bank vegetation were deeper and narrower and a greater
area composed of pools. Peterson's study found that trout were more abundant in stream reaches within right of ways. What did Peterson find regarding mean shade in the right of ways versus outside of right of ways?

LAUREN JOHNSTON: Well, the -- the mean shade in -- in right of ways would be less than outside of right of ways.

MR. REARDON: Was it 31.5 percent in the right of way and 83 percent in forested areas upstream?

LAUREN JOHNSTON: I --
MR. REARDON: I'd refer you to Table 2 of the study you cited.

LAUREN JOHNSTON: That sounds right.
MR. REARDON: Of the various physical attributes of the 15 headwater trout streams that were analyzed in this study for how many of the habitat variables was there a significant difference between on right of way and off right of way conditions?

LAUREN JOHNSTON: Can you ask the question again?

MR. REARDON: Looking at Table 2 in the -in the study. Of the $I$ believe it's 14 mean physical
attributes of 15 headwater trout streams in New York's -- New York 1989, of all of those physical attributes for how many was there a significant difference between physical habitat within the right of way and physical habitat in forested areas upstream of the right of way for how many of the 14?

LAUREN JOHNSTON: Um...
MR. REARDON: I'm sorry, it's 12. There are 12 total not 14 . I was miscounting.

LAUREN JOHNSTON: I mean, I don't see the response readily available.

MR. REARDON: Well, I can ask them one at a time. Looking at Table 2 --

LAUREN JOHNSTON: Yup.
MR. REARDON: -- was the mean velocity different between the forested and above the right of way or, sorry, between the right of way and forested segment?

LAUREN JOHNSTON: I would say that's pretty negligible.

MR. REARDON: Was the mean width significantly different?

LAUREN JOHNSTON: Also pretty negligible.
MR. REARDON: At what $P$ level was the difference in terms of the -- it was 3.6 in the
forested reaches and 2.8 in the right of way reaches --

LAUREN JOHNSTON: Right.
MR. REARDON: -- and I believe the $P$ value was . 04.

LAUREN JOHNSTON: Okay.
MR. REARDON: So would that be significantly different?

LAUREN JOHNSTON: I -- yeah.
MR. REARDON: By normally accepted
scientific standards --
LAUREN JOHNSTON: Yeah.
MR. REARDON: -- P 5 percent? Mean depth was 9.5 in forested reaches, 12.1 in the right of way, was that a significant difference?

LAUREN JOHNSTON: The $P$ value is . 02 .
MR. REARDON: So that's a yes?
LAUREN JOHNSTON: Yes.
MR. REARDON: Area of pools, 25.7 and forest 38.3 P . 02?

LAUREN JOHNSTON: Yup.
MR. REARDON: Substrate size, .8, .82, P . 8 ?

LAUREN JOHNSTON: Yeah.
MR. REARDON: Are you sure?

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

LAUREN JOHNSTON: I mean, I am agreeing with the numbers that you're reading off here.

MR. REARDON: But that would be not a significant difference, right, for substrate size?

LAUREN JOHNSTON: I don't believe so.
MR. REARDON: Okay. Mean riffle fines were not a significant difference, correct? It was --

LAUREN JOHNSTON: No.
MR. REARDON: They were very close to each other at --

LAUREN JOHNSTON: Right.
MR. REARDON: -- P.09? Mean shade was significant, we just talked about that. Bank cover was not significantly different.

LAUREN JOHNSTON: Right.
MR. REARDON: But -- and banks, shrubs and grass, which were 4.6 percent of stream bank vegetation of the forested reach and 91.8 percent in the right of way? $P$.O1, is that significant?

LAUREN JOHNSTON: .01, no.
MR. REARDON: It -- it would be.
LAUREN JOHNSTON: It would be? Oh, okay.
MR. REARDON: There was a 99 percent chance that it's a significant --

LAUREN JOHNSTON: Right.

MR. REARDON: One was -- just to be clear, one was 4.6 percent of vegetation was in shrubs and grass and the other one was 91.8 percent of vegetation was in shrubs and grass.

LAUREN JOHNSTON: Okay. I'm following you. Yes.

MR. REARDON: Okay. So in sum, of the physical habitat parameters that were investigated in this study, 8 of the 12 that were investigated were different inside the right of way than in forested reaches nearby, correct?

LAUREN JOHNSTON: Correct.
MR. REARDON: So the right of way has a fairly significant impact on physical habitat in the stream?

LAUREN JOHNSTON: For 8 of the 12 it has an impact.

MR. REARDON: Yes. Thank you.
LAUREN JOHNSTON: Significant impact.
MR. REARDON: Okay. Turning to Table 3, which looks at the fisheries information and you correctly stated that there was a -- an increase in the number of trout in the right of way compared to the forested reach, but there was also a significant difference -- is it correct there was also a
significant difference in both the number and biomass of all fish including trout and the non-trout?

LAUREN JOHNSTON: Did you ask -- was that a question?

MR. REARDON: Yes. Looking at Table 3.
LAUREN JOHNSTON: Okay.
MR. REARDON: You -- you stated, and I agree, that there was a significant difference in the number of trout per stream reach, 30.8 in the right of way and 18.9 in the forested reach. Was there also a significant difference in the number of all fish per reach, not just trout but also non-trout species?

LAUREN JOHNSTON: Yes.
MR. REARDON: And was that difference larger or smaller than the increase in the number of trout?

LAUREN JOHNSTON: Larger.
MR. REARDON: So would you conclude that species that are competitors with trout were doing better in the right of way, overall fish biomass increase, but the increase was larger for trout competitors than for trout?

LAUREN JOHNSTON: I am not sure that I can draw that conclusion. Gerry, do you want to add?

GERRY MIRABILE: Certainly. Well, based
upon the P values it appears that it -- that it doesn't support your statement because the $P$ value is slightly smaller for the number of trout per reach, which means there is a higher probability of the significance of the difference than it is for the number of fish per reach.

MR. REARDON: But they were both physically significant, right?

GERRY MIRABILE: I'm just comparing the P values.

MR. REARDON: But they were both statistically significant, correct?

GERRY MIRABILE: They appear to be.
MR. REARDON: And the number of trout was statistically significant, but the mass of trout, the grams of trout was not; is that correct?

GERRY MIRABILE: Well, based on the P value it's not as -- it's not as likely.

MR. REARDON: And --
GERRY MIRABILE: That's all we can say.
MR. REARDON: And both the number of all
fish and the mass of all fish, number and grams, they were both statistically significant, correct?

GERRY MIRABILE: Yes.
MR. REARDON: And the increase in trout was
from 18 to 30 in the one finding that was statistically significant and the increase in non-trout was from 62.8 to a 118.5 , is that a larger difference?

GERRY MIRABILE: That is a larger absolute difference.

MR. REARDON: Is it also a larger relative difference?

GERRY MIRABILE: Based upon the $P$ value, I don't believe so.

MR. REARDON: What about based on the number, which nearly doubles in one case?

GERRY MIRABILE: Absolute difference, yes.
MR. REARDON: Thank you. Can you bring up CMP Exhibit 3-F? I believe this was attached to Mr. Goodwin's rebuttal testimony. Um, no, I'm sorry, the one above it. Gold Brook and Mountain Brook pictures. There we go. There are two pages of that. I can't remember.

MS. PEASLEE: Leave it there?
MR. REARDON: No. Yeah, those are blank, so just, yeah, just the page with the pic in it. Thank you. So you're -- actually, this -- the quote here is from Ms. Johnston's rebuttal testimony, but either Ms. Johnston or Ms. Goodwin -- Mr. Goodwin can
answer. Your rebuttal testimony notes that the taller structure CMP has proposed at Gold Brook to allow full height vegetation within the 250 foot riparian buffer management zone, quote, will also protect brook trout and other cold water fishery species by avoiding and minimizing secondary impacts, tree clearing within riparian buffer. Can you explain how brook trout will benefit from the intact buffers in that zone?

LAUREN JOHNSTON: Well, the avoidance of clearing maintains an ideal brook trout habitat.

MR. REARDON: Thank you. That suggests that the clearing has an impact on brook trout habitat; does it not?

LAUREN JOHNSTON: There is no question that clearly has an impact on brook trout habitat. The question is whether tree clearing has an adverse impact on brook trout habitat.

MR. REARDON: Okay. I just have a couple more questions. So this is -- and I apologize, I thought about how to do this. There are some tables that are in the January 30 compensation plan and what I've done is printed just the tables that $I$ want to refer to questions from that 500 page document so we're not flipping back and forth plus or minus 30
pages, so can I hand these out? And we can either label these as a separate exhibit or they are all direct from the -- however -- but either way is okay with us.

MS. MILLER: I think to be helpful, let's go ahead and label it as an exhibit and we'll call this Group 4 Cross 3, I believe.

MR. REARDON: So just so you understand what this -- what this was, Exhibit I-9 of the compensation plan was, I believe, the Power report, which summarized functions and values and lots of data and maps for all of the various compensation parcels. And the question here is related to both direct testimony and rebuttal testimony, my direct testimony of the assessment of the fisheries habitat values on these parcels. And so what I'd like to do there are six parcels front and back of each page. These are in the order they appear in the report.

MS. ELY: Jeff. Sorry. Sue. I wasn't able to hand out copies to everybody and so as you're going, if you could just say the names so that -- oh, thank you.

MR. REARDON: Yes, I can say the names of the parcels.

MS. ELY: Yeah, thank you.

MR. REARDON: Sorry. So the first table is Table 2.1, summary of functions and values of the 109.77 Little Jimmie/Harwood parcel. Can -- I guess, Ms. Johnston, can you read what the assessment of the function and values for fish and shellfish habitat were?

LAUREN JOHNSTON: I can read this but the Little Jimmie Pond tract was not proposed for compensation for --

MR. REARDON: Okay. So there are -- there are no cold water fisheries values there?

LAUREN JOHNSTON: No, we did not propose it as part of the compensation plan.

MR. REARDON: Okay. Did you propose a Flagstaff Lake plan tract for cold water fisheries habitat benefits?

LAUREN JOHNSTON: No, the three -- the three parcels that we proposed for cold water fisheries habitat compensation are the Grand Falls tract, the Lower Enchanted tract and the basin tract. Those are the three last parcels in the document you handed out.

MR. REARDON: Okay. So not the Pooler Pond tract?

LAUREN JOHNSTON: No.

MR. REARDON: Could you read anyway since this was not proposed more mitigation what the summary of functions and values for fish and shellfish Pooler Pond tract was?

LAUREN JOHNSTON: Well, we're proposing that parcel for wetland impact offset.

MR. REARDON: I just want to know what the assessment of the fish and shellfish habitat value of it was.

MR. MANAHAN: I would -- I would object to this question because we just established it was irrelevant to the compensation plan that was proposed.

MR. REARDON: Okay. I would like to reserve the right to come back to this because I think there is a foundation for it, but I'll -- I'll move on.

Can you read from the Grand Falls tract, which was proposed for cold water fisheries habitat benefits, correct?

LAUREN JOHNSTON: Sure. I can read that.
MR. REARDON: What does that read?
LAUREN JOHNSTON: As observed during field surveys, the Dead River at Grand Falls is popular for brook trout and landlocked salmon fishing. In 2017, the segment of the Dead River crossing T3 R4 BK BKP

WKR where the Lower Enchanted tract is located was stocked with approximately 15,5508 to 14 inch landlocked salmon and brook trout to support the fish -- the fishery for the recreational angler. Fresh water muscles were observed along the muddy shorelines of the Dead River upstream of Grand Falls.

MR. REARDON: Okay. Is there any
information there about wild fisheries in that section of the Dead River?

LAUREN JOHNSTON: In this excerpt that I just read, no.

MR. REARDON: Yes. Elsewhere in that report?

LAUREN JOHNSTON: I can't say for sure.
MR. REARDON: Would it surprise you that if I searched for the words brook trout habitat these tables were the only place it showed up?

LAUREN JOHNSTON: It would not surprise me.
MR. REARDON: Thank you. Can we agree that the summaries are largely the same just to save time for the Lower Enchanted tract, in fact, fairly close to verbatim and for the basin tract?

LAUREN JOHNSTON: Yes, they are. They're adjacent to each other.

MR. REARDON: Right. Thank you. So it's
the same -- same river reach with a fishery supported by stock brook trout and stock landlocked salmon?

LAUREN JOHNSTON: Correct.
MR. REARDON: And those are proposed as mitigation for impacts to wild brook trout at headwater streams.

LAUREN JOHNSTON: They're proposed for if -they're partially proposed for impact to indirect impacts to cold water fisheries habitat.

MR. REARDON: Of the I think it's just over 12 miles -- of stream miles that you protect and cite as protecting for benefits for impacts to brook trout how many of those miles are in those sections of the Dead River?

LAUREN JOHNSTON: Can you repeat the question?

MR. REARDON: Your testimony, which I believe -- actually, I believe it was Mr. Goodwin's testimony, but it was repeated in your rebuttal said that I believe it's 12.08, but it is just over 12 miles of stream habitat that are protected on the compensation parcels and of those I believe approximately 8, I think it's 7.7, are on the tracts we just talked about where it's supported by a stocked fishery; is that correct?

LAUREN JOHNSTON: So the 12 miles that we cite does not overlap with the frontage that you quote for the -- on the Dead River.

MR. REARDON: So it's 12 miles of streams other than the Dead River?

LAUREN JOHNSTON: Yes. I believe -- I believe so.

MR. REARDON: Okay. I'm -- I -- sorry, give me a second, please. Okay. In Mr. Goodwin's testimony, and I'm sorry, I do not have a page reference, but the statement is CMP will preserve, colon, 12.02 linear miles of cold water fishery habitat including 7.9 miles of habitat and frontage along the Dead River. So my approximately 12 total and 8 on the Dead River is --

LAUREN JOHNSTON: Yes.
MR. REARDON: -- proposed?
LAUREN JOHNSTON: Yes.
MR. REARDON: Thank you. And that's all I have.

MS. MILLER: Thank you. April, do we have a remaining time for Group 4?

MS. KIRKLAND: 42 minutes 41 seconds remaining.

MS. MILLER: Yes, Ms. Ely.

MS. ELY: I just have a couple of follow-up questions for Mr. Dickinson. Earlier in your questioning with Attorney Boepple there was a question about the 40 year life and $I$ just wanted to clarify a couple of your answers. I was unclear on your answer how often CMP decommissions these lines and I want to just get an answer. In your experience have you ever seen the decommissioning of a transmission line where the poles were taken out of the ground in an existing transmission line within CMP's territory?

THORN DICKINSON: My expectation is that intuitively $I$ would say yes, but $I$ think the panel later on with some of the engineering folks that do this on a day-to-day perspective and manage the existing right of ways of $C M P$ would be better to answer that.

MS. ELY: Right. But you've given an unclear answer, so $I$ just to want clarify it. So have you or have you not?

THORN DICKINSON: I've had -- over lunch we were even talking about the idea of the number of lines that we knew were decommissioned, so it's hard for me to -- I would have expected there would be lines that would be decommissioned. During lunch

I -- we had conversation about some of those that were there. I think the panel that is best able to address that is the engineers and I think they probably have a few examples of where that's happened.

MS. ELY: I still don't have a good answer.
So --
MR. MANAHAN: I would object to this. Mr. Dickinson has answered her question to the best of his ability already two or three times and to continue to badger the witness, I think, is unfair and inappropriate.

MS. ELY: I'm not badgering. I'm trying to understand, are you saying that you have -- you have examples of lines that have been decommissioned or that you heard them over lunch?

THORN DICKINSON: Yeah. During lunch often you talk about how the morning went and there were a couple of engineers, one of which will be on the panel in the afternoon, $I$ don't remember exactly which lines he said were decommissioned. My general sense in my experience in my 30 years is that lines sometimes get decommissioned and the poles get taken down and the wires get rolled up.

MS. ELY: But in your -- what I'm trying to
get at is in your experience have you ever worked on a project where you decommissioned a line?

THORN DICKINSON: I've never been a transmission engineer that was responsible for decommissioning a transmission line, so I would be the wrong person to ask that question.

MS. ELY: Okay. In your experience designing projects -- in your 30 years of designing and building projects you're -- you're project development, correct? You work in project development?

THORN DICKINSON: Yeah. So I've been, I don't remember exactly, maybe six years, I've had a lot of different jobs within the company, but the last six years.

MS. ELY: Okay. And in your experience developing these projects when you develop a 40 year project is the expectation that at 40 years it will be folded up and taken out of the ground and decommissioned?

THORN DICKINSON: Well, I can tell you when we -- so one of the key aspects of developing a project like this is to try to build a financial model that demonstrates that your expected revenues are going to be able to offset the costs associated
with the project. So if in the development of that model for us to evaluate the bid price that we wanted to submit we assumed no incremental value past year 40, so in my mind that is representative of the fact that we believe this is a 40 year life. Now, at the end of 40 years if there are still needs that this project is meeting in New England whether they're environmental or operational or economic, I would imagine that there would be a conversation with stakeholders around whether that project should continue. If not, then I don't see a reason why those -- that project isn't decommissioned at that point.

MS. ELY: Okay. No further questions.
MS. MILLER: Thank you. So we'll go ahead on to group -- I have Group 6 next.

MS. MEADER: Good afternoon.
LAUREN JOHNSTON: Good afternoon.
MS. MEADER: Bear with me. My notes are a bit like a working forest at this point because... I am Amanda Meader with The Nature Conservancy and I am working with -- in partnership with Sean Mahoney with The Conservation Law Foundation and so as a team effort we have a patchwork here of questions to move through. I will be addressing my questions primarily
to Mr. Mirabile, Mr. Goodwin and Ms. Johnson -Johnston and Mr. Mahoney will be addressing his questions primarily to Mr. Dickinson. Okay.

LAUREN JOHNSTON: Okay.
MS. MEADER: I'll start with Mr. Mirabile.
On Page 12 of your pre-filed testimony you state, quote, a wide variety of wildlife utilizes transmission line corridors. I wonder, can you tell me, are there any species that avoid transmission line corridors?

GERRY MIRABILE: Well, starting with aquatic species if they're aquatic and the corridor is land-based --

MS. MEADER: We've got that. Thank you so much.

GERRY MIRABILE: Great. And, in general, I would say about naming specific species, species that are typically found, you know, either are required forested habitat or cover because that's not available on transmission corridors will avoid transmission line corridors.

MS. MEADER: Thank you. I wonder if you could speak a little bit about which species are advantaged by new edge scrub/shrub. And certainly if you feel somebody else on the panel -- certainly.

That's fine.
GERRY MIRABILE: Yeah.
MS. MEADER: I could elaborate if that --
GERRY MIRABILE: No, I understand the question. I think that we were -- we have not specifically evaluated which species would be advantaged by veg habitat or scrub/shrub.

MS. MEADER: Okay. And I think we heard testimony today that they're the more common species, the species that haven't been designated as species of special concern or great need, so your -- your bear and your moose and your blue jays just for example that -- those more common species that can move easily through that type of habitat.

MR. MANAHAN: I would object to the questioning basically supplying an answer apparently that you're looking for. I object to not asking it as a question.

MS. MILLER: Yeah, I would agree with that, please.

MS. MEADER: Yeah, sure. I had a comma and six more words with a question mark. I apologize, so sorry. I'll try to rephrase that. And I guess what we're just trying to look for is whether you've given any thought to those species of greatest -- greatest

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
conservation need?
GERRY MIRABILE: The -- the species we focused on are the species identified in comments from the Maine Department of Inland Fisheries and Wildlife that they identified as potentially impacted by the project.

MS. MEADER: Thank you. Let's see, now I bounce to Mr. Goodwin with my second question. So you mentioned in testimony earlier today that there are many fragmenting features in the region and I wonder if you can speak specifically to what fragmenting features currently exists between routes 201 and Route 27?

MARK GOODWIN: Without a map in front of me, I don't know that $I$ could accurately do that.

MS. MEADER: Okay. Sure. Fair enough.
MARK GOODWIN: Although, I would say obviously, you know, your logging roads and forest products industry and infrastructure.

MS. MEADER: Sure. Sure. Would you agree that the only -- within that area that $I$ just referenced that there are -- I think we had testimony from earlier today and, I apologize, I don't know who mentioned it, but there is a railroad within that area that's approximately 25 feet wide?

MARK GOODWIN: The railroad is slightly
north of the project alignment.
MS. MEADER: Okay. All right. And is it true that the only wide fragmenting feature in that area is the Spencer Road?

MARK GOODWIN: That's probably accurate.
MS. MEADER: Okay. Thank you. Bouncing back to Mr. Mirabile. In CMP's application materials in your pre-filed testimony you do not address the potential impacts of the proposed corridor on species migration in response to climate and $I$ wonder if you could talk about how CMP is accounting for and addressing these impacts?

GERRY MIRABILE: I don't believe species migration in response to climate change is an approval criteria.

MS. MEADER: Okay. Well, as we'll discuss Friday, which will feel like a lifetime from now -let me pause. I'm going to come back at that in a different question, okay, because I don't -- we have enough to go through that we don't need to quibble, so.

Mr. Goodwin, on Page 17 of your pre-filed testimony, you refer to, quote, environmentally-friendly manual, mechanical and
chemical treatment on a four year schedule. Can you talk to me a little bit about what that means and when you might use one method as opposed to another? MARK GOODWIN: Well, typically during the -and I take it we're talking about the management? MS. MEADER: Correct.

MARK GOODWIN: Okay. Typically during vegetation management practices there is very little in the way of mechanical clearing. It's usually in a manual, you know, clearing within the riparian buffers and herbicide -- foliar herbicide application outside of those buffers.

MS. MEADER: Okay. And is -- can you describe for us what sort of guidance or best management practices or standards you have to follow in determining when to use the -- the methods that are least destructive to habitat? Is there no playbook on let's just spray chemicals versus let's manually clear? I just -- we're just trying to understand where your guidance comes from there.

MARK GOODWIN: Gerry might be better to answer this.

MS. MEADER: Sure. Yup.
GERRY MIRABILE: Could you restate the question, please?

MS. MEADER: Sure. So looking at the environmentally-friendly manual, mechanical and chemical treatments that will be employed on a four year schedule to maintain that, we're just trying to understand how -- what the decision calculus is in terms of which method you choose.

GERRY MIRABILE: Okay. So as Mark
mentioned, primarily within the -- within the riparian buffers it would be mechanical only. And I'd say primarily outside of the buffers it would be by use of herbicides, which -- and you had asked about the practices, so they are hand pressurized backpack mounted applied, not broadcast, but applied to individual specimens and species that have been determined to be at risk of growing into the conductor safety zone.

MS. MEADER: Okay. Thank you. And just one follow-up on that piece, what monitoring is done, I mean, when that actual field work is being done presumably by third-party contractors, who is monitoring that those best practices are being followed; in other words, there is not just, you know, a widespread broadcasting?

GERRY MIRABILE: The crews are overseen by a person who is licensed, a licensed applicator. One
other thing I'll note is that we have voluntarily applied the aerial spray limitations, which is for aerial spraying in Maine you cannot spray when the wind speed is above 15 miles an hour, we have applied that to ground spraying with the express purpose of eliminating or absolutely minimizing off-target drift.

MS. MEADER: Thank you. I'll stick with you if it's appropriate. I want to switch gears to CMP's compensation plan. On Page 48 of your January 2019 revised compensation plan and also on Pages 12 through 13 of Exhibit $10-1$, and I'm sorry to make you dig, of your revised site plan application you propose creating eight deer travel corridors in the Segment 1 deer wintering area under the overhead wires. In those travel corridors you state that tree heights under the wires would, quote, generally range from 25 to 35 feet and that the corridors would total a little more than a half a mile, about approximately 3,279 linear feet. And $I$ just wonder if you could provide, you or any of your team members, provide more detail on how these travel corridors are going to be created and maintained.

GERRY MIRABILE: Okay. The travel corridors will be essentially selectively cut from the existing
forest to the extent that it's wooded and some of that area is not wooded currently. And if you think about the conductor sag there is an imaginary line beneath the conductor that defines the conductor safety zone and trees will be allowed to grow more or less on a curve consistent with the conductor safety zone and they'll be allowed to grow as tall as they can grow without intruding upon that or when the -when the maintenance crew comes through if they anticipate that individual trees would grow into that conductor safety zone before the next four year maintenance cycle those trees would be cut. The reason it's limited to 35 feet is that they need to be cut from the ground so they're not being topped and there is no way of accurately estimating once it gets above about that height exactly how close those trees are relative to the conductor safety zone. And so it would be, you know, if the structures are here and here it would look something like this in profile up to a height of 35 feet at which point no more trees would remain between them and the structures.

MS. MEADER: Okay. Thank you. I just want to take a moment and make sure I -- I had subquestions, but I think you may have answered them. So just during the initial clearing for the corridor
would any trees less than the 25 to 35 feet tall in that deer wintering travel corridor, would any of those be retained or it's all going to be cleared? GERRY MIRABILE: They would absolutely be retained and, you know, so that they wouldn't have to grow up from the ground level we would retain as many of those as we could, however, we would require, you know, travel path between the structures and lay down areas around structures.

MS. MEADER: Okay. And I know you're not a forester, but I would say to the extent you do have to cut down trees above that height, any sense for how long it would take those new growths to reach that height after the corridor is cleared?

GERRY MIRABILE: It depends upon what is there in growth in a height that we can retain at the time of initial construction so that if we -- if we're starting with tall trees that are already within the conductor safety zone, we would have to take them down to the ground and any seedlings and saplings that were already present would, you know, start to grow up from that point. If the trees in a particular area are at a height that they can be retained, you know, something bigger than seedlings or saplings then, you know, right away there would be
some viable travel corridors. It really depends on the age, class and the species of the trees within each of 10 or 8 to be maintained deer travel corridors.

MS. MEADER: Thank you. And how will CMP provide evidence of or how will the state verify that these travel corridors are being maintained as intended?

GERRY MIRABILE: Well, IF\&W, Inland Fisheries and Wildlife has asked us to notify them and that they would like to be present during the creation and maintenance of these and so we can get some feedback on that, but we'll have verification by way of their oversight.

MS. MEADER: Okay. Nope. Great. Thank you. That's helpful. Just one more piece circling back to the corridors, the deer travel corridors, corridors would total a little more than a half-a-mile, so about approximately 3,279 linear feet, over what -- I'm not sure if this will make sense, but over what overall distance end to end?

GERRY MIRABILE: Right. The deer travel corridors will actually total about 1.1 miles rather than -- if you look at the total length within the overlap between the travel -- between the corridor
and the deer wintering area, the map deer wintering area is 1.1 miles and that includes the areas on the east and west side of the termination stations that are now and will continue to function as deer travel corridors. And what percentage, do we know that?

LAUREN JOHNSTON: I don't know off the top of my head.

MS. MEADER: Okay. I think that was sufficiently helpful.

GERRY MIRABILE: Okay.
MS. MEADER: Sticking with Mr. Mirabile, has CMP considered adding wildlife travel corridors in other portions is of Segment 1?

GERRY MIRABILE: It has not been suggested that other travel corridors are necessary by Inland Fisheries and Wildlife.

MS. MEADER: Okay. All right. Would that be something that CMP would be open to considering?

GERRY MIRABILE: We would have to take that back and talk it over.

MS. MEADER: Thank you. Mr. Mirabile, did CMP consider co-locating the corridor with the Spencer Road?

GERRY MIRABILE: Has CMP considered that?
MR. MEADER: Yes.

GERRY MIRABILE: I think that it was considered early on, you know, as a, you know, potential option and there are significant constraints and reasons why that's not optimal.

MS. MEADER: Could you explain a few of those for us?

GERRY MIRABILE: I'm not sure I'm the best person to explain them. I'd defer to the real estate folks.

MS. MEADER: Ah, okay. That's a telling answer thank you, Mr. Mirabile. Let's talk about tapering. Did -- and I know you're not in the context of scenic concerns because that's not what The Nature Conservancy's focus is, but in terms of habitat fragmentation did CMP consider vegetative tapering as a strategy to reduce habitat fragmentation?

GERRY MIRABILE: Well, the -- the deer travel corridors in the Upper Kennebec deer wintering area are in effect tapering.

MS. MEADER: So the --
GERRY MIRABILE: So it's just that it's longitudinal instead of cross-section.

MS. MEADER: So beyond deer corridors then CMP didn't consider tapering to mitigate habitat
fragmentation for other species?
GERRY MIRABILE: Habitat fragmentation was not identified as a concern by IF\&W. It was never suggested that we consider those.

MS. MEADER: Mr. Mirabile, on Page 30 of your pre-filed direct testimony there is a section which discusses other mitigation measures. Two that are mentioned, one, vegetation tapering at Coburn Mountain and Gold Brook, which is done for visual impact and at an incremental cost of $\$ 22,200$ a year. You also reference maintenance of deer winter travel corridors in the Upper Kennebec in deer wintering areas at an incremental cost of $\$ 9,400$ a year. And, again, I think we just would like to understand going back to that question about coverage, end to end coverage, those two mitigation measures do have a sense for what the scope of coverage is there; in other words, what are you getting for your money?

GERRY MIRABILE: When you say coverage, what do you mean?

MS. MEADER: Geographic distance.
GERRY MIRABILE: Coburn Mountain is 2.2 miles for tapering and Gold Brook is 20 percent of that, so what would that be? I think...

MS. MEADER: We can...

GERRY MIRABILE: Yeah, a little bit less. MS. MEADER: And then, again, the maintenance of the deer winter travel corridor was about you said 1.1?

GERRY MIRABILE: 1.1 total.
MS. MEADER: 1.1, yup. Thank you. This is where we really get into our patch work of community effort here. Bear with me. Okay. Mr. Goodwin, in your testimony today you stated that you would recommend mitigation for habitat fragmentation impacts, what would you recommend specifically?

MARK GOODWIN: I think you're -- I think you're referring to the question that $I$ was posed regarding if there was a project that didn't have, you know, early successional vegetation as a long-term management strategy what would the mitigation, you know, what would you recommend and I would say $I$ would recommend managing it at an early successional vegetative state.

MS. MEADER: Okay. Mr. Goodwin, again. On Page 19 of your pre-filed rebuttal testimony you state, quote, there is no basis for the TMC's staff request for between 40,000 and 100,000 acres of preservation lands, end quote. Did CMP at any time weigh the costs and benefits of providing additional
compensation for habitat fragmentation and have you taken into in consideration the cost of working forest conservation easements versus the cost of fee acquisition? And I can break that up if you want.

MARK GOODWIN: Can you ask that again?
MS. MEADER: Certainly.
MARK GOODWIN: I'm just trying to determine whether I am the right person to answer it.

MS. MEADER: Sure. Certainly. So on Page 19 of your pre-filed rebuttal testimony you said there is no basis for TNC staff requesting between 40,000 and 100,000 acres of preservation lands.

MARK GOODWIN: Okay.
MS. MEADER: Okay. And so the first question is did CMP at any time weigh the costs and benefits of providing additional compensation for habitat fragmentation?

MARK GOODWIN: I don't think so. Gerry, would you say that's accurate? Yeah.

MS. MEADER: Because --
MARK GOODWIN: Because -- well, for one there is the -- in the regulatory guidance there is no established mechanism for like an in lieu fee or something like that to offset habitat fragmentation. It's specific to wetlands and significant wildlife
habitats.
MS. MEADER: Okay.
LAUREN JOHNSTON: So the compensation plan first satisfies the requirements under NRPA and then the compensation plan also includes elements of agency requests for impacts that they felt that there was more mitigation required.

MS. MEADER: Thank you. And the second portion of that question, Mr. Goodwin, was whether CMP took into consideration the cost of working forest conservation easements versus the cost of fee acquisitions for preservation lands.

MARK GOODWIN: I don't believe so.
MS. MEADER: Okay. Thank you. Ms. Johnston, a question for you.

LAUREN JOHNSTON: Sure.
MS. MEADER: Thank you. This is a long one, but it pertains to culverts. So on Page 11 of your pre-filed rebuttal testimony regarding CMP's proposed $\$ 200,000$ contribution for replacement of undersized culverts you state, quote, the significance of this commitment is the amount of cold water fisheries habitat connectivity that can be achieved not the number of culverts whose replacement it will fund. It continues, for example, if two or three culvert
replacement projects reconnect a larger area of viable cold water fisheries habitat than 20 smaller projects then it may be better to choose the smaller quantity of qualitatively greater culvert replacements, end quote. So if The Nature Conservancy could rank the top 20 to 30 culvert replacement projects in the region based on mileage of habitat opened by each project, would CMP be open to providing the level of funding necessary to complete those specific projects?

LAUREN JOHNSTON: Yeah, I can't -- I can't respond to that, but Gerry may be able to add to that.

GERRY MIRABILE: I think it's important to understand the basis for the 20 to 35 culvert estimate and that is that $I$ reached out to a contractor who does a lot of work for us, a civil contractor, and just to get an idea of the order of magnitude of how much it might cost to replace culverts and, you know, his first question was, well, what size are the culverts and where are they. And I can tell him roughly where they are, you know, Oxford, I mean, you know, Somerset and Franklin Counties, but we had to make some assumptions about the size of culverts and I came up with some things
off the top that were not site specific. They were just broad guidelines and $I$ think $I$ was estimating a 20 inch culvert. That's a small culvert. And, you know, he was throwing out some size categories and he said he was talking 4 foot culverts and I remember and then he said, how long are they? And I said, you know, what's typical and he said, 16 to 20 feet if it's just a woods road and what's typical materials and I think he mentioned HDPE or corrugated metal and so that's how the estimate was made and we weren't holding him to it. It wasn't a formal proposal. It was just a, you know, rough estimate based upon what I gave him for information. And the 20 to 35 is based upon how many could be funded, you know, whatever the math works out to be for that amount of money I think that was the estimate he gave per culvert. In part because it was looked at as a job where it wouldn't just be one culvert, it would be multiple culverts and so there is some economy of scale in terms of materials and labor and mobilization.

MS. MEADER: Thank you. I appreciate your candor. Would you agree that what I hear you saying is that for all of the expertise that you folks have perhaps properly sizing and siting culverts in a way
that allows you to properly estimate the cost isn't perhaps your team's absolute strongest point?

GERRY MIRABILE: Well, there are standards for culverts that, you know, the state has, 1.2 size full bank width, you know, and really the only reason to estimate them like that was because at this point in the program developing we haven't identified where they would be, you know, what -- where the culverts are that need replacements and that comes later so there had to be assumptions built into the cost estimate.

MS. MEADER: So then would you agree that there is potentially some flexibility in that cost estimate if scientists can show that there is greater sort of habitat support that can be provided with -with more detailed accurate sizing?

GERRY MIRABILE: So the proposal before the Department is what it is at the moment.

MS. MEADER: It sure is. I believe that brings me to Mr. Mahoney with the Conservation Law Foundation, so thank you folks.

MS. MILLER: Thank you.
MR. MAHONEY: Sean Mahoney with the Conservation Law Foundation and I have question for Mr. Dickinson. Good afternoon.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

THORN DICKINSON: Afternoon.
MR. MAHONEY: So let's just start with
transmission line and removal.
MS. MILLER: Can you speak up a little bit?
MR. MAHONEY: Sure. I'm sorry. How is
that?
THE REPORTER: Better. Thank you.
MR. MAHONEY: Okay. There is no
decommissioning fund being proposed by CMP for this line, correct?

THORN DICKINSON: That is correct.
MR. MAHONEY: The second question, the Maine Power Connect was another response to the Mass RFP; is that correct?

THORN DICKINSON: That's correct.
MR. MAHONEY: And you were responsible for that proposal as well?

THORN DICKINSON: I was.
MR. MAHONEY: And that project was a proposed mix of wind, solar and battery storage, correct?

THORN DICKINSON: That's correct.
MR. MAHONEY: And that was in partnership with NextEra and EDP Renewables?

THORN DICKINSON: Ah, EDF actually.

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

MR. MAHONEY: EDF Renewables. Thanks. And that project -- that project would have used the same transmission route as this Clean Energy Connect project, right?

THORN DICKINSON: Exactly.
MR. MAHONEY: And what else would that project have included?

THORN DICKINSON: It would have included the necessary amount of acreage in order to produce the amount of wind, solar and battery technology to deliver on the -- on that project in Maine.

MR. MAHONEY: And those sites were proposed in Quebec and western Maine; is that correct?

THORN DICKINSON: Mostly in western Maine. EDF did propose a few wind farm sites that were just over the border in Quebec.

MR. MAHONEY: Okay. And would those projects also have required generator lead lines to connect to the transmission lines?

THORN DICKINSON: Yes, they would have.
MR. MAHONEY: Okay. And that project -would that -- do you know what -- can you share what the ranking of that project was in comparison to other projects?

THORN DICKINSON: We actually don't know.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

We -- and obviously we were equally excited about all our bids and it was not selected and because of the way the information was redacted in the evaluator report you only could tell if you won or if you didn't.

MR. MAHONEY: Okay. Thank you. Was the project for the same amount of energy?

THORN DICKINSON: No. No. It -- a little bit less -- less capacity, but significantly less energy because the capacity factor of wind and solar.

MR. MAHONEY: Okay. So how much energy would that have been delivered?

THORN DICKINSON: You're asking me to remember. Right off the top of my head, I apologize, I don't remember.

MR. MAHONEY: Okay. In your rebuttal testimony, Mr. Dickinson, you started on Page 3 talking about the standard of practicable for purposes of this proceeding and you correctly quote the DEP regulation concerning available and feasible, concerning cost, existing technology and logistics, but then you go on to talk about the consideration of undergrounding the line, right?

THORN DICKINSON: Correct.
MR. MAHONEY: And on Page 13 you stated that
total cost to underground 54 miles would be $\$ 767.9$ million?

THORN DICKINSON: Correct.
MR. MAHONEY: Okay. Now, in your consideration of that at that point was with respect to whether or not the project would be one that would qualify it in -- with respect to Massachusetts' evaluation of the project, correct?

THORN DICKINSON: That's correct. We did the capital analysis in order to determine essentially what the impact would be on the ranking in the Massachusetts RFP process.

MR. MAHONEY: And so that evaluation is based on a business evaluation, correct?

THORN DICKINSON: Yeah. Economic I would call it, yeah.

MR. MAHONEY: But it's not based on the DEP regulation of what is practicable for purposes of determining alternatives, correct?

THORN DICKINSON: Well, the -- the need --
MR. MAHONEY: Well, yes or no. I mean, it wasn't based on the DEP regulation, correct?

MR. MANAHAN: Well, I object to requiring a yes or no answer. Mr. Dickinson is entitled to answer the question fully, so I would object to
limiting him.
MR. MAHONEY: Okay. If we start with yes and then we can answer it more fully, that's okay. Or no.

THORN DICKINSON: Sure. My instinct is to say that it was addressing the DEP guidelines because the -- in order for the project need as defined to be successful for the project to actually be constructed, we had -- the project had to be -receive the cost recovery. In order to get cost recovery it would have had to win the $R F P$, so in my mind those things are connected. And if we had considered an underground portion as I -- both I -- I testified here and others is that our belief was the project would not move forward.

MR. MAHONEY: Because it would have -- you wouldn't have been able to bid enough that would have allowed you to successfully obtain it and make the amount of money you needed to make in order for the company to take the risk of the project?

THORN DICKINSON: That's correct.
MR. MAHONEY: Okay. So -- so forgive me, I'm going to do some math and you don't have to necessarily agree with it.

THORN DICKINSON: Okay.

MR. MAHONEY: If I think about 767.9 million for 54 miles, and you can double-check me on this, you're faster at this, if $I$ were to do a per mile cost of undergrounding, I would get roughly 14 1/2 million per mile, if I'm using 54. And if $I$ were to spread that out over 40 years to have an annual cost per mile, I would roughly get about 350,000 .

THORN DICKINSON: 350?
MR. MAHONEY: Thousand per year per mile.
THORN DICKINSON: I understand your math.
MR. MAHONEY: Okay. Do you want to check it?

THORN DICKINSON: Well, no., I mean...
MR. MAHONEY: I'm trying -- I'm trying to get a number so that $I$ can do an apples to apples comparison.

THORN DICKINSON: So the -- well, there -- I can address questions that come to my mind as you walk through. I can follow your logic all the way to the end.

MR. MAHONEY: Sure. Let me -- let me give you my logic --

THORN DICKINSON: Okay.
MR. MAHONEY: -- or let me tie this and you'll understand why $I$ want to try and do apples to

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
apples.
THORN DICKINSON: Okay.
MR. MAHONEY: So we're just talking on this matter, which is talking about the cost to do the tapering at Coburn and Johnson and in the DWA area. And as I understood it the cost of that tapering in Coburn and Johnson is 22,000 a year for 2.2 miles. So if I were to do a per mile cost associated with tapering that's roughly 10,000 , this is for operation and maintenance, $\$ 10,000$ per year per mile of that tapering. And I think that's roughly the same as it was for the DWA area, which I think was in total just over a little -- just over a mile and I think your testimony or Mr. Mirabile's testimony on Page 30 was that it was about 9,500 a year, so we're roughly at 10 per year. So I'd like to do a comparison --

THORN DICKINSON: Sure.
MR. MAHONEY: -- with respect to the undergrounding which people have talked about as a way to mitigate -- as a way to avoid and/or minimize the impacts here. So getting back to the math that I started earlier, and I am an English major, so I appreciate it won't be close or may not be close, but at 700 -- roughly 768 million for the 54 miles, $I$ think it's roughly $141 / 2$ million per mile and then
if I were just to divide $141 / 2$ by 40 I get 350,000 . THORN DICKINSON: So the -- the -- when you look at capital costs it isn't just -- you can't just spread the cost over a period of time and say that's the annual cost.

MR. MAHONEY: Right.
THORN DICKINSON: There is a number of factors that go into the kind of cost recovery for capital costing. They include -- you're going to have operations and maintenance relative to the size of the investment, you're going to have property taxes associated with that investment, you're going to have return of -- through depreciation a depreciation expense, you're going to have a return of investment and federal income taxes. Generally, if you wanted a back of the envelope kind of a number, you're generally looking at about 15 percent of the capital cost annually associated with the cost. So I'm probably always guided not to do math while I'm being cross-examined, but the end -- you said the per mile you had a 14 --

MR. MAHONEY: Right. I'm just using your number. I'm happy to use -- but your number in the rebuttal was that the total for the funds used during construction -- I'm sorry, the total for the project
would be 767.9 and that was on Page 13.
THORN DICKINSON: Right.
MR. MAHONEY: I'm just -- if it's a different number...

THORN DICKINSON: Well, no, it sounds right, I just don't want to do too many -- too much math. So assuming 14.5 million per mile and a 15 percent what's called a fixed charge rate, which is a -- it kind of calculates all of these pieces. It's about 42.2 million per year per mile. So 2.2 million per year per mile associated with it.

MR. MAHONEY: So not 350 but $\$ 2.2$ million.
THORN DICKINSON: Yeah. That's what I was -- I was trying to get out the point that a capital doesn't -- you can't just spread it out, you have all these other expenses and when you look at it on an annual basis, again, a back of the envelope estimate is about, you know, a 15 percent charge -carrying charge per year.

MR. MAHONEY: Okay. And my -- so let's work on 2.2 million.

THORN DICKINSON: Okay.
MR. MAHONEY: So 2.2 million per mile on undergrounding --

THORN DICKINSON: Per year. Just -- sorry.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. MAHONEY: Per year. Per year. As opposed -- and then -- and there was testimony earlier today that undergrounding has its own impacts, has to be clearing and space for that as well, there is certainly construction impacts. But on the tapering side of things that's seen as a way to both mitigate for visual impacts, which as I understand it for the Coburn/Johnson, I don't want to get into visual, it's just that's my understanding of that purpose, but for the DWA that is for habitat and habitat fragmentation issues with respect to deer wintering yards. So my question to you would be why wouldn't 7,000 -- I'm sorry, 10,000 per mile for tapering be considered a reasonable cost for purposes of minimizing the impact associated with habitat fragmentation?

THORN DICKINSON: Yeah. I guess for me that's not an area -- looking at what the -- the mitigation is versus the impact wouldn't be in my area of testimony. I mean, clearly, the $2--\$ 10,000$ per mile per year is cheaper than $\$ 2.2$ million per mile per year.

MR. MAHONEY: Right. Right. So it would be about 25 percent if you did the entire 54 miles, that would be 540,000 per year for tapering if you did the
entire 54 miles, correct?
THORN DICKINSON: Assuming that that was a doable exercise and there weren't issues associated with tapering that distance --

MR. MAHONEY: Right.
THORN DICKINSON: -- then I think the math is correct.

MR. MAHONEY: And -- and so when -- when you're considering reasonable, what do you -- what are you comparing that reasonable to? And I -- not just -- well, we didn't think that would get us the bid, what -- what -- so there is clearly a return on this investment for CMP if this transmission line were to go forward, correct?

THORN DICKINSON: Yeah, correct.
MR. MAHONEY: And so the cost that you're incurring in the construction and the operations and maintenance are -- are being compared with the return on the investment you're making in order to determine whether or not it's reasonable or is a good use of resources for CMP/Avangrid, correct?

THORN DICKINSON: Yeah. I mean, just to -just to be clear, we have both with Massachusetts Electric Distribution Company and with Hydro-Quebec as a long-term user of the transmission line comitted
to a four year fixed revenue, so the -- anything that happens on the project related to it is a risk that we incur not only between the time the project was originally to -- to now and from now until construction and then as the project continues to be operated. So within that context in this type of a evaluation on a bid you're looking at the revenue, making sure that that's certain and then you're comparing that against all your operating expenses and cost, the construction and all of the risks that could happen over -- over the life of the project. So just to make sure that we're all kind of looking at the issue the -- the same way. And then within that we're -- we're, you know, obviously trying to do a number of things and I think as I say in my rebuttal testimony it's not just about cost, you know, cost was a significant part of the Mass EDC requirement, they talked a lot about cost, they talked about cost containment, not -- cost overruns not being passed on to Massachusetts EDC customers, but also we had to make sure that we minimized impacts and that we had to make sure that we can maintain the quality and the safety of the project, so all those things are balancing factors in the way that we sited the line, the way that we mitigated
impacts associated with it, the design we ultimately picked and then as the conversations have continued to move forward how we mitigate those impacts.

MR. MAHONEY: But you would agree with me that if you tapered the entire 54 miles of Segment 1 that that would minimize and mitigate impacts that aren't currently minimized or mitigated under the -under the proposal that's before the Department at this point; is that correct?

GERRY MIRABILE: Well, Mr. Mahoney, I think the -- there are impacts to the project and, you know, if you look at the avoidance of impacts and then the minimization and the mitigation of unavoidable impacts, we've gone through that -- that process throughout the planning and the design and the impacts that remain that we're compensating for and mitigating for, you know, we haven't been -- it hasn't been suggested that additional, you know, by the agency certainly that additional mitigation is appropriate or necessary because we've done as much as we have as documents in the compensation plan to mitigate for those impacts.

MR. MAHONEY: Right. But the purpose of this proceeding is to determine whether or not that's good enough or if more needs to be done, correct?

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

GERRY MIRABILE: That's...
MR. MAHONEY: Is that your -- is that your understanding of why we're all here for the week?

GERRY MIRABILE: I think it's to gather more information on the topics designated by the Presiding Officer.

MR. MAHONEY: I understand. And whether or not it's reasonable or cost-effective, you would agree that if the entire 54 miles were tapered in the same way that it's proposed to taper in the Coburn Mountain area that that would minimize and mitigate the impacts that are currently associated with the project as currently proposed?

GERRY MIRABILE: I would defer to the visual, you know, experts to learn more about on that issue and the question is whether the tapering is necessary in other areas to, you know, for wildlife purpose and, you know, we haven't -- we haven't reached that conclusion.

MR. MAHONEY: Okay. And from a -- and, Mr. Dickinson, from a project management perspective determining the reasonability of it goes to both -goes to whether it is a cost-effective project for the company, correct?

THORN DICKINSON: That's correct.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. MAHONEY: And that has to be balanced based on your income and the cost, correct?

THORN DICKINSON: Yeah. It has to do -- as I said, I think it has to -- it's a balance between all of the factors making sure that it's a -- it's safe, that we -- efficient, quality, that we minimize the impacts and the cost, so I think all of these things go into those -- those decisions.

MR. MAHONEY: And what is the annual impact that anticipates -- annual income that's anticipated from the project should it be approved in its current state?

THORN DICKINSON: I am not 100 percent that that is a public number that's available. I think there is various analyst reports out there that may have indicated that, but as far as what -- what the net income was I don't -- I don't think that's public.

MR. MAHONEY: Okay. That's all I have. Thank you very much.

MS. MILLER: Thank you. Okay. We'll go through -- we have Group 7 and 8 and after that we'll take a short break. So we'll start with Group 7.

Okay. We'll go ahead and just take a quick 5 minute break right now.
(Break.)
MS. MILLER: Okay. Let's think about getting ready to get started again. Before we do, I just want to make a quick announcement and make sure everyone is aware when your microphone is on or off. There are a lot of people watching today live-streaming and there are a lot of side conversations that might be heard, so I just want to remind everyone, and that includes our table, to press the button and make sure the blue light is off when you're not intending to be speaking to be heard by the public.

With that, we'll go ahead and restart and we've got Group 7 cross-examination.

MR. SMITH: Good afternoon. Ben Smith on behalf of Western Mountains and Rivers, Group 7. Mr. Mirabile, I actually brought that from your application materials to the desk hoping that I could maybe ask you some questions during your examination.

GERRY MIRABILE: Sure.
MR. SMITH: So the first area of questioning I had is a follow-up to some questions of Mr. Weingarten and Mr. Publicover. I heard characterizations during questions by them that the area basically the new segments that are comprising
the knew corridor 53 miles are a large intact forest block or are a part of a large intact forest block and then I heard, I think, a question of where is the evidence to support the area of the project that has been intensely harvested. So I brought before you your application from August 13 and I have a question with regard to Attachment C. And in particular, I am looking at essentially the natural resource maps for Segment 1 and I'm going to start on Page 9 of that document if you can reference it.

GERRY MIRABILE: So do you mean Map 9?
MR. SMITH: No, actually I flagged it off before. It's part of Segment 1 and it would be -- I think the first segment you depicted under Attachment C and it would be the tenth page in or nineth page in, 9 out of 417.

GERRY MIRABILE: Okay.
MR. SMITH: Okay. So are you on the right page at this part?

GERRY MIRABILE: It's Beattie Township and Merrill Strip Township?

MR. SMITH: Yes, sir.
GERRY MIRABILE: Yes.
MR. SMITH: All right. So is there anything on that photo or on that depiction that would look
like it's part of a large intact forest block?
GERRY MIRABILE: There are some very
prominent strip cuts that -- and some skid trails and then there are smaller patches of what appear to be forest.

MR. SMITH: Anything else?
GERRY MIRABILE: Roads. Two roads. 400
Road and then another road that peels off from that that's not labeled.

MR. SMITH: And the difference between roads versus the strip cutting you're talking about is one of those a hard development versus a soft development?

GERRY MIRABILE: I would characterize roads as a hard development.

MR. SMITH: Okay. So you have both hard and soft developments in this location?

GERRY MIRABILE: Yes.
MR. SMITH: If you were to compare a totally vegetated area of this map to the area that is comprised by the clearcut, the hardscape of the road versus a world where it would just be the transmission line going through there, which one would comprise a greater area of cleared land?

GERRY MIRABILE: Well, that would take some
mapping exercise to calculate that to quantify it specifically. I think roughly at this scale it appears that there might be equal between the two.

MR. SMITH: Okay. Let's go to the next page it you can, please. Page 10 of 417. Does this slide depict anything that would be considered a part of a large intact forest block?

GERRY MIRABILE: It appears to be laced with strip cuts, roads, skid trails.

MR. SMITH: Okay. Same roads that we were talking about before?

GERRY MIRABILE: One of the same roads, 400 Road and another road that is not -- is not labeled or identified.

MR. SMITH: Okay. Let's go two slides down to Page 12. I'll ask you the same question. Anything here that would depict an area that would be part of a large intact forest block?

GERALD MIRABILE: I would not characterize it that way.

MR. SMITH: Why not?
GERRY MIRABILE: Because large areas are either recently stripped based upon parallel lines -I mean, recently a strip cut based on parallel lines or appear to have been cleared of trees.

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

MR. SMITH: So in other words, the areas that we're talking about here are actually not just simply strip cut, they're clearcut?

GERRY MIRABILE: It appears to be a clearcut from the photograph.

MR. SMITH: And are there roads on there as well?

GERRY MIRABILE: Yes, there are.
MR. SMITH: What roads?
GERRY MIRABILE: Lowell Town Road and 400 Road.

MR. SMITH: And if you were to compare essentially going back to the question I had earlier on slide 9, a world where it would just be the transmission line going through here versus a world where you have these hard developments and you have these heavily forested areas, which one would actually occupy a greater amount of space?

GERRY MIRABILE: I would expect in this case it would be the strip cuts and clearcuts just based upon the visual.

MR. SMITH: Okay. Let's go to Page 13. If I asked you the same question I asked you before with regard to this would it be the same?

GERRY MIRABILE: Yes, it would be the same.

MR. SMITH: And let's go to the next page. Would it be the same with regard to this map?

GERRY MIRABILE: Yes, it would be the same.
MR. SMITH: And I've already -- I'm not going to go through the 417 pages right now, I think we'd be here for a very long time. But would you say that generally the sort of representations that we've been going through are similar in nature to the various depictions you would see for entire Segments 1 and 2 for the 54 mile?

GERRY MIRABILE: Well, as Mr. Goodwin noted, it's a mosaic. It's a patch work and so, you know, we could find maps in here that were not and maps that are, but I think these are -- these might be considered typical.

MR. SMITH: Okay. I'd like to just briefly address the concept of undergrounding, which was raised by a couple -- a couple different people. Are there people on the panel that have a pretty good amount of familiarity with undergrounding that's required from an engineering standpoint? I see people nodding, is that a yes?

THORN DICKINSON: Well, I just -- there is testimony that will be in -- that is in rebuttal testimony from engineers that have much more
experience.
MR. SMITH: Okay. Well, maybe I can -maybe if I get into it and if I get too deep you can tell me if $I$ should defer to a different panel.

THORN DICKINSON: Fair enough.
MR. SMITH: So, I guess, is there -- I guess, generally, explain to me what would be required to go through this sort of 54 mile area? What would have to be cleared for the -- for the area from a vegetation standpoint? What would have to be done in order to essentially allow for an undergrounding of this line?

GERRY MIRABILE: So I'm going to qualify this response by saying that there are others here who know more and if $I$-- if I misspeak anything I want to allow them to correct me, but my understanding of undergrounding is that it would require a clearing of something like 75 feet width for the vegetation to be maintained similar to how it's maintained for a transmission line corridor. In other words, non-capable vegetation and no large trees and that has to do with the idea that large trees which typically have a root span that extends at least as far as the drip line extract water from the soil and affect the thermal rating of the
transmission line and its capacity as a result. So that it -- it wouldn't just be the width of the -- of the transmission line buried itself, it would have to be cleared out 75 feet. The actual excavation, depending upon the method, I understand it would be something like 12 feet at the top for a trench of 12 feet that would taper down maybe 5 feet at the bottom and then there would also be depending upon the method there would be junction boxes at some intervals, so that it wound be just the burial of the line, there would be significant, you know, on ground impacts would be maintained in that condition.

MR. SMITH: Okay. Is it fair to say that even if the project were to be underground or even if it was feasible or even if it was economical that there is no way it could be done without there being a visual impact?

GERRY MIRABILE: There would be a visual impact.

MR. SMITH: And a 75 foot would have to be cleared and maintained for whatever duration of the line?

GERRY MIRABILE: That's my understanding.
MS. TOURANGEAU: This is Joanna Tourangeau for NextEra. I'm going to object that this is beyond
the scope of anyone's direct or rebuttal testimony on this panel.

MR. SMITH: It came up in the scope of cross. I can -- I can move on. Is anyone on the -on the panel aware of what the biggest threat is to Maine's brook trout population?

GERRY MIRABILE: I would -- I would state, you know, my personal belief is that climate change is a significant threat to brook trout populations.

MR. SMITH: Are you aware that the Maine IFW actually says that currently the greatest threat to Maine's brook trout population is the unauthorized introduction of competing fish species?

MS. BOEPPLE: Objection. This sounds like testimony coming from the questioner.

MR. SMITH: I asked if they were aware. I can bring it up with a different witness later, but.

MS. BENSINGER: What is -- I am not sure that this is in response to the direct testimony that this is -- is a subject on which they testified.

MR. SMITH: There were -- there were questions earlier today about the adequacy of buffering and the threat that that would have on the salmonid population. This is to address that issue.

MS. MILLER: I'll allow it.

MR. SMITH: If you know.
GERRY MIRABILE: Could you restate the question?

MR. SMITH: The question was are you aware that the IFW states that currently the greatest threat to Maine's brook trout population is the unauthorized introduction of competing fish species?

GERRY MIRABILE: I was not aware of that.
MR. SMITH: No further questions. Thank you.

MS. MILLER: Okay. We'll call up Group 8.
MS. TOURANGEAU: Good afternoon. I'm Joanna Tourangeau on behalf of NextEra also known as Group 8. I have a few follow-up questions on the topics raised by IECG earlier. Did the NextEra/CMP proposal include a HDVC transmission line?

THORN DICKINSON: No, it was a high voltage AC alternating current line.

MS. TOURANGEAU: Thank you. Did the NextEra/CMP proposal include in the bigger footprint that they mentioned Maine wind and solar generation?

THORN DICKINSON: Could you repeat that again?

MS. TOURANGEAU: Did the NextEra and CMP proposal that was described earlier today as having a
bigger footprint include Maine wind and solar renewable generation?

THORN DICKINSON: Yes, it did.
MS. TOURANGEAU: Thank you. Does the current proposal include Maine renewable generation of wind and solar?

THORN DICKINSON: It does not.
MS. TOURANGEAU: Did NextEra and CMP submit any applications to the Department or to the LUPC requiring an alternatives analysis?

THORN DICKINSON: We did not.
MS. TOURANGEAU: Thank you. So staying with you, sorry, Mr. Dickinson.

THORN DICKINSON: That's okay.
MS. TOURANGEAU: Now, going to your rebuttal testimony and starting on -- around where you were on Page 3 where you indicate that projects have to include a mechanism for cost recovery.

THORN DICKINSON: Correct.
MS. TOURANGEAU: So you bid a fixed price cost project with Hydro-Quebec into the 2017

Massachusetts RFP?
THORN DICKINSON: Correct.
MS. TOURANGEAU: Because they encouraged bidders to propose a fixed price.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

THORN DICKINSON: They --
MS. TOURANGEAU: In part.
THORN DICKINSON: Yeah, in part to put forward, as I said before, a number of factors that we believe were important to make our project as competitive as possible.

MS. TOURANGEAU: Gotcha. And your fixed cost bid, and I'm sorry, I don't understand these terms, I'm just an environmental attorney, so I'm looking for you to elaborate on the utility process for me a little bit. The fixed cost bid include a transmission cost containment such as provisions that eliminate or minimize rate payer exposure to transmission cost risk. That's what you said on Page 6 of your rebuttal testimony.

THORN DICKINSON: Yeah. Correct.
MS. TOURANGEAU: Okay. And so any additional project costs like undergrounding or additional tapering will not be borne by ratepayers or anyone other than CMP or its affiliates that end up owning the line?

THORN DICKINSON: That's correct. And just to be clear because -- just so that there -- the record is clear of what we're talking about is Massachusetts ratepayers, so under no circumstance
under any situation would -- would Maine cost to the ratepayers be affected, but the Massachusetts also wouldn't because it's a fixed price bid.

MS. TOURANGEAU: So no one other than CMP or its affiliates that owns the transmission line?

THORN DICKINSON: Correct.
MS. TOURANGEAU: Right. Can you read to me I think it was on Page 1 or 2 of your rebuttal testimony your description of the project purpose? I'm sorry, it's on Page 3, your first full paragraph which begins, as I stated in my pre-filed direct testimony.

THORN DICKINSON: Okay. Yeah, as I stated in my pre-filed direct testimony the overall purpose of NECEC is to deliver up to 1,200 megawatts of renewable generated electricity from Quebec to ISO New England electric grid at the lowest cost for ratepayers.

MS. TOURANGEAU: Right. So as we've discussed earlier, the project purpose cost to ratepayers would not be impacted by the undergrounding or the increased tapering; is that correct?

THORN DICKINSON: So the -- just to be clear, the --

MS. TOURANGEAU: Is that correct?
THORN DICKINSON: No, it's not correct.
MS. TOURANGEAU: So the cost would go to ratepayers?

THORN DICKINSON: NO. Let me -- let me explain what I mean.

MS. TOURANGEAU: Okay.
THORN DICKINSON: So our -- our bid, what we actually evaluated and bid had to assume a number of risks associated with it. So we had to think about, okay, what is it going to cost us to build this, you know, contingencies associated with the project, that process of determining that we needed to make a decision on what we thought the lowest cost was to ratepayers, so in this context that's what we're really talking about. Now, once you put a bid in, once you commit to it in a RFP and once we have negotiated and signed an agreement your point is correct that any additional changes beyond what was already established in our original bid, any of those changes beyond would be borne not by ratepayers but us, but anything that -- any assumptions that were included in our bid that would be borne by customers in Massachusetts.

MS. TOURANGEAU: Right. So the -- as the
cost is contemplated in your project purpose, that being lowest cost to ratepayers, that would not be impacted by those changes that we've been talking about of undergrounding or tapering?

THORN DICKINSON: Any -- any changes plus or minus. Now, once the bid is in and fixed that has no effect on the remuneration of the money that received from Massachusetts customers.

MS. TOURANGEAU: Great. I think I'm set on that. Does your application, and I know folks are going to ask about the financial assurance component, but does your application include the financial assurance necessary for decommissioning and removal of a line upon expiring after its 40 year life?

THORN DICKINSON: Yeah. No, there are -- as stated before, there is not a decommissioning fund --

MS. TOURANGEAU: Right.
THORN DICKINSON: -- or assurances.
MS. TOURANGEAU: For any financial
assurances related --
THORN DICKINSON: That's correct.
MS. TOURANGEAU: -- to this project?
THORN DICKINSON: That's correct.
MS. TOURANGEAU: So we have to assume that there is no cost coverage for that.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. MANAHAN: I would object to this line of questioning. It's not relevant to the hearing topics. There is four hearing topics here and I don't see how decommissioning is relevant to these hearing topics.

MS. TOURANGEAU: I think the door was opened when he was specifying that the project had only be -- could only be --

MR. MANAHAN: Well, you'll have to --
MS. TOURANGEAU: -- around for 40 years.
MR. MANAHAN: You'll have to -- Ms.
Tourangeau has to explain how the door was opened because it's not a hearing topic.

MS. BENSINGER: I would recommend to the Presiding Officer that the question be allowed because the Applicant's witnesses testified that it was not a permanent impact, so it went to the nature of the impacts line of questioning.

MS. MILLER: And I would agree. I'll go ahead and allow it in.

MS. TOURANGEAU: Thank you. I think you've asked -- you've answered it already.

THORN DICKINSON: Okay.
MS. TOURANGEAU: Thank you. Did you look at tapering all of Segment 1?

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

THORN DICKINSON: No.
MS. TOURANGEAU: Okay. Thank you. These questions are for Burns and McDonnell. And I'm not certain if they apply to you folks or not, but if you can be helpful that's wonderful. Your work on this project included assessing the impacts associated with the transmission of power?

MARK GOODWIN: The impacts of the?
MS. TOURANGEAU: Impacts to the environment. Why we're here.

MARK GOODWIN: From construction of the facilities, yes.

MS. TOURANGEAU: Mmm Hmm. Construction and operation you're looking at kind of how to mitigate the -- mitigate, avoid, compensate for those impacts?

MARK GOODWIN: For construction of the project, yes.

MS. TOURANGEAU: Okay. Not for operation?
MARK GOODWIN: Just -- just the construction best management practices, avoidance and minimization measures that are included in the description of maintenance requirements for the project.

LAUREN JOHNSTON: There was a vegetation maintenance --

MS. TOURANGEAU: Right.

LAUREN JOHNSTON: -- component to that -- to our application material.

MS. TOURANGEAU: Which was kind of an ongoing item that would be applicable at the post-construction phase?

LAUREN JOHNSTON: Correct.
MS. TOURANGEAU: Right. Did your work assessing how to avoid, mitigate and compensate include looking at alternatives like undergrounding or tapering?

MARK GOODWIN: Initially, no. And Burns and McDonnell wasn't involved with the evaluation of undergrounding.

MS. TOURANGEAU: Okay. Have you done that work for other projects?

MARK GOODWIN: Evaluation of --
MS. TOURANGEAU: Undergrounding.
MARK GOODWIN: -- undergrounding and
tapering --
MS. TOURANGEAU: Mmm Hmm.
MARK GOODWIN: -- for other projects?
MS. TOURANGEAU: So Burns and McDonnell as an entity hasn't done that for any other project?

MARK GOODWIN: I can't -- I mean, we're a company of almost 7,000 employees, I can't really

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
speak to the entire company's experience on that.
MS. TOURANGEAU: Okay. But you -- you
haven't done any of that analysis for the
alternatives analysis for this project?
MARK GOODWIN: Not for undergrounding.
MS. TOURANGEAU: Okay. Are you aware of the five outstanding river segments that have been discussed earlier today?

LAUREN JOHNSTON: Yes.
MS. TOURANGEAU: And the use of Spencer Road?

LAUREN JOHNSTON: Yes, we're aware of that.
MS. TOURANGEAU: And the shoulder passage I think it is over Coburn Mountain associated with the project?

LAUREN JOHNSTON: Yes.
MS. TOURANGEAU: Does it -- did you or anyone else on the project look at undergrounding to address the impacts associated with those portions of the project other than, as we all know, the crossing of the Upper Kennebec?

LAUREN JOHNSTON: I don't know that Burns and McDonnell are the right people to answer that question.

MS. TOURANGEAU: Okay. Thanks.

Mr. Dickinson, can you or Mr. Mirabile answer that question?

THORN DICKINSON: Yeah, we did not consider it.

MS. TOURANGEAU: Okay. Thank you. That's all my questions.

MS. MILLER: Thank you.
MR. MANAHAN: Ms. Miller, this is Matt
Manahan. I have a -- just a couple redirect questions for before the next panel.

MS. MILLER: We're going to do the Department's questions first and then we'll do redirect.

MR. MANAHAN: Thank you.
MR. BEYER: Mr. Dickinson, in your testimony you specified that data delivery was one factor that the Massachusetts RFP considered. Would burying the line take longer to construct than on overhead installation?

THORN DICKINSON: Yeah, I think all else being equal, $I$ think it would be a longer project, yes.

MR. BEYER: How much?
THORN DICKINSON: I think I would -- it -I -- I would leave it to the engineers to tell me a
little bit more about that, so.
MR. BEYER: Okay.
THORN DICKINSON: It's a more complicated process, so.

MR. BEYER: Why did you choose HVDC technology?

THORN DICKINSON: So for the Hydro-Quebec bid, Quebec is what we'd say non-synchronized with the rest of the U.S. grid around it and really around the other components and what that means is that if you were to line up the alternating current to the typical sign wave --

MR. BEYER: Yup.
THORN DICKINSON: -- they wouldn't match-up, so you can't connect two alternating current system where those two sign waves aren't aligned. As a result, you need essentially a clutch sort of between these two regions and a direct current system provides that clutch. By converting from alternating current in Quebec to direct current and then from direct current back to alternating current you have that clutch that exists. Now, as soon as you make that commitment, the -- the DC line -- the HVDC line actually is much more efficient in delivering energy -- probably about twice as efficient at
delivering energy over long distances. So once you -- once you have an engineering requirement of creating a conversion from AC to DC from DC back to AC, the best thing you can do is to try to broaden out that -- that spread between the converters and that's why the converter station 50 or so miles into Quebec and then into Lewiston is the -- why that -the length of that was there.

MR. BEYER: Okay. In Mr. Russo's pre-filed testimony, he discusses that the HVDC technology is subject to faults. And I'm a fish guy by training, so would undergrounding the line eliminate some of those risk of faults?

THORN DICKINSON: Again, I'll leave it to the engineers that really study this more. There are some operational issues actually with an undergrounding -- undergrounding line and it has to do with the ability to locate a fault and an ability to clear it once you -- once you have located at the time the fault. I think it's better to leave it to them, but, you know, the -- we believe that an overhead transmission line whether it was alternating current or direct current can be operated efficiently and effectively.

MR. BEYER: Okay. In the areas where the
project is co-located, would it be possible to locate the conductors existing structures or is that not -ISO New England wouldn't let you do that?

THORN DICKINSON: I hate to keep punting to my -- my engineering friends, but I think they're going to be better able to answer that. There is -there -- you know, one of the limits associated with this size of this line, the 1,200 megawatts, is what's called a single loss of supply condition for the ISO, so they don't want any individual line or any individual generator that's more than 1,200 megawatts to have the probability of dropping off, so.

MR. BEYER: Okay.
THORN DICKINSON: To your point is the more you put at risk more than one element of a transmission line, so if you had at a 1,200 megawatt plus another line that maybe could handle another 4 or 500 megawatts my -- my guess would be that that would create a real major reliability issue for the ISO. You need to be able to demonstrate that a separate line of 1,200 megawatts is a -- has a single point of failure.

MR. BEYER: So if I understand you correctly what you're saying is if something happened to that
one structure with two lines on it, now all of a sudden you're out 1,600 megawatts?

THORN DICKINSON: Correct. Correct. MR. BEYER: Okay.

THORN DICKINSON: And just so -- why that's important is the whole market around the ISO pays generators that has the ability to react instantaneously to outages like that. So they -they need to make sure that they're not over paying, so having 1,200 megawatts that has the ability to react within a certain period of time makes sense, but they believe that the risk of anything more than that that is too significant.

MR. BEYER: Okay. Mr. Mirabile,
construction around the streams that contain Roaring Brook Mayfly and spring -- Northern Spring Salamander, during construction I understand ultimately there will be full height, full canopy height, how much of that will you need to cut in order to construct the line?

GERRY MIRABILE: I would need to consult with the access plan on the natural resource maps in those particular areas to know for certain because how much we'd need to cut depends upon how we would access the corridor. So if we're coming into the
corridor from off corridor in several locations -MR. BEYER: Yup.

GERRY MIRABILE: -- that would reduce -potentially reduce the need for clearance within the corridor and, you know, we can quantify that more specifically by consulting the natural resource maps.

MR. BEYER: But you don't -- my -- you don't have to clear the whole --

MR. BEYER: Not at all. I mean, I would think it would be a travel corridor of something like 12 to 16 feet or to, you know, for the equipment required to install the structures and -- and then lay down areas around the structure installation locations to, you know, actually put the pieces together for the structures to erect them.

MARK GOODWIN: I don't know if it will -- if it will be that easy to view on the screen there, but Exhibit CMP-3-F would give you a good depiction of what areas need to be cleared.

MR. BEYER: Pre-file or rebuttal?
MARK GOODWIN: It's pre-file.
MS. PEASLEE: What was the number on it?
MR. BEYER: 3-F.
MARK GOODWIN: Yes.
MR. BEYER: Okay. So from the looks of this
map, you've got structure 3,006-634 and 3,006-635 and access roads -- no access road in between them, so that space in between them will you have to cut any of that vegetation to construct the line or will they -- they just leave the -- anything shorter than 35 feet?

GERRY MIRABILE: So this is an area of taller structures to allow full height vegetation.

MR. BEYER: Right.
GERRY MIRABILE: And so I don't believe we would need to cut anything between those two structures.

MR. BEYER: Thank you. Mr. Goodwin, you spent a fair amount of time discussing MPRP and the permitting of that project and the construction of that project. Was there any new right of way associated with that project?

MARK GOODWIN: There was on Segment 15, I believe that was in Litchfield, and it wasn't -- it wasn't a really large section of right of way. I think several miles.

MR. BEYER: Okay.
MARK GOODWIN: Litchfield and West Gardiner.
MR. BEYER: Okay.
MARK GOODWIN: Possibly a little bit of

Monmouth, but I'm not entirely sure.
MR. BEYER: But certainly not 53 miles?
MARK GOODWIN: No, sir.
MR. BEYER: Thank you. One last question for Mr. Dickinson. Just so I'm clear, so if the project were to increase for some -- whatever reason, the cost of the project was to increase, that's not passed on to ratepayers either in Maine or in Massachusetts; is that correct?

THORN DICKINSON: That's correct.
MR. BEYER: Okay. Thank you. That's all I have.

MR. REID: I've got a question, I think probably best for Mr. Dickinson. In response to Mr. Mahoney's questions, he talked a little bit about the idea of carrying costs and I think you mentioned operations and maintenance and property taxes and depreciation. Could you break those three factors out and compare how those are affected by burying the line as opposed to your current proposal?

THORN DICKINSON: Sure. The -- let me start by saying $I$ think a carrying charge is a quick and easy way to try to move from a capital cost to an annual cost related to a project and the philosophy of a percentage as you look across the whole
portfolio of projects and you say on average what percent on an annual basis is my O\&M of capital costs, what percentage is administrative and general of my capital cost, depression and property taxes and so forth. So you -- it's a quick way of saying on average for every dollar of capital I spend there is a certain percentage that $I$ can assume $I$ can scale for O\&M. Now, the -- to do an actual -- we didn't use a fixed charge rate in order to build out our financial model for bidding into the Massachusetts EDC, we did what you would say more like a bottom up kind of approach where we actually looked at what we thought the O\&M expenses were going to be, what we thought the property taxes were going to be, those kind of things went into our bid. But when we're looking at changes in capital like we are here, again, a shortcut I would call it way or a simple back of the envelope way is to -- to recognize that many things move on a linear basis with capital and so I would generally expect that O\&M would increase by capital, property taxes would increase by -- by capital, A\&G -- administration and general costs definitely would because that's an allocation across all of the businesses and then all of your return and depreciation would also scale. I think maybe the one
area might be O\&M that you might want to really dive into a little bit more and study that a little bit and I think all of the other factors are linear.

MR. REID: Obviously there is a significant up front cost associated with burying and maybe some additional time in construction, are there benefits to you as the owner and operator for the line once you get past those from having a buried line as opposed to above ground?

THORN DICKINSON: You know, I -- my instinct is to allow the engineers that really did the analysis here in rebuttal testimony to speak more to it, but, again, one of the -- one of the issues that when we looked at a longer amount of undergrounding for rebuttal testimony was the ability to reclose when there is a fault. If you have a -- an overhead -- an overhead line and you have a fault you have a very high probability of knowing where that fault is and from that you can make a determination on how quickly you can reclose that line and make sure it's back into operation. With an underground line, particularly a segmented line it's very -- it's much more difficult to understand whether it was in overhead or underground portion and then on what side. So I -- off the top of my head, I'm not coming
up with a lot of benefits of undergrounding.
Obviously you do eliminate one probability, which is, you know, lightening strikes that could happen directly to an overhead line, but we have protection for that. But I think without trying to punt too much to the other panel, I think it would be good for them to answer the question.

MR. REID: Thank you.
MR. STEBBINs: I do have a question and this may be for the engineers. What is the typical impact area associated with just a pole placement?

MARK GOODWIN: It depends on the -- on the structure type and it depends on the type of impact you're asking about. For permanent fill impacts it's typically 40 square feet. For the larger structures it can go up to 180 square feet. And then the temporary impact areas, I don't know the numbers off the top of my head, but, you know, you're probably for the -- for the monopole HVDC structures you're talking on the order of a few thousand square feet and that, again, that can vary depending on the type of structure that's used.

MR. STEBBINS: Okay. I guess my follow-up question would be depending on the type of structure that you put in, were those additional impacts

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
considered during your total amount of wetland impact, which I think was 4.1 acres off the top of my head that you guys mentioned earlier today?

MARK GOODWIN: The -- so the permanent wetland fill for transmission line structures on the project is . 15 acres. The remainder of that is associated with substation development. So the overall footprint for permanent fill for permanent fill for transmission line structures is incredibly low. You know, and to answer your question, you know, the -- you know, the structures are almost 100 feet tall. They span close to 1,000 feet, maybe over a thousand feet in places. Those span lengths minimize the number of structures that are placed in the ground and allow us to go over wetlands rather than be in them to the extent that we can do that.

MR. STEBBINS: Okay. Thank you.
MARK GOODWIN: You're welcome.
MS. MILLER: Peggy. I mean, Ms. Bensinger.
MS. BENSINGER: I have a couple questions. If you were to underground a portion of the line, you said you would do vegetation management for a 75 foot wide strip?

GERRY MIRABILE: (Indicating yes.)
MS. BENSINGER: And what would that
vegetation management look like? You talked about the roots being the concern. What kind of vegetation would be allowed to grow over an underground line?

GERRY MIRABILE: I'll let the engineers correct me if this is not fully accurate, but my understanding is it would be very much like we have in a typical scrub/shrub habitat, not large trees, not, you know, deeply routed trees with a huge spread but scrub/shrub habitat with limited localized roots.

MS. BENSINGER: And where the ground -where you are doing the horizontal directional drill under the Kennebec, how far away from the banks of the Kennebec is the point on each side where the line goes underground?

GERRY MIRABILE: Yup. There are different ways of measuring that because there is a section -well, there are termination stations where it transitions from overhead to underground and then there is a stretch of trenched rather than horizontal directional drill between the termination station and where it transitions to horizontal directional drill. I don't have those exact numbers. I -- it's in the -- I think it's in the few hundred feet between the termination station and where it transitions to horizontal directional drill, in part because of the
drilling angle, you know, you have to get to a certain depth before you go to drilling.

MS. BENSINGER: So you think it's a few
hundred feet from the edge of the river to the point where it goes into the trench?

GERRY MIRABILE: No. So I'm going to say 1,140 or 1,160 feet of undisturbed tree growth on the west side and 1,450 undisturbed tree growth on the east side. Beyond each of those points there will be a segment where it would be maintained in scrub/shrub because it would be trenched rather than drilled. Does that answer the question?

MS. BENSINGER: Mmm Hmm.
MS. MILLER: Any other questions? Okay. We'll go ahead briefly for redirect.

MR. MANAHAN: I just have two quick questions. The first one is for Mr. Goodwin. We heard this morning, Mr. Goodwin, from Mr. Publicover and I think some other questions having to do with pine marten and fragmentation issues and some -- in those questions some concerns were raised about the adequacy of the compensation plan. My question for you is what did the Department of Inland Fisheries and Wildlife say with respect to fragmentation issues and what concerns did they raise about that with --

7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
with respect to the compensation plan proposed?
MARK GOODWIN: Obviously there was discussion about significant vernal pool habitat, which we have adequately addressed through siting minimization measures and the compensation. Beyond that, the discussion was limited to deer wintering areas, specifically the Upper Kennebec deer wintering area, you know, in terms of that habitat type requiring compensation.

MR. MANAHAN: So they didn't raise fragmentation as a concern?

MARK GOODWIN: Generally speaking, habitat fragmentation wasn't a big concern for IF\&W other than for generally mostly deer wintering area.

MR. MANAHAN: Okay. The next question is for Ms. Johnston and that is a similar question with regard to Mr. Reardon's questions having to do with cold water fisheries and brook trout. Did IF\&W express concern with the compensation plan? Were they ultimately satisfied with the compensation plan and how it addressed cold water fisheries?

LAUREN JOHNSTON: They were ultimately
satisfied with the compensation plan and the proposed expanded buffers that -- that we provided in our most recent compensation plan in January of 2019.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

MR. MANAHAN: Thank you. No further questions.

MS. MILLER: So we'll go forward with the schedule. What we'll do now is have Witness Panel Number 2 come on up. So we'll have a five minute transition.
(Break.)
MS. MILLER: Okay. I'm going to go ahead and call this to order. So right now we're going to be listening to the direct testimony from Witness Panel 2 for the Applicant and they ended a half an hour early on their Witness Panel 1 and requested that extra half hour be for their Witness Panel 2, so they have 60 minutes.

MS. BENSINGER: If you need it.
BRIAN BERUBE: Good afternoon. My name is Brian Berube and I am the manager of real estate services for Avangrid testifying on behalf of Central Maine Power for the New England Clean Energy Connect Project. I am here to present my testimony on the three alternatives that CMP analyzed when designing the project. The three routes are the preferred project route, Alternative 1 and Alternative 2.

Alternative 1 will have a greater environmental impact and is not a practicable
alternative because it requires a new Appalachian Trail crossing whereas the preferred crosses the ATL location with existing transmission line assets. It requires acquisition of conservation lands whereas the preferred route does not. It requires 93 miles of new corridor, whereas the preferred route requires only about 54. It requires more landowner acquisitions. For these reasons, Alternative 1 would have a greater environmental impact and is not practicably -- not a practicable alternative to the preferred project route.

Alternative 2 would also have a greater impact -- greater environmental impact. It is not a practicable alternative because it requires a new Appalachian Trail crossing whereas the preferred route crosses the ATL location with existing transmission line assets. It requires the acquisition of land in the Bigelow Preserve and from the Penobscot Indian Nation. It contains more wetland and stream crossings and it requires more landowner acquisitions. For these reasons, Alternative 2 would have a greater environmental impact and is not a practicable alternative to the preferred project group.

Based on the results of the alternatives

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
analysis it is my opinion that there are no alternatives that would lessen the project's impact on the environment or the risks it would engender to the public health or safety without unreasonably increasing its costs, a less environmentally damaging practicable alternative for the project which meets the project purpose not does exist.

Thank you for your consideration.
AMY SEGAL: Hello. My name is Amy Segal. I'm a Maine licensed landscape architect with Terrance J. DeWan Associates located in Yarmouth, Maine. I have worked for the firm for about 26 years with a majority of my work focused on Visual Impact Assessments or VIA for mostly in Maine. Our firm works with conservation organizations, energy developers, utility companies and state and federal agencies to evaluate potential visual impacts on a range of proposed projects. Our firm is one of the three firms and the only one in Maine that is pre-qualified to perform pier reviews of visual assessments for the Maine DEP. Over the past four decades our firm has worked on over 100 VIAs throughout the northeast, on-shore and off-shore wind, transmission lines, aquaculture facilities, bridges, tar plants, landfills and so on. Our
evaluations include field work, preparing photosimulation and viewshed mapping, visual impact analysis, recommending mitigation measures and offering testimony before agencies such as yourself.

We have worked for CMP before specifically on the Maine Power Reliability Program or MPRP, as was said before, that was reviewed and approved by DEP in 2010. I, with our firm's project manager for the New England Clean Energy Connect Project, am primarily responsible for research and field work and overseeing the production of mapping and photosimulation and the prime author of the assessment. Our presentation today will summarize the criteria methodology used in preparing the VIA for the project and concludes a review of the proposed mitigation measures as illustrated through photosimulation.

This summary will support our conclusion that the project will not unreasonably interfere with existing scenic and aesthetic uses and does not diminish the public enjoyment appreciation of the quality of the scenic resources and any potential impacts have been minimized and also that the activity will not have an unreasonable impact on the visual quality of the protected natural resources as
viewed from scenic resource.
Mr. DeWan will now introduce himself and review the criteria methodology reviewed in the VIA.

TERRY DEWAN: Thank you, Amy. My name is
Terry DeWan. I am a licensed Landscape Architect in the State of Maine and I have 40 years of experience working with visual impact assessment throughout the State of Maine. I've appeared before this board on several occasions over the past years and we're going to be talking today about the methodology that we've used to reach our conclusions. For the last year-and-a-half I've been working with Amy and CMP to satisfy some of the comments that we heard during some of the peer review process to make sure that it met the criteria of the state. We prepared the VIA for the New England Clean Energy Connect using standard Visual Impact Assessment methodologies that we have used over the years and we've refined our methodology as we've gone along following the standards described in the Natural Resources Protection Act, Chapter 315 regulations as well as those in the Site Law Chapter 375, the regulations for scenic character.

Under NRPA, the DEP is to consider whether or not an activity will not unreasonably interfere
with existing scenic aesthetic recreational or navigational uses. So what is unreasonable adverse visual impact? That seems to be the crux of the issue here before us today. Every time we make a change to the landscape no matter what we do there is an impact. Every time it can be seen, well, that can be considered to be seen as a visual impact because you can see it. It's visually apparent. But if the change is perceived to have an objectionable level of contrast, and by contrast we mean contrast in color, form, line, character, scale and so forth and may be considered to be adverse, but then the real question is where is the line that makes it unreasonable? So Chapter 315 supplies us an answer. They defined an unreasonable adverse visual impact as, quote, those that are expected to unreasonably interfere with the general public's visual enjoyment and appreciation of a scenic resource. And, of course, I'll define what a scenic resource is because it is already defined under statute. Or it impacts -- or impacts that are unreasonably -- or otherwise unreasonably impair the character or quality of such a place. Chapter 315 requires that an applicant demonstrate that the proposed design does not unreasonably interfere with the existing scenic and aesthetic uses and thereby
diminishes the public enjoyment and appreciation of the qualities of scenic resources and that any potential impacts have been minimized. More broadly under 375 the applicant must demonstrate that the project will not have an unreasonable adverse effect on the scenic character of the surrounding area.

We've talked a bit today about the effects on outstanding river segments and we did consider the criteria applicable to the crossing of the firebelt and river segments, which Amy will discuss in a moment. We also, as you know, will be talking tomorrow about the effects on the LUPC, $P-R R$ subdistrict.

So we followed DEP's methodology as we have done over the years and these are -- and I won't read all of those, but these are the points of the methodology that we've looked at in developing our VIA. We worked very closely with Mr. Beyer and others at DEP to determine the extent of the study area and we have a slide that talks a little bit more about that in a moment. We identified approximately 360 scenic resources as defined by Chapter 315 throughout the entire course of the project area. We provided computerized viewshed analyses and you can see some examples of that in a moment. Our field

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
staff spent over 90 days in the field looking at it from all different sorts of aspects and photographing it. Back in the office, we did extensive assessment of project visibility to determine where the project would be visible, how much it would be visible and then the degree of contrast that it may have with the surrounding landscape. We then prepared 53
photosimulations, which some of which you can see in the back of the room here, to show the extent of the visibility within the study area. We also then wrote the Visual Impact Assessment and you see the volumes of it right here. And perhaps more importantly, we worked very closely with Central Maine Power Company throughout the process and their engineers to recommend and evaluate mitigation measures where we felt it would be necessary.

You've heard us talk about the five areas that the project was divided into, the five segments. Segment 1 is the 53.5 miles that seems to be the focus of attention here. This is the new corridor from Canada to The Forks. This is a corridor, as you know, will be 150 feet in width. The transmission line will be supported by self-weathering steel monopoles and not the gray lattice work structures that you see very often pictured in the media. On
occasion, a single monopole will also be joined by another pole side by side at an angle point. These are dark brown in color so that's what we mean by self-weathering steel. Segment 2 is a 22 mile segment where it starts the co-located segment from The Forks down to Wyman Hydro. This is where the -the project will be -- the corridor width increased in width by 75 feet. Segment 3 is 70 miles of co-located corridor down to the Larrabee Station in Lewiston. Segment 4 is the rebuilt section bringing the -- bringing the line to the Thicket Road Substation in Pownal and 16 miles. And lastly, is Segment 5 which connects the Coopers Mills Substation in Windsor to the Maine Yankee Substation.

So what constitutes the study area? You know, how do you decide, you know, where to extend your viewshed analyses and studies to? In this particular case, we went three miles on either side of the center line of the corridor generally.

However, because of the nature of the topography, the fact that there are a considerable amount of hills and mountains surrounding it, we decided to go out 5 miles on either side as can you see in the next slide. There we go.

Another important concept to consider is
that of distance zones and, again, we'll reference the Visual Impact Assessment methodology that's contained in Chapter 315, but it's an important consideration in determining the visibility and potential visual impact in looking at a VIA. This is an example of a project in Anson. This is a project showing that the foreground, which is a half a mile from the observer. Details in this situation are pretty apparent. You can count the number of lines in the conductors. You can see the texture on the -on the structures and so forth.

The next area in the distance zone continuum is the mid-ground and that goes from the edge of the foreground roughly a half a mile out to 3 miles. And this particular illustration, which is on Route 201 looking towards Coburn Mountain, the project was located about 2 miles from the observer. This -- and this -- in the mid-ground patterns and lines are most noticeable in the landscape. And lastly, the background. Again, the whole continuum of distance zones is anything beyond 3 miles. And this particular location, which we're on top of Bald Mountain on the Appalachian Trail. If you look very carefully you can see both the existing and the proposed corridor as Amy is pointing out. It's
sometimes very difficult to see and that very often it's almost impossible to see once you get to that level of viewing distance.

So finally, we've used the term scenic resources and these, as I said, are defined by Chapter 15 as, quote, public natural resources and public lands usually visited by the general public in part for the purpose of enjoying their visual quality. We've identified, as I said, over 360 places that are considered to be scenic resources and we have summarized them on 22 pages in Attachment $F$ of our testimony.

Just to go through some of them, National Natural Landmarks are the first category of scenic resources and, again, I won't go through all of the ones we've identified, but such as Number 5 Bog and a Jack pine stand. We have found that there are some state and national wildlife refuges, such as the Fahi Pond in Embden; there are of course state and federally designated trails such as the Appalachian Trail; properties on or are eligible for inclusion in the National Register of Historic Places such as the Arnold Trail; national and state parks such as the Androscoggin Riverlands State Park; municipal parks and open spaces such as the Pleasant Ridge swim area
on Wyman Lake and back to the dam; publicly owned land, visited in part for the use, observation and enjoyment and appreciation of natural or manmade visual qualities and for these we use examples like the state land up on top of Coburn Mountain or certainly the Route 201 Scenic Byway; and lastly, public resources in general such as Moxie Pond or the Kennebec River and, as I said, we have a very complete listing of those resources that we've evaluated.

So that's an overview or methodology of what we've been through to develop the VIA and how we've been guided by the visual assessment procedures outlined in Chapter 315. I'll now turn it back over to Amy who will discuss how we apply this methodology and show you a series of photosimulation that have been taken to mitigate potential adverse individual impact to scenic resources.

AMY SEGAL: Okay. So the next couple of slides show how we applied the methodology. This first slide is of a viewshed analysis and excerpt. We do have the project here, the green line coming through here in Segment 1. And these black dashed lines represent the 3 and 5 mile study area extending out from there. The areas in purple show where there
is theoretical project visibility. And of course based on our research and that viewshed analysis that we're using as a tool we develop our field plan and then document existing conditions from both locations that are justified according to professional standards. As Terry mentioned, we completed over 90 personal days of field work. We take those photographs, we bring them back to our office, we use our model that was supplied by the project engineers and we merge them.

In this diagram -- oops. In this diagram you can see that we have this green line representing the foreground trees, the red line represents the project area that is located behind those trees, therefore, these trees will screen the project from this viewpoint. So this is the type of analysis we did for the resources.

We prepared, as Terry mentioned, over 50 photosimulations for the project. Those photo simulations showed, you know, we intentionally did a diversity of viewing distances in the foreground, mid-ground and background, also looked at viewpoint types such as ponds, mountains, road crossings and then looked at the surrounding land use and documented that. Based on those sort of simulations
we used the Appendix A from Chapter 315 to evaluate the visual impacts for each one of these photosimulations. This is an excerpt. Then we also did this again for the leaf-off or snow cover photosimulation that were done for 10 different locations. As Terry mentioned, we then -- this is a listing of the visual mitigation recommendations that the project is involving. So you've already heard Thorn -- Mr. Dickinson speak about the overall project siting. You've heard about the HDD under the Kennebec River. The rest of these we will illustrate with our photosimulations.

All right. So we have this next part of the show here is we have the groups of photosimulations. We have, you know, a collection from Segments 1 and 2 including the Appalachian Trail; we have Route 201, outstanding river segments; and then at the end we have road crossings from Segments 3, 4 and 5. So I think we'll have time to get through all of it, so I'll just do a time check when we get there.

Okay. So this first diagram is a blow-up of that project map from before. We will be looking at photosimulations from Beattie Pond here, Rock Pond, Parlin Pond, Coburn Mountain, Cold Stream -- yeah, Cold Stream and Moxie Stream and Moxie Pond.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

Okay. The first one, Beattie Pond. So the -- here is the Canadian border. The project is the green line moving through here. Beattie Pond on the border between Beattie and Lowelltown Township. Beattie Pond is a 25 acre waterbody. It's a remote pond or a class -- management Class 6. It therefore has a half mile buffer around it. Again, this is the project going through here. This pond there. There is a camp here on the southern area on the shoreline. And there is an access -- gated access road that comes in through here.

The viewpoint that we used is from the northeast corner of the pond up here because -- and we chose that location because it would have the greatest amount of potential visibility. This is a panoramic view looking in that direction. And here is a view focused in on the project. This is existing conditions. This is the initial photosimulation that was submitted in September of 2017. You can see the double poled angle structure that would be visible above the tree line here and what they call the Smart Mountain would be back behind there. So in working with the engineers and recognizing the visibility of those structures, we went back and worked with them in January 2019,

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
submitted this revision, which the tip of the structure is just barely visible over the tree tops there. The structure was reduced in height of about 39 feet.

Moving on to Rock Pond. This is about a 145 acre pond in $T 5$ R6. Again, the project is here in the green line. There is the pond. We, again, found the place on the pond that would have the most potential project visibility. Their is based on viewshed analysis and also based on our field work. So we selected this -- selected this location in the southeastern corner. The project towards the north. This is a panoramic view looking to the northwest and to the north towards Three Slide Mountain, Tumbledown, Greenlaw and Number 5 and 6 Mountains.

Just -- I'm making one more comment about Rock Pond. So Rock Pond is assigned a significant rating for its scenic qualities. And just to back up a little bit with that there is over 1,500 grade ponds in the unorganized territory in Maine and the Maine Wildlands Lake Assessment has assigned scenic resource quality ratings as either a significant or outstanding for 280 of those grade ponds. So, again, Rock Pond is rated significant for scenic resources. Obviously it was, you know, a scenic resource we

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
needed to look at.
The pond has a carry-in boat launch on the north end, a handful of campsites on the north end and two camps on the eastern side of the pond. This view, again, is from the eastern corner looking towards the northwest. Here is a photosimulation depicting the full height vegetation around Gold Brook up towards the notch in here and through here. And as you heard earlier from the first panel in working with IF\&W the monopoles on either side of Gold Brook needed to be taller to accommodate a full height vegetation. Upon reviewing this change with the team, we recommended the use of tapered vegetation management techniques for the visible corridor remaining in the notch. So this was the portion up in through here. Because as your eye travels down the notch and over even though it's kind of lumpy, we felt that that would be noticeable. So the technique minimizes the visual impact when viewed from Rock Pond. So I'm going to kind of pan back and forth here a couple of times so you can see the difference. So this photosimulation reflects the tapered vegetation management within that corridor.

All right. Now, we're going to show you a cross-section of this tapered vegetation management
to understand this a little bit more. So -- so you have this monopole structure here and you have trees and vegetation that remain that are approximately 15 feet in height. As you move out toward the edge of the corridor trees will get taller, approximately 35 feet in height.

Okay. So now we're going to look towards the north. There is existing conditions. This is proposed conditions. The corridor clearing itself won't be visible. The change in vegetation will be slightly visible. The structures as we've talked about numerous times are going to be the self-weathering steel, so they are dark brown. They will blend with the wooded backdrop. This is a location where we also recommended an additional set of mitigation which was to us use non-secular conductors along this section so that the conductors connecting between the connectors would be less visible. And to describe what non-secular conductors are they're basically pretreated in a way that reduces the potential reflectivity from the sunlight and we felt that in this instance where the viewer is south of the project and looking to the north that sunlight coming up over head would reflect off the conductors, so we felt that this was a good location
to recommend that.
Okay. Moving on to Coburn Mountain in Upper Enchanted Township. The green rectangle there is the portion that's owned by the state. This is the ridge of Coburn Mountain right through -- going through here. The project is the green line here. Route 201 is the purpose line. Also, I just want to reference quickly too this graphic that was our rebuttal graphic that accompanies our rebuttal testimony. We can answer questions to that a little bit later, but that describes in more detail what portion of that green line would actually be visible.

Okay. So, again, this the viewpoint from the summit of Coburn Mountain. This is a photograph looking southwest towards Johnson Mountain and the valley here with the logging roads and clearcuts and strip cuts and this grade and the management through there. Here is the structure and solar panels at the top. This photograph is taken from the observation tower, which is approximately 20 feet above grade looking -- if you kind of look down on the structures here. In this photograph to the lower right is looking off to the northwest towards Grace Pond.

So focusing in on the view towards the most visible portion of the project from the summit of

Coburn Mountain. This is the existing conditions view looking towards the east. The closest portion of the project right here we've got one mile away. The furthest portion of the project is back in through here. And this area is, you know, into the 5 miles and beyond so it's really in the background for viewing distance and is not very noticeable. And now we're just sort of panning a little bit more to the south. This is existing conditions. You can see the patchwork of the commercial forest operations here and logging roads. This is the initial photosimulation that we submitted. Obviously the corridor is 150 foot wide and would be more noticeable with snow cover. Structures are minimally visible, again, because of their dark brown color. And working with CMP and our engineers we looked at the possibility of doing tapered vegetation management here as well and this would be a 2.2 mile stretch of tapered vegetation management from that closest location, which is about a mile away to this which is just about 3 miles away. So we felt this minimized visibility of the corridor quite a bit. It makes the corridor look very similar to the existing logging roads that are cutting through there.

All right. Moving on to Parlin Pond in

Parlin Pond Township. This pond is rated significant for its scenic resources. It's approximately a 580 acre pond. You can see Route 201 along the west side of it. Okay. Oh, yeah, just to point out, so the viewpoint on that northern portion of the pond looking to the south you'll see towards Coburn the cabins and sort of development on the west side primarily are looking -- are oriented towards the east towards Parlin Mountain.

Okay. So this is a view from the north looking towards Coburn Mountain. This is a winter view and that's the project here in this area there. It's approximately 2.7 miles away from that -- from our viewpoint location. And the main mitigation strategies utilized here was to place -- take care and place that line in a location where, you know, the line will actually mimic the profile of the mountain and it wouldn't be significantly visible. In fact, there is just a small area of potential corridor clearing that you would see. The structures generally will blend and at this distance the structure would not be very distinguishable. Here is a summer photosimulation in a similar location. Again, you can somewhat see a change in the vegetation. The structures up there is about 2.7
miles away from the viewers.
And now we're going to move towards Cold Stream, Cold Stream forest parcel. Cold Stream is a scenic river as designated in the Maine River Study. Primarily one of the reasons why it's designated as a scenic river is because of Cold Stream Falls, which is 2.1 miles upstream from this location. The project will not be visible from Cold Stream Falls. All right. Let me go back here one more time. So here is the project here in the bright green. Those white dots represent the proposed structures. This is Capital Road coming off Route 201 here. Capital Road through here. This is the previous alignment of Capital Road there. The Cold Stream forest parcels are sort of on either side here. There is a gap where the roads and the project will be located. The orange dot represent ITS 87. This is a photograph from the ITS 87 bridge looking back towards Capital Road, so the logging road there and the culvert. You know, Capital Road is a significant logging road, a two lane logging road.

This is a photosimulation showing the proposed change with the project. Obviously the most significant visual change will be the corridor or the clearing for the corridor. So the conductors

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
themselves will be overhead and somewhat filtered through the branches of the vegetation between the viewer and the corridor. The structures are set back pretty significantly from here, so you can't necessarily see them in the same viewscape. This is a one lane, you know, this is the -- the ITS bridge is a narrow bridge. It's sort of a momentary view that you would have as you were crossing through here. I'll also just point out the rip rap on either side kind of shows the old alignment for Capital Road.

Okay. I'll move on to Moxie Stream. This is also a designated scenic river in the Maine River Study. Again, primarily because of the Moxie Falls, which is located 1.7 miles downstream of the project. The project will not be visible from Moxie Falls. You can see that -- here is the project here and Moxie Stream comes through there. The viewpoint is locking towards the west.

Okay. So this viewpoint location is near where the Fish Pond Road is. There used to be a bridge over the Moxie Stream that's no longer there. There is just a little bit of rip rap on both sides of the road now, but you can sort of drive right down to this location and view it. This -- the way the
project has been sited is crossing Moxie Stream. It's in sort of a bend in the river. As you can see, you can't really see in that bend too well so this is kind of as you're moving through here it's sited well to minimize views from say a kayaker or somebody running it in the spring. This is the proposed change. Obviously, again, the biggest change would be the clearing. There will be the riparian -preserve riparian buffer vegetation along here. There is also in this location will be a supplemental buffer planting in here. We're showing the conductors here. You can see the shield wires with the marker balls. Right now, we're not definitely -we haven't definitely heard whether or not the marker balls will be required. I know the Army Corps is still looking at it. It's our understanding the FAA won't require it, but we're still in the process, so to be conservative we've shown those marker balls.

Okay. Moving on to Moxie Pond. So this is obviously a much bigger waterbody. It's over 2,200 acres. It's rated as outstanding for its scenic resources. It also has quite a bit of development on the western shoreline and there is a road -Troutdale Road runs the length of the western frontage. There is an existing transmission line.

This is the beginning of the co-located section. So the existing transmission line runs along the entire length of the 7 miles of the pond and the proposal would widen it by 75 feet on the western side. So the vegetation between the existing transmission lines and the pond and the existing transmission lines and the camps, again, won't change.

Okay. So we -- we took photographs from numerous locations on the pond. We did photosimulations from the north end near the boat launch and we chose this one to show today in particular because the existing corridor is the most visible one in this location, so we felt the proposed corridor would be the most visible in this location. It's kind of a worst case for Moxie Pond. This was the initial photosimulation that we submitted in September of 2017. I'll just to go back and forth here. So you can see there are some structures on either side. They're self-weathering so they generally blend with the backdrop, but you have a longer span of conductors that were visible. So this is another instance where we worked with the engineers and said, you know, let's kind of figure out a way to kind of reduce the height of the structure, reduce the conductors and reduce the

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
amount that you would see from here. So on average, where Mr. Mirabile was saying that the average structures are 94 feet and a section along Moxie Pond because they reduced the structures, they reduced the ruling spans the average height is closer to 70 feet.

Okay. Now, I'm going to move on to the Appalachian Trail. Okay. So -- okay. Here is the project. It's a co-located section with the blue line moving through here. This is Moxie Pond. This is the Appalachian Trail. It's the red line going through here. This is our 5 mile limit on either side, so there is approximately 14 miles of the Appalachian Trail within that 5 mile span on either side. This is Pleasant Pond Mountain summit here. This is Bald Mountain summit. And this is the area where the AT crosses the existing transition corridor three times in and around Troutdale Road.

Okay. This aerial diagram shows the AT as a white line and moving down from Pleasant Pond Mountain down towards Joe's Hole, the southern end of Moxie Pond, and where it crosses the project. So this is the existing corridor, which is kind of a lighter blue and then the expanded corridor on the western side of that. So you can see these points here existing, the first time you cross it here and
then down the Troutdale Road. So the distance -- the hiking time if you were to go from Pleasant Pond Mountain down to this crossing it's around three, three-and-a-half hours or so and then takes, you know, a few minutes to get down to the road and then you continue on and we'll get the next aerial when we get there. I just want to give people a sense of, you know, hiking time to get down there.

Okay. So this is Pleasant Pond Mountain. This is a panoramic view looking towards the project area. Mosquito Mountain in the center with Moxie Pond going the length there. Focusing on the area that's closest to the project. This is existing conditions. This is proposed. It's very hard to see the difference. From this distance at approximately 3 miles it's very hard to perceive the project. You won't see the clearing per se, but you may see tips of structures. So this is a blowup, four times zoomed of the area right there, so you can see double pole angled structure that would be visible -slightly visible at this distance of over 3 miles.

So coming down from the summit of Pleasant Pond Mountain, again, hiking about three-and-a-half hours or so you get down to this first crossing of the existing corridor, so this first view is looking
to the east. So looking in both directions here, this is looking back towards Joe's Hole and the existing conditions there. And you hike a few minutes, maybe takes 5 , 10 minutes to get down to Troutdale Road. And this is the section where the Appalachian Trail is co-located with Troutdale Road. It takes about, I'd say about 60 seconds or so or no it's about -- well, no, you can see it now for about 50 seconds or so, you know, I'll say a minute as you're walking down through here, the expanded corridor would extend that visibility time probably about 16 seconds. So you're on Troutdale Road, you're taking northbound underneath the corridor, underneath the existing 150 foot and then the expanded 75. We also did it in the winter. This photosimulation shows the proposed roadside plantings that were -- that we've suggested. We show them in photosimulation just to give you a sense that, you know, it's not going to block the view of the structures, but it will minimize the view of the clearing.

Okay. So you were -- we were just down here down in Joe's Hole, we've -- the northbound hiker will then continue on Troutdale Road, will cross over Baker Stream and continue on until they get to this
next crossing here. So the whole hike from that first time you encounter the existing transmission line to this third encounter would be about a 20 minutes, half an hour. From here it takes another three, three-and-a-half hours to hike to the summit of Bald Mountain. Along this stretch you're not seeing the project. Again, this is that transmission line crossing. That is the third crossing in both directions. This is the panoramic from the summit of Bald Mountain. And this is a view from Bald Mountain. You're looking towards Mosquito Mountain there and Moxie Pond. So in the existing conditions you can see the corridor -- existing corridor sort of intermittently along that section. This is a photosimulation. I'll just go back and forth a little bit. You can see the change slightly in corridor. Here is another view did in the winter. You can see the existing conditions. This is the most visible portion. This is just about under 5 miles away. You can see that little bit of the corridor there where the proposed corridor that will be slightly expanded, but not highly noticeable. It certainly wouldn't, you know, highly affect the hiker experience when you're on Bald Mountain or wouldn't interfere with the experience.

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857

Okay. Now, we're going to move on to Route 201, the Old Canada Road National Scenic Byway. This is a map of a portion of the byway, most of it. So the Canadian border is up here, so the byway from the Canadian border down here towards Madison is that purple line running through here. The project, again, is the green line here and then the blue line is the co-located segment all the way down through there.

All right. So there are 49 miles of the byway within the study area, however, the project may only be visible from five locations. The first potential view for southbound travelers is the Attean View Rest Area, a pull-off above Route 201 overlooking the Moose River Valley. From this location you can see this big pan here, there is interpretive panels, rest area, et cetera, or bathroom. The project would be over 7 miles -- well, the project is 5 miles away, but this ridge right here blocks the closest 2 miles, so the project would be visible -- portions of the project would be over 7 miles away and that would be sort of in that valley basically would not be noticeable to, you know, an average viewer looking at that wide pan and the pattern of the clearing would look similar to the

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
other patterns that are out there.
Okay. So as you're moving southbound you're going to travel about 6 miles or so from that rest area to the stretch of the Parlin Pond. Now, you're not stopping here, but from this stretch there is a field on the west side of Route 201, this is Parlin Pond here, and through this segment here you'd have -- the southbound viewer would have about 15 seconds of view -- filtered view as you move through here. And so the next series of photograph are sort of replicating the southbound strip moving through here.

So when you first -- you can see here this is the Coburn ridge. I'm going to start just to orient you, so then the Coburn ridge opens up as you get into that clearing, so you can see the homes here and some vegetation along the edges. This is -- the project area is in that notch right there, so it's not visible on this whole stretch. It's in this notch over here. So you can see in these photographs as we move through here that that portion where the project is located is filtered through vegetation sort of in the foreground area. We stopped here and we took this photograph and decided to do the photosimulation from here because it would be a
location where you would have the most potential visibility. Terry showed this image earlier, so I'll just flip back and forth. Winter view. So you'd have a structure visible here about 2 miles away. A little bit of the corridor clearing in the winter would be noticeable. In the summer you wouldn't notice that.

Okay. Now, we're going to drive another 6 miles to where the project will cross Route 201 in Johnson Mountain Township at a 90 degree angle. Again, 90 degree angles are the best because they reduce the amount of time that a traveler would be within the corridor and just remove this and I'll go back to that photo in a minute. So this is a photosimulation that we took from the intersection of Judd Road and Route 201 looking at the crossing here in green. And just to kind of put this in context that this -- the crossing is located about 1,300 feet south of Judd Road, about 2,000 feet north of Capital Road, obviously the commercial logging road, and then about $3 / 4$ of a mile north of Jackman town line where it intersects with 201. So it's very intentional that it's located in an area that has a commercial locking activity.

Okay. All right. I just want to go back to
this photograph. In the same location but looking northbound, we'll look at the southbound view, but looking northbound, you know, there is evidence of commercial forestry, so it's is not -- this is not the most highly scenic portion of Route 201. This is an area where commercial forest operations are evident.

Okay. So this is a view looking southbound in the area and obviously in the summer. So as you're driving through here, we picked this view because this would be sort of the longer stretch of potential visibility of the project. You'll see a top of a structure here and you'll see the conductors over the road. So this would be about 80 seconds as you kind of come around the bend and are traveling southbound you'd see this and mainly you're seeing the conductors. Now, obviously you're seeing it in context with the distribution line that travels the entirety of the byway. Going northbound, you see it for a little bit less time for like 30 seconds traveling sort of 50 miles per hour in that area.

Okay. So now you've crossed in Johnson Mountain Township and now you're going to travel another 30 miles, which takes say 40 minutes to drive, you don't see the project at all in that 40
miles. Then you get to where the project will cross. Here is the 201 here and this is the byway -- I'm sorry, this is the byway here. This is the project is the green line. So this is it where it's going to be co-located with the existing transmission line. This is Wyman Dam here.

Okay. So as you're driving through here obviously you're slowing down to come to the village. There is a bend in the road here, so your duration of view is pretty short because you're kind of turning, you're doing this and you're turning and you're underneath the line before you know it. Same thing going in this direction, you're kind of driving this way, you're sort of looking at this opening and wondering what's going on with this dam here and then you're driving through and you're under it, so it's a very short duration of exposure. This is the existing conditions. Proposed conditions. Okay. I'll just go back. This is, you know, you're in the corridor for 2,3 seconds at the most, so you'd have to look real quick on both sides to see that.

All right. So that's the one that -- the fifth place of potential visibility here is in Bingham. So this would be only for northbound people on the byway. You can see the existing transmission
corridor. This is the river here. There is a section where this is just the road right next to the river. So it's about 45 seconds for someone going northbound, but they're going to see the existing corridor structure and they'll see the expanded corridor and the full structure. So, you know, it's -- if it takes -- it's a 78 mile long byway and say that takes you a couple hours to drive, you know, our segment is 49 miles, so maybe that's an hour, you know, totaled up going northbound you're going to see it for maybe a total of 80 seconds. Going southbound it's like, you know, a minute-and-a-half, so in context it's a very small amount of time that someone would actually see it. And just also to note that in the village just south of the crossing in Moscow there is two existing transmission lines that are crossing the byway right there as well, so, you know, that's consolidated impacts in locations where there already is some.

All right. So now we're going to transition into the outstanding river segments. The first one here is Carrabassett River in Anson. You can see, again, it's going to be co-located with the existing structure that's crossing the river now. There is agricultural and some wooded areas on either side of
the river. There is the existing conditions. Proposed conditions. Again, there will be 100 foot riparian vegetation preserved on either side of the river.

Moving to the Sandy River here in Farmington. Existing conditions. Just to note, again, agricultural land use on either side. Existing. Proposed. This is a good image to show how the proposed structures will be set back further than the existing structures, so obviously they're taller than these, but in perspective they don't seem that much taller. They don't dominate the landscape or anything like that.

Okay. So moving towards the West Branch of the Sheepscot River. This is Route Segment 5. This is in Windsor. This is an area where you have existing transmission lines going through here. This is the existing conditions and this is proposed, so this is a 345 structure that's being built. Again, there would be preserved vegetation along here and also in this area we supplemented with some additional plantings.

This is a little bit out of order, but this is the Lower Kennebec River below the dam. So here is the dam, the substation and quite a few white dots
showing all of the existing structures. The project will come through at that crossing that we just saw in Moscow, come through here and then cross over to Pleasant Ridge Plantation. So that's the view looking across now. You can see this is a great access for fishing. That access will not be removed. And just sort of showing this in context with the dam and facilities.

Okay. Time check. I think we're okay. MS. KIRKLAND: 11 minutes and 19 seconds. AMY SEGAL: For the total or?

MS. KIRKLAND: Left.
AMY SEGAL: Okay. So I need to leave 5 minutes for Peggy, right? Okay. So I'll just go through these quick. So this is Route $2 /$ Route 8 in Anson. The existing conditions. Proposed conditions. This is Route 2 here in Farmington. Again, you can see the agricultural land uses on either side. Existing conditions. Proposed conditions. This is the Androscoggin Riverland State Park, so there is two components of the park. The biggest portion of the park is on the west side of the river -- Androscoggin River. On the east side in Leeds is the smaller portion of the state park. There is an existing access road that goes through
here, so we took photosimulations from that location. Like I said, the transmission line was here prior to it becoming a state park. Here is existing conditions here to 115 and that's proposed for the structures on that side.

Looking at Segment 4. This one is from Riverside Drive in Auburn looking across the river. So this is in the rebuild section -- rebuild segment on Segment 4 where you have these two existing three-poled wooden structures, which will be replaced by two monopole structures of self-weathering steel and as an example from the Segment 5 in Wiscasset, it's got sort of existing conditions and proposed conditions with the 345 line. So that is -- that's the -- all of the photosimulations.

So just to kind of recap here those photosimulations were meant to really show all the mitigation measures that we had been working with the engineers and the team on, so we've got the overall sitings that we've mentioned, HD under the river, use of self-weathering steel, very effective, re-engineering to reduce structure height such as at Moxie Pond, non-secular conductors at Rock Pond, the tapered vegetation management that we've been speaking about a lot today as viewed from Coburn

Mountain on Johnson Mountain and then as viewed from Tumbledown Mountain as viewed from Rock Pond. We've already talked about preserving the habitat and so that's it.

PEGGY DWYER: All right. Hello. My name is Peggy Dwyer and I work for a company called Dirigo Partners, LTD, which provides real estate services to CMP. In my role as -- as a lead project -- I just forgot my role. In my role as lead agent on such projects $I$ work on route development, analysis and mapping. I serve as a liaison between abutting landowners and CMP as the landowners' primary point of contact with the company all the way from initial project development through wrap-up at project completion. My testimony concerns whether the project will adversely affect or unreasonably interfere with existing recreational or navigational uses and I am going to testify that it will not.

I have been an active member of The Forks area river running community since 1988. I am an experienced white water guide, kayaker and wilderness trip leader. I continue to lead trips on Maine's navigable rivers as a private boater focusing most of my time on the Kennebec River from the Harris Station Hydroelectric facility on Indian Pond to Caratunk.

My life partner was a forester whose area of responsibility included the project area from West Forks to the Canadian border. Together, we spent countless hours enjoying and exploring this region's woods and waters, so I became well-accustomed to all of the sites, sounds and smells of active forest management on an industrial scale. Those impacts never dampened my enthusiasm for hunting, fishing, and foraging, hiking, biking, skiing, dog sledding, and snowmobiling, birding, and boating in those areas. This project will not unreasonably interfere with those recreational uses either. I know this region. I worked, played and got married on the Kennebec River. I have as strong and emotional claim to the Upper Kennebec region as many of the people you will hear from this week. Unlike some of them, I make no additional claim to my view for our woods. Members of the public afforded free access to much of Maine routinely exercise a subject choice to recreate in one location or another. Objectively, this project creates no impediments to any existing recreational activities. In fact, the project was carefully sited in collaboration with the neighboring landowners so as to avoid interference with existing uses. A new transmission line starts with a straight
line from point A to point B. Every angle point you see on that project map represents a thoughtful, proactive effort to minimize an impact at the planning stage to move away from a waterbody, road or viewshed here or tuck the line behind screening topography there. Those efforts minimized impacts in significant ways. Because the project will be under ground at the Upper Kennebec River crossing it will have no impact to the Gorge whatsoever. The only impact the project presents to any recreational users will be visual and as was presented in the testimony of expert witnesses DeWan and Segal that impact does not seem unreasonable. Access and opportunity outside the corridor are unchanged as a result of this project.

Within CMP's corridor recreational opportunities will be expanded with a possibility of new licensed trails all the way up. I ask you to look at the example of CMP's existing transmission line corridors, which are widely utilized for all kinds of recreational activities and provide the backbone of statewide interconnected trail systems invaluable to Maine's outdoor enthusiasts. Far from suppressing recreational activities, CMP's corridors are recreational reserves. My conclusion is that

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
this project will not adversely affect nor unreasonably interfere with any existing recreational or navigational uses. Thank you.

MS. MILLER: Thank you. Anyone else on the panel need to say anything? I think you have about four minutes left.

PEGGY DWYER: Wow. How did we do that?
MS. MILLER: Thank you.
TERRY DEWAN: This is a point, there is a dot on the floor right there, when you look at the photosimulations it's important to be able to stand at that very viewpoint just to get a sense of how big the image is relative to real life. It's always a question, you know, how far back should the screen -from the screen should I be in order to approximate what it really is going to look like. Roughly it's about 1 1/2 times the width of the image and you can use that same rule of thumb when you're looking at the simulations on the walls here.

MS. MILLER: Thank you. So now we will start on cross-examination. I have the times available for each of the groups that are left over and this time we're going to go in the opposite order we went before so we would start with Group 8 and for Group 8, I've got 9 minutes and 22 seconds.

MS. TOURANGEAU: Good afternoon, again. And I am still Joanna Tourangeau for Group 8, NextEra. I have just a couple questions primarily, I believe, for you, Mr. Berube. Am I saying your last name correctly?

BRIAN BERUBE: Yup, that's correct.
MS. TOURANGEAU: Thank you. You assess the environmental impacts associated with the project in your alternatives analysis?

BRIAN BERUBE: Correct.
MS. TOURANGEAU: Did your assessment of the alternatives include looking at the undergrounding alternative?

BRIAN BERUBE: Can you be more specific?
MS. TOURANGEAU: Did you look at undergrounding as an alternative to any portion of the project at all?

BRIAN BERUBE: To any specific portion or?
MS. TOURANGEAU: Any at all, did you look at it?

BRIAN BERUBE: Yes.
MS. TOURANGEAU: Is that discussed in your alternatives analysis?

BRIAN BERUBE: No.
MS. TOURANGEAU: Okay. How did you look at
it then? Can you -- is it discussed in your direct or rebuttal testimony?

BRIAN BERUBE: I do not have rebuttal testimony.

MS. TOURANGEAU: You're right. Sorry.
BRIAN BERUBE: Yup. And as far as my direct testimony there is three ways to look at alternatives, if you will. There is a macro level and a micro level and from the real estate perspective my alternatives analysis testimony considered the macro level alternatives. As far as the undergrounding alternative, that was not done by myself.

MS. TOURANGEAU: Is there someone else that that was done by on the alternatives analysis?

BRIAN BERUBE: It was not done by myself nor anybody on this panel.

MS. TOURANGEAU: Okay. Thank you. What was the project purpose that you used in coming to the conclusion that there were no available alternatives under NRPA or SLODA available to the Applicant that would have less environmental impact?

BRIAN BERUBE: Yup. The project purposes is as stated by Mr. Dickinson.

MS. TOURANGEAU: Great. Thank you.

BRIAN BERUBE: You're welcome.
MS. MILLER: Thank you. So next we have Group 7 and Group 7 has one minute.

MR. SMITH: No questions. Thank you.
MS. MILLER: Okay. Thank you very much.
Group 6. You've got 6 minute 48 seconds.
MR. WOOD: Thank you. Rob Wood with Group
6. Mr. Berube, can you speak to the cost of acquiring conservation easements as opposed to the costs of fee acquisition for parcels in this region? And this is a follow-up on a question we had asked to the earlier panel and they had said perhaps this second panel could speak to that.

BRIAN BERUBE: Could you clarify what you mean by cost?

MR. WOOD: Sure. So on a per acre basis if you were to purchase land in fee and hold a title to it, how would that cost -- what would the cost be on a per acre basis compared to the cost of the acquiring an easement for a working forest on the same acreage?

BRIAN BERUBE: Could you, I guess, more clearly define cost as far as land, labor, there is lots of components to cost.

MR. WOOD: So the land. The land only.

BRIAN BERUBE: Specific to the acquisition cost, if you will, of conservation lands, I cannot speak to that in relation to the value of those lands acquired for the project.

MR. WOOD: Can you speak in general terms?
BRIAN BERUBE: General terms?
MR. WOOD: To the cost of conservation -- so the cost of an acre in conservation easement versus fee acquisition in this general region.

BRIAN BERUBE: I guess in general terms you can assume them to be similar.

MR. WOOD: Okay. And then to the panel as a whole, when you're looking at scenic and recreational impacts and mitigating those impacts, do you ever look for synergies between the mitigation measures for scenic and visual impacts and for ecological impacts, so can you -- if you could address both scenic and ecological impacts, say habitat fragmentation simultaneously, do you look at that?

AMY SEGAL: Right. I guess an example would be at Gold Brook where we were, you know, looking at the visual impact from Rock Pond and knowing that IF\&W was working with CMP to do this full height vegetation for habitat reasons, obviously there is benefits of preserving the vegetation there, so the
result was taller poles. So we were kind of looking at the trade-offs with, you know, improving preserving habitat and the visual impacts to that and that's where we kind of stepped a little bit further and asked and recommended to CMP that they move towards the tapered vegetation management on the side slope of Tumbledown Mountain.

TERRY DEWAN: You've probably heard the term balancing quite a bit today. Every time you look at an adjustment to the line that's been laid out by the engineers it's not simply a matter of, well, let's just move the poles over here or reduce the height, you have to look at the whole spectrum of analyses. If you say, well, if the poles got shorter therefore closer together then you'd have to ask the question, well, by moving them closer together what effects does that have on things like vernal pools or wetlands or various types of habitats, buffer zones and so forth, so it's a real three dimensional problem that involved a lot of consideration by a whole plethora of experts to come up with a workable solution.

MR. WOOD: Thank you. And just one more follow-up. Are there other areas in Segment 1 where vegetative tapering as described from the Coburn

Mountain photosimulation or a scene from the Coburn Mountain photosimulation could be useful in mitigating visual impacts?

AMY SEGAL: Well, there is numerous
locations when I went through the photosimulations where the corridor clearing itself is not visible, so tapered vegetation management in those areas wouldn't necessarily change the level of visual impact if that's what your question is. We didn't, you know, are there any other areas along the corridor where you would look to vegetative tapering potentially to reduce visual impacts?

AMY SEGAL: The two occasions that we proposed are the two that we recommended.

MR. WOOD: Okay.
TERRY DEWAN: It works best in this particular case when you're looking right down the line when you're trying to minimize or soften the effect of that wide open expanse, in most locations the line is screen running perpendicular to the viewpoint and so tapering the vegetation is not going to have the effect that it would as we saw from the view at Coburn Mountain.

MR. WOOD: Okay. Thank you.
MS. MILLER: Thank you. So we're at 5
-'clock, we're going to try to wrap up at 5:30. And next is Group 4. You have about 39 minute, so if -it puts you just a little after 5:30, so we can wrap up a few minutes later and let you finish if that's okay with everybody to end by about 5:40. Is that okay with the Intervenor groups? Is it okay with everyone at this table? All right. Let's go ahead and do that then.

MS. JOHNSON: I think I might have gotten the short straw keeping people from dinner. So these questions are for Ms. Segal --

THE REPORTER: I'm sorry, I don't know --
MS. JOHNSON: Sorry. My name is Cathy Johnson and I'm representing the National Resources Council of Maine, which is one of the Group 4 Intervenors. Ms. Segal, I assume that you are familiar with Dr. James Palmer, who is the scenic expert who DEP asked to do a peer review of this Visual Impact Analysis, correct?

AMY SEGAL: Correct.
MS. JOHNSON: And you've had a chance to review his two reports?

AMY SEGAL: Correct.
MS. JOHNSON: And in his second report, he noted that, quote, the conclusion of CMP's survey of

Kennebec rafters is that views of power lines on hillsides creates visual impacts that are among the highest of any human activity or development, closed quote. Do you recall that quote?

AMY SEGAL: Yes. And Mr. Palmer also noted that this, quote, survey provided information to assess visual impacts at other locations, closed quote. He is referring to other locations other than the Kennebec Gorge, which is where you did the survey, correct?

AMY SEGAL: I'm sorry, what was the question?

MS. JOHNSON: He is saying that the information you got from the survey of the Kennebec Gorge users is also valuable visual impact and other areas, correct?

AMY SEGAL: Yes. Yeah, I'm sorry.
MS. JOHNSON: In particular, he noted that the survey indicated that, and this is a quote, it may not be necessary to see the transmission structures or the cleared right of way for the scenic quality to be degraded. In this survey, views of the conductors and warning bells were sufficient to degrade the scenic quality at the Kennebec River crossing, closed quote. Do you recall that quote?

AMY SEGAL: Um... I recall it.
MS. JOHNSON: It's in his November report. So you're asserting now that the CMP line will not unreasonably impact scenic resources or scenic uses of scenic resources; is that correct?

AMY SEGAL: Correct. With the mitigation measures proposed.

MS. JOHNSON: Did you do any other surveys other than the Kennebec Gorge survey?

AMY SEGAL: No, we had a consultation with DEP and Mr. Palmer regarding user intercept surveys and at the time it was recommended that we look at doing one for the Upper Kennebec River for rafters. There were a few other locations that were discussed and none of the other ones resulted in the requirement of having a survey done.

MS. JOHNSON: So you actually have no evidence based on any surveys to support your assertion that there are no unreasonable adverse impacts on these other sites?

TERRY DEWAN: I don't think that would be a fair characterization. As you know from our testimony, we've made reference to other work that's been done, for example, the Baskahegan study, granted it's not a transmission project, but it is a

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
situation where people who use Baskahegan Lake in Washington County were asked to comment upon their experience and generally the visual environment and it's in a lake that it had, I believe, 24 wind turbines on it several years ago and the majority of the people that commented said that it really did not affect their enjoyment, the use of the lake at all. Something else which had just come up recently --

MS. JOHNSON: I think that answers my question. Thank you.

MR. MANAHAN: I would object to that cutting the witness off. He was answering her question and she -- he's entitled to answer the question and I would request that he be allowed to finish his answer.

MS. BENSINGER: Do you want to respond to that?

MS. JOHNSON: No.
MS. BENSINGER: It sounded like you were about to go on to -- you said something else that comes -- has come up --

TERRY DEWAN: Yes.
MS. BENSINGER: Is that in response to her question?

TERRY DEWAN: Yes, it is. It's another
source of information on the affect of infrastructure on people's desire to use --

MS. BENSINGER: And that's in the record?
TERRY DEWAN: It is not in the record.
MS. JOHNSON: I would object to that.
MR. MANAHAN: Well, this is
cross-examination. He can answer a question with something that's not in the record.

MS. BENSINGER: Okay. I would -- if it's responsive to the question, I would recommend that it be allowed.

TERRY DEWAN: We feel that it is. As you know, the previous governor established a commission to establish -- to look at the effect of wind energy on the way people use recreation resources and in December of last year a survey was conducted by a well-known survey firm between December 5 and 12 looking at 536 panelists most of these people were from out of state, sort of people who come to this area for recreation asking -- they were asking a number of questions and just to quote from the report, 3 percent of the travelers surveyed considered the views of alternative energy resource infrastructure to be very important when selecting a vacation destination, 3 percent. Among 12 items that
travelers might consider when selecting a vacation destination views of alternative energy source infrastructure was a consideration that rated the least important. Now, granted, this doesn't address the specific question about the fact that the same transmission lines would have, but it does give an indication of how the general public takes into consideration views of infrastructure such as transmission lines and making decisions about whether or not to go to a place and enjoy the scenic resources.

MS. JOHNSON: So it's true, is it not, that the DEP suggested that you do other intercept -visitor intercept surveys including adding Attean Rest Area, you did not do such a survey, did you?

TERRY DEWAN: They did suggest two. We did the one of the Upper Kennebec River. The --

MS. JOHNSON: Didn't they suggest two others?

TERRY DEWAN: Can I finish, please? They also suggested the Attean Rest Area might be one. And, again, in consultation with Mr. Beyer and Dr. Palmer we talked about the changes that might be visible from that location. Knowing that, as Amy said, the project is 5 miles away, but at 5 miles
it's hidden by a mountain and the closest point of visibility is 7 miles and beyond that, you know, it's hard to see where the project would be located and we didn't feel that it would really produce significant results in terms of answering the questions that may be raised.

MS. JOHNSON: Okay. Well, let's go back to the Baskahegan survey that you mentioned. In that survey, and the this was a survey after the project had been built, so those people who had chosen not to come back to the place because now there's industrial viewshed there you would not have -- the survey would not have picked up those people?

TERRY DEWAN: There is no way of determining the level of use that occurred prior to the survey prior to the installation of the turbines. As part of the report that was done, it was noted that none of the people that were interviewed as part of the survey commented that the general level of use over the past couple of years seemed to have been on the rise. Now, was that due to the turbines? Probably not. Was it due to the price of gasoline? Perhaps. Perhaps it was more due to the general state of the economy. Don't know.

MS. JOHNSON: Or maybe it's due to the

Dostie Reporting
7 Morrissette Lane
Augusta, ME 04330
(207) 621-2857
quality of the fishing. Isn't it true that 70 percent of the people that were surveyed said that fishing was the reason that they came to Baskahegan Lake; isn't that correct?

TERRY DEWAN: Absolutely.
MS. JOHNSON: And only 4 percent of the survey -- folks surveyed said that scenic character was their primary activity of Baskahegan Lake; is that correct?

TERRY DEWAN: That is a fishing crowd.
MS. JOHNSON: Yup. And you are certainly aware, as you've -- Ms. Segal has just described that this new 53 mile corridor includes a National Scenic Byway, correct?

AMY SEGAL: Correct.
TERRY DEWAN: As you have just seen, yes.
MS. JOHNSON: And I assume that you're aware this region of the state attracts many visitors because of its undeveloped scenic character, correct?

TERRY DEWAN: Well, the scenic byway brings people to an area for any number of reasons. The scenic character is just one of those reasons.

MS. JOHNSON: Right. But they come for the -- the scenic character is one of the main reasons people drive the scenic byway, correct?

TERRY DEWAN: That is one of the reasons, yes, as the name implies.

MS. JOHNSON: And this new corridor, the transmission towers and the lines, would be visible as you described earlier from sections of this National Scenic Byway as well as from public lands that connect -- or that have trails that connect in the National Scenic Byway, correct?

AMY SEGAL: It's visible from the scenic byway, yup.

MS. JOHNSON: Yup. And would you agree that the percentage of people using the National Scenic Byway who identified viewing scenery as their primary activity is likely to be significantly higher than on Baskahegan Lake where the overwhelming number of people are there for fishing?

TERRY DEWAN: Well, certainly it's a much different type of user group. I don't know if it's fair to compare people that are driving versus people who are in a boat.

MS. JOHNSON: But you don't have any evidence to support that opinion?

TERRY DEWAN: It's -- it's an opinion on our part, yes.

MS. JOHNSON: Because you didn't do any
intercept surveys of visitors along the scenic byway? TERRY DEWAN: We did not.

MS. JOHNSON: And, in fact, in the survey that you did do of the Kennebec River users, 74 percent said that viewing scenery was one of the activities they planned for during their visit to the Upper Kennebec River, correct?

TERRY DEWAN: That's correct.
MS. JOHNSON: Thank you. Now, your visibility analysis used data from the land cover from 1999-2001; is that correct?

AMY SEGAL: Yes, the data that we used for vegetation land cover did. Again, it's just a tool for theoretical visibility.

MS. JOHNSON: And DEP and the LUPC questioned why you didn't use the more recent data; isn't that right?

AMY SEGAL: They did question it, yup.
MS. JOHNSON: But you did not redo your analysis using the more recent data, did you?

AMY SEGAL: So we -- obviously, when we look at doing our viewshed analysis and we are looking at the cover type that we're using, we did figure -look into whether or not like Point Cloud and LiDAR data was available and it was just coming online in

2017 and it was incomplete for our project area, so we chose to use land cover mapping that was complete for the whole project. And, again, it's just a tool that we use, it's not the tool that we use to determine whether this is potential visibility. MS. JOHNSON: So instead of using more recent data you actually argued in your testimony that what you did was good enough because as you just said the newer data was not available for the entire study area, correct?

AMY SEGAL: It wasn't complete for the whole study area, correct.

MS. JOHNSON: So is it your position that for a project that is 145 miles long you would not use updated scenic data unless it was available for every single portion for the 145 miles?

AMY SEGAL: Well, I just need to make sure it's clear that when we're using -- when we develop the viewshed analysis that, you know we do a considerable amount of research as well. We're looking at Google Earth. We can see the cutting patterns. We can look at Google Earth over time so we can see how it's changed. We know even though our viewshed analysis map says that there is no visibility from a certain point and a high point, a
viewpoint and we know it -- because of experience because of field work that there is visibility and research, I mean, we do an extensive amount before we go into the field. So, again, it's the amount of research that we do educating ourselves on our field area, our study area completely, you know, the whole 10 mile swath all the way down as well as, you know, using the viewshed analysis as a tool, so it's a combination of those two that helps us figure out where we need to go and focus our efforts.

MS. JOHNSON: But you didn't answer my question. My question was is it your position that for a project that's 145 miles long you would not use a updated data unless it was available for every single portion of the line?

AMY SEGAL: It's the double negative in that sentence. Generally we like to use the most updated information, but for this project we felt that what we were using was appropriate.

MS. JOHNSON: Well, one of the reasons that Dr. Palmer was concerned about the fact that you did not use the most recent data is because that data is 20 years old and does not include the effects of recent harvesting, correct?

AMY SEGAL: Correct. But as I mentioned, we
did an extensive amount of research using Google Earth, which is aerials from 2016, '17, '18, so they were pretty accurate and pretty up-to-date for the whole study area.

TERRY DEWAN: That's also one of the reasons we do such extensive field work, you know, the viewshed data that we do with computerized mapping indicates areas where there is a probability that we're going to see the project, but we don't take that as gospel. We go out there and hike and we kayak, we look at it to make sure that we know where it's going to be visible from and to what extent the project may be visible.

MS. JOHNSON: Dr. Palmer raises multiple concerns about the visibility analysis noting that the analysis understates the potential visibility by 50 percent, correct?

AMY SEGAL: Mr. Palmer's or Dr. Palmer's criticism was particularly on the viewshed of the mountain mapping, yes.

MS. JOHNSON: Yes, the mapping. Dr. Palmer notes that the problems with the visibility analysis all stem from the fact that you did not use the most up-to-date data, correct? That is his conclusion in his November report?

AMY SEGAL: That may have been his --
MS. JOHNSON: Correct?
AMY SEGAL: -- the way he was --
MS. JOHNSON: Is that his conclusion?
AMY SEGAL: -- disputing it, but --
MS. JOHNSON: That is his conclusion.
AMY SEGAL: That was his conclusion at the time.

MS. JOHNSON: And you do understand that it's the lack of up-to-date data that is of concern to Dr. Palmer?

AMY SEGAL: Again, we've done an extensive amount of research and analysis. It's, you know, Dr. Palmer criticized the data that we used to do the viewshed analysis maps, that's just a tool as we've explained.

MS. JOHNSON: So turning to the AT for a second, in your testimony you noted that the line crosses the Appalachian Trail three times and that that justified mitigation, I believe those are your terms, justified mitigation; is that correct?

AMY SEGAL: I am not sure I --
MS. JOHNSON: It's on Page 33 of your testimony.

AMY SEGAL: Okay.

MS. JOHNSON: Could we see Page 119 of this report? Hmm... That's not it. I guess we'll have to use the old tech way instead of the new tech way. So this is where the Appalachian Trail -- where the line crosses the Appalachian Trail, correct?

AMY SEGAL: Along Troutdale Road, yup.
MS. JOHNSON: Yup. One of the three places.
AMY SEGAL: Yup.
MS. JOHNSON: And this is the
photosimulation with the mitigation that you're proposing?

AMY SEGAL: It's one of the forms of mitigation of buffer planting plans, yup.

MS. JOHNSON: So in your opinion, does that mitigate the scenic impact of this line?

AMY SEGAL: As I mentioned, it will buffer the view towards the cleared corridor. It won't screen the structures.

MS. JOHNSON: And you can even see right through it through the corridor itself?

TERRY DEWAN: Keep in mind that this is a wintertime view and that we suspect that it gets relatively light views from hikers during the wintertime. During the summertime the native vegetation that you see there would be used as part
of the mitigation plantings would block most of the slope on the opposite side of Joe's Pond there.

MS. JOHNSON: Okay. Why -- and why did you not propose any mitigation for the other two crossings of the AT?

AMY SEGAL: We -- so the two crossings of the AT on either side of Troutdale Road, you know, crossing, traversing through the existing corridor now, it's 150 feet of -- they're kind of going through scrub/shrub vegetation there now and -- and I know that there is -- actually, I think there has been some discussion of potential plantings at those crossings. I don't know the specifics to that.

MS. JOHNSON: Is that in the record?
AMY SEGAL: It's not in the record now. I think it's...

MS. JOHNSON: And you did not propose as mitigation limiting the crossing to just one instead of three?

AMY SEGAL: Well, I do know in working with CMP and their team there has been ongoing discussions with the various organizations, park service, and MATC and others on --

MS. JOHNSON: But there is no evidence of that in the record?

AMY SEGAL: Of the discussions? No. So you're asking me if we -- we have looked at -- okay. Our assignment was to look at the visual impacts of the project as it crosses three times along --

MS. JOHNSON: And so when you --
AMY SEGAL: -- co-located with the existing.
MS. JOHNSON: And so when you thought about mitigation you didn't think about things like, oh, maybe we should avoid this crossing all together, that was not one of the things you thought about when you thought about mitigation?

AMY SEGAL: We were looking at the visual impacts for the project as proposed.

MS. JOHNSON: As a result of your analysis in the photosimulations that you showed us today, you concluded in the application, quote, based on this VIA review of the project in the range of potential visual impacts, Segment 1, that's the 53 miles of new corridor, will not unreasonably interfere with existing scenic and aesthetic uses and will not adversely affect scenic character in the surrounding area, closed quote. That was your conclusion, your testimony on that?

AMY SEGAL: Correct.
MS. JOHNSON: And at the time you made that
statement, Segment 1, the power line crossed the Kennebec Gorge overhead at that time; is that correct?

AMY SEGAL: That's correct.
MS. JOHNSON: And so your conclusion in the application was that an overhead crossing at the Kennebec River Gorge would not constitute an unreasonable adverse impact on the existing scenic and aesthetic uses and would not adversely affect the scenic character of the Kennebec Gorge; is that correct?

AMY SEGAL: That's correct. Provided that the preserved forested buffers on both sides stayed intact and you couldn't see any structures on either side.

MS. JOHNSON: Given the overwhelming public outcry and the results of CMP's own Kennebec River rafters survey, CMP now proposes to put the line under the river, correct?

AMY SEGAL: Correct, but I will add when we did the user intercept survey even though there was people who said that it would be a visual impact it would decrease -- slightly decrease, you know, their experience they overwhelmingly said they would still come back, so it wasn't impacting their continued use
and enjoyment.
MS. JOHNSON: So given the overwhelming public outcry and CMP's decision to put the line under the river --

MR. MANAHAN: I would object to the witness -- to the questionings -- the questioner's characterization of the overwhelming public outcry. She's -- she's putting evidence into the record that isn't in the record right now by virtue of that question and $I$ think she needs to establish a foundation for her statement there's an overwhelming public outcry.

MS. BENSINGER: Do you want to respond to that?

MS. JOHNSON: Well, the public hearings will be tomorrow and on Thursday, but we certainly have seen public -- overwhelming public concern expressed in the comment records and in the public sphere.

MS. MILLER: Can you rephrase the question?
MS. JOHNSON: Okay. So given the fact that CMP concluded that they should put the line under the Kennebec River, their conclusion that the overhead line would have -- would -- so your conclusion that the overhead line would not have an unreasonable adverse impact on the Kennebec River Gorge was
spectacularly wrong, wasn't it?
AMY SEGAL: Well, I would disagree with that, I mean, when we -- when you think about the impacts to the river and you think -- you need to think of it in the full context of the experience, so individuals who are going to raft the river are driving along Indian Pond Road, along the existing transmission line, they get up to Harris Dam where they're prepping they're walking down the stairs and putting in, it's a commercial, you know, they're there because there is a water release -- scheduled water release from a dam so all of that is very much part of that experience. And then you go through the rapid section and through that section you are not going to see the project and you get to the sort of flat water area and that's where the project would have been visible, so it's 8 miles south of the dam after you've gone through this experience, so, you know, yes, that was our conclusion.

MS. JOHNSON: Every trip has to start and end somewhere; isn't that right?

AMY SEGAL: Logically.
MS. JOHNSON: Yeah. So the fact that they start at the dam doesn't mean that they don't care about the scenic character. And, in fact, 74 percent
of the people in the Kennebec River survey were concerned -- were -- cared greatly about the scenic character of the region; isn't that right?

AMY SEGAL: Yes.
MS. JOHNSON: So given your track record on deciding what's a significant adverse scenic impact, isn't it entirely possible that your conclusion that the CMP line would have no unreasonable adverse scenic impact on Coburn Mountain, Number 5 Mountain, Parlin Pond, Rock Pond, the Old Canada Road Scenic Byway, Moxie Stream and other beloved undeveloped scenic places along the proposed corridor could be equally wrong?

AMY SEGAL: I would disagree and I've showed the simulations and the mitigation measures that are being employed to...

MS. JOHNSON: Thank you. I have no other questions.

MS. MILLER: Did Group 4 have other questions for the other witnesses?

MS. ELY: No, thank you.
MS. MILLER: Okay. I think we'll go ahead and wrap up for the day. We're about 5 minutes early if you can believe that. I appreciate all of you for your participation, especially sticking to the time
limits that we had set.
So just in closing, $I$ just want to thank you
all for your participation. We're going to recommence here at 8 o'clock in the morning, same location. And tomorrow is going to be the day where at 10:30 we're going to switch over to the LUPC, the Commission, and we'll also have the evening portion of testimony, which will be in another location and we'll remind of you that in the morning, so thank you everybody. We'll see you tomorrow.
(Hearing continued at 5:25 p.m.)

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857

C E R T I F I CA T E
I, Robin J. Dostie, a Court Reporter and Notary Public within and for the State of Maine, do hereby certify that the foregoing is a true and accurate transcript of the proceedings as taken by me by means of stenograph,
and I have signed:
_/s/ Robin J. Dostie
Court Reporter/Notary Public

My Commission Expires: February 6, 2026

DATED: May 3, 2019

Dostie Reporting
7 Morrissette Lane Augusta, ME 04330
(207) 621-2857
< Dates >
7.4.1. 174:3

APRIL 1, 2019
1:15
April 1, 2019 1:22
April 19 123:10
April 2 11:24, 19:3
April 4 19:5
April 5, 2018 145:16
August 13 260:6
August 13,
2018, october 5, 2018, february 5, 2019, march 4, 2019, march 13, 2019, march 18, 2019 16:14
August 2017 44:19
December 2017 80:13
December 5 345:17
February 26, 2019 16:21
February 27, 2019 16:22
February 28, 2019 16:24
February 6, 2026 363:15
January 2019 231:10, 307:25
January 30 214:22
January 9 132:5
July 15 61:20
March 1, 2019 16:20
March 18 205:10 March 21, 2019 16:16
March 22, 2019

16:20, 16:21, 16:23, 16:24
March 26, 2019 16:9
March 29, 2019 16:17
May 3, 2019 363:17
November 28, 2018 131:25, 132:2
September 15 61:20
September 7, 2018, january 17, 2019 16:8
\$1.2 150:9, 151:23
\$1.4 127:24
\$1.6 129:5
\$10,000 250:10, 253:20
\$12 78:25
\$180,000 26:11, 64:12, 65:10, 80:25
\$2 26:24
\$2.2 252:12, 253:21
\$200,000 78:24, 81:6, 81:7, 240:20
\$22,000 27:5
\$22,200 237:10
\$245,000. 85:10
\$3 26:23, 78:18
\$31 82:3
\$470,000 61:5
\$5 26:25
\$5.1 79:2
\$650,000 78:22
\$767.9 247:1
\$9,000 27:8
\$9,400 237:13
\$950 58:10
\$975,000 67:15
'17 353:2
'18 353:2
. 01 209:19, 209:20
. 02 208:20
.02. 208:16
.04. 208:5
. 09 209:12
. 15 289:6
. 8 208:22, 208:23
. 82 208:22
.0. 3:32, 3:40,
4:27, 5:13,
5:38
$<0>$
03301-4202
3:17, 7:17
03581 4:28
04011 5:28
04101 2:10,
2:18
04101-2480
6:13, 6:21
04112-9546
3:41, 5:14
04330 4:14,
4:21
04332-0188 5:39
04332-1058 3:33
04333-0112 6:30
04351 4:35
04976 2:35
< 1 >
1,000 289:12
1,022 84:16
1,053 80:24
1,140 291:7
1,160 66:1, 291:7
1,200 10:19, 28:1, 56:11,
271:15,
281:8,
281:11,
281:17,
281:22,
282:10
1,300 324:18
1,450 66:1,


76:25, 80:7,
82:12, 91:16,
112:11,
124:21,
137:16,
138:19,
192:8,
194:10,
196:18,
197:4,
258:13,
289:11,
295:22, 328:2
100,000 238:23,
239:12
100. 112:15

104 3:24, 17:14
1058 3:32
109.77 216:3

10: 7:5
10:30 11:24, 362: 6
10:30. 14:10
11 80:12,
240:18,
329:10
111 1:23
112 6:29
113 8:22, 92:8
114 92:8
115 95:8,
103:4, 141:9,
330: 4
116 102:20
118.5 213:3

119 355:1
12 26:5, 52:19,
64:8, 65:7,
80:22,
188:25,
198:14,
207:9, 210:9,
210:16,
219:11,
219:20,
220:1, 220:4,
220:14,
225:6,
231:11,
266:6,

283:11,
345:25
12. 207:8,

262:16
12.02 220:12
12.08 219:20
12.1 208:14

123 84:20
13 78:16,
162:4, 163:2,
163:12,
231:12,
246:25
13. 252:1,

263:22
13.9 141:9
139.5 58:5

14 5:26, 107:4, 206:25,
207:6, 218:2, 249:4,
250:25, 251:1, 251:21, 318:12
14. 163:14, 207:9
14.5 252:7

145 308:5, 351:14, 351:16, 352:13
15 46:13, 73:21, 97:3, 193:6, 193:7, 193:8, 193:9, 193:23, 199:16, 206:17, 207:1, 218:2, 231:4, 251:17, 252:7, 252:18, 284:18, 303:6, 310:3, 323:8
150 8:23,
30:16, 111:8,

| 189:5, |
| :---: |
| 189:16, |
| 190:11, |
| 201:13, |
| 300:22, |
| 312:13, |
| 320:14, 356:9 |
| 150,000 53:4 |
| 155 8:24 |
| $1646: 15$, |
| 73:21, 242:7, |
| 283:11, |
| 301:12, |
| 320:12 |
| 16,000 112:2 |
| 17 103:8, |
| 103:9, 164:2, |
| 187:7, 228:23 |
| 18 179:20, |
| 181:25, |
| 189:4, 213:1 |
| 18.9 211:10 |
| 180 288:16 |
| 188 5:38 |
| 1880 167:19, |
| 167:22 |
| 19 238:21, |
| 239:10, |
| 329:10 |
| 190 8:25 |
| $19357: 25$ |
| 1988. 331:20 |
| 1989 207:2 |
| 1999-2001 |
| 350:11 |
| 1: 2:25 |
| < 2 > |
| 2,000 27:9, |
| 324:19 |
| 2,200 316:20 |
| 2,800 27:1, |
| 78:17 |
| 2-10 149:6 |
| 2. 32:9, 86:3, |
| 293:23 |
| 2.1 216:2, |
| 314:7 |
| 2.2 237:22, |

189:5, 190:11, 201:13, 300:22,
312:13, 320:14, 356:9 150,000 53:4 155 8:24 16 46:15,

73:21, 242:7, 283:11, 301:12, 320:12
16,000 112:2
17 103:8,
103:9, 164:2, 187:7, 228:23
179:20,
181:25,
189:4, 213:1
18.9 211:10

180 288:16
188 5:38
1880 167:19,
167:22
19 238:21,
239:10,
329:10
190 8:25
193 57:25
1988. 331:20

1989 207:2
1999-2001
350:11
1: 2:25

250:7,
252:10,
252:21,
252:23,
312:18
2.7 313:13,

313:25
2.8 208:1

2/route 329:15
20 84:8, 87:12,
89:1, 97:3,
134:11,
135:14,
164:16,
193:6, 193:8,
193: 9,
193:23,
194:15,
199:16,
200:9,
200:24,
237:23,
241:2, 241:6,
241:15,
242:3, 242:7,
242:13,
311:20,
321:3, 352:23
20. 195:18

2000 30:17,
30:25
2004 172: 6,
177:2
2008 201:21
201 23:15,
73:21,
107:19,
107:21,
108:3,
227:13,
302:15,
304: 6,
306:16,
311:6, 313:3,
314:12,
322:2,
322:14,
323:6, 324:9,
324:16, $326: 2$
201. 23:21,

168:18,
324:22, $325: 5$
2010 77:6
2010. 296:8
2011. 46:18

2015 53:4, 173:14, 176:21
2016 353:2
2017 85:6,
173:14,
217:24,
269:21, 351:1
2017. 68:2,

176:21, 307:20, 317:17
2019. 132:5, 292:25
2022. 58:12, 59:20
207 2:11, 2:19, 2:36, 3:34,
3:42, 4:15,
4:22, 4:36,
5:15, 5:29,
5:40, 6:14,
$6: 22,6: 31$
21 8:4, 184:20
22 301:4, 303:11, 334:25
22,000 250:7
221 9:2
222 22:6, 23:3, 112:19
222. 157:20

224 9:3
225-2585 3:18,
7:18
24 107:4, 344:4
243 9:4
25 61:9, 62:5,
155:5,
227:25,
231:18,
233:1,
253:24, 307:5
25.7 208:19

250 25:12,



181:15,
181:24,
182:10,
189:7,
189:20,
204:2, 204:4, 213:1,
214:25,
222:22,
223:8, 237:5,
241:6,
250:14,
325:24
30,000 53:5
30.8 211:9

300 110:16,
110:24, 111:3
31.5 206:9

315 108:12,
297:21,
298:14,
298:22,
299:22,
302:3, $306: 1$
315. 304:14

32 8: 6
33 354:23
331 9:14
335 9:16
337 9:17
341 9:18
345 328:19,
330:14
35 63:22, 76:1, 231:18,
232:13,
232:20,
233:1,
241:15,
284:6, 310:5
350 249:8,
252:12
350,000. 249:7, 251:1
360 299:22, 303:9
368 180:10

37 8:7
375 297:22, 299:4
38 49:12
38.3 208:20

39 141:21, 148:23, 308:4, 341:2 399-6330 2:36 3: 3:20
< $4>$
4 17:16, 37:11,
42:10, 69:4, 69:17, 70:1, 72:4, 79:11,
155: 4,
155:22,
167:14,
167:15,
167:17,
190:19,
195:11,
195:18,
200:1,
200:10,
200:23, 204:15,
215:7,
220:22,
242:5,
281:18,
301:10, 306:18, 330: 9, 341:15, 348:6, 361:19
4. 37:9,

155:20, 195:23, $330: 6,341: 2$
4.1 84:17, 289:2
4.6 209:17, 210:2
40 68:9, 86:3, 97:19, 97:22, 134:6, 134:8, 134:21,

|  | 221:4, |
| :---: | :---: |
|  | 223:17, |
|  | 223:18, |
|  | 224:4, 224:5, |
|  | 224:6, 249:6, |
|  | 251:1, |
|  | 273:14, |
|  | 274:10, |
|  | 288:15, |
|  | 297:6, |
|  | 325:24, |
|  | 325:25 |
|  | $40,000 \text { 238:23, }$ |
|  | 400 261:7, |
|  | 262:12, |
|  | 263:10 |
|  | 401 5:27 |
|  | 404 83:10 |
|  | 41 220:23 |
|  | 417 264:5 |
|  | 417. 260:16, |
|  | 262:5 |
|  | 42 8:8, 220:23 |
|  | 42.2 252:10 |
|  | 43 8:9 |
|  | 430-0109 4:22 |
|  | 430-0175 4:15 |
|  | 44 8:10 |
|  | 45 3:31, |
|  | 148:23, |
|  | 192:12, 327:3 |
|  | 450 68:7 |
|  | $4656: 15$ |
|  | 466-8140 4:29 |
|  | 48 231:10, |
|  | 337: 6 |
|  | 487-A4 49:12 |
|  | 49 8:11, |
|  | 322:10, 327:9 |
|  | 4: 4:4 |
|  | < 5 > |
|  | 5 16:6, 17:17, |
|  | 53:13, 112:7, |
|  | 169:20, |
|  | 208:13, |
|  | 258:25, |
|  | 266:7, |

        223:17,
        223:18,
        224:4, 224:5,
        224:6, 249:6,
        251:1,
        273:14,
        274:10,
        288:15,
        297:6,
        325:24,
        325:25
    40,000 238:23,
239:12
400 261:7,
262:12,
263:10
401 5:27
404 83:10
41 220:23
417 264:5
417. 260:16,
262:5
42 8:8, 220:23
42.2 252:10
43 8:9
430-0109 4:22
430-0175 4:15
44 8:10
45 3:31,
148:23,
192:12, 327:3
450 68:7
46 56:15
466-8140 4:29
48 231:10,
337:6
487-A4 49:12
49 8:11,
$322: 10,327: 9$
$322: 10$
$4: 4: 4$
< 5 >
5 16:6, 17:17,
53:13, 112:7,
169:20,
208:13,
258:25,
266:7,


266:20,
289:22,
301:8, 317:4
75. 320:15
767.9 249:1, 252:1
768 250:24
77 8:19
771-9246 6:22
78 30:20, 327:7
791-1189 2:11,
2:19
791-3000 3:42,
5:15
7: 5:32
< 8 >
8 17:21, 19:1,
84:8, 84:23,
150:21,
210:9,
210:16,
218:2,
219:23,
220:15,
234:3,
258:22,
329:15,
334:24,
334:25,
335:2,
360:17, 362:4
8. 49:6, 49:9,

268:11,
268:14
80 193:25,
325:14,
327:11
83 206:10
83D 47:18
84 6:11, 6:19
85 113:13,
148:21
850 82:13, 83:5
87 8:21, 314:18
87. 314:17

8: 6:4
8:00 1:24
$<9>$
9 17:21, 18:25, 169:7, 260:9, 260:11, 260:16, 263:14, 334:25
9,500 250:15
9.5 208:14

90 300:1, 305: 6,
324:10, 324:11
9051 16:6
9064 16:6
91.8 209:18,

210:3
93 294:5
94 112:15, 318:3
9546 3:40, 5:13
96 5:37
99 209:23
9: 6:24
9:05 55:21
_/s/ 363:12
< A >
A\&G 286:22
A. $2: 14,3: 14$, 7:14
A.M. 1:24, 205:16
ability 124:14, 188:15, 222:10, 280:18, 282:7, 282:10, 287:15
able 20:25,
52:25, 59:19, 92:23, 147:17, 156:11, 156:21, 157:22, 215:19,
$222: 2$,
$223: 25$,
$241: 12$,
$248: 17$,
$281: 6$,
$281: 21$,
$334: 11$
abounds 112:3
above 42:10,
51:6, 63:25,
119:20,
119:21,
207:16,
213:17,
231:4,
232:16,
233:12,
287:9,
307:21,
311:20,
322:14
above-ground 37:24
abrupt 105:14
absent 156:1
Absolute 213:5,
213:13, 243:2
Absolutely
197:7, 231:6,
233:4, 348:5
abstract
201:20,
201:22,
203:7,
203:15,
204:14
abundant
101:15, 206:2
abut 11:13
abutter 29:4
abutting
109:23,
110:1, 331:11
abuxton@preti.c
om 3:35
AC 58:5,
268:18,
280:3, 280:4
accepted 208:10
Access 67:5,

74:1, 74:2,
$74: 3,74: 7$,
83:23, 84:1,
282:22,
282:25,
284:2,
307:10,
329:6,
329:25,
332:18,
333:13
accessible
112: 4
accommodate 309:11
accommodations 48: 4
accompanies 311: 9
accomplish 69:8
according 305:5
Accordingly
70:20
accounting
228:12
accuracy 149:8
accurate
112:14,
124:16,
124:21,
125:13,
125:15,
126:22,
127:3,
127:22,
138:1,
142:14,
172:14,
198:21,
199:18,
228:6,
239:19,
243:16,
290:5, 353:3,
363:5
accurately
198:19,
227:15,
232:15
achieved 89:17,

240:23
achieves 78:6,
83:13, 85:18 achieving 50:2 acknowledges 107:5
acquired 338:4
acquiring
337:9, 337:20
acquisition
239:4, 294:4, 294:18,
337:10,
338:1, 338:9
acquisitions
240:12,
294:8, 294:21
acre 180:11,
180:14,
180:16,
180:20,
181:6,
181:10, 181:15,
181:25,
182:5, 307:5, 308:6, 313:3, 337:16, 337:19, 338:8 acreage 181:5, 181:8, 245:9, 337:21
acreages 182:9
acres 27:1,
27:9, 27:10, 67:13, 78:17, 80:24, 84:16, 84:17, 84:20, 84:25, 112:2, 169:20,
176:6, 176:7, 176:23,
180:6,
180:15,
181:3, 181:4, 181:11, 181:19, 182:10, 189:7, 189:20,

| 238:23, |  |
| :---: | :---: |
| 239:12, |  |
| 316:21 |  |
|  |  |
| across 30:15, |  |
| 30:16, | , 32:1, |
| 52:6, 62:10, |  |
| 67:5, 89:6, |  |
| 95:10, | 183:8, |
| 187:12, |  |
| 189:24, |  |
| 285:25, |  |
| 286:23, |  |
| 329:5, 330:7 |  |
| Act 1:10, |  |
| 10:10, | , 11:18, |
| 11:19, 13:6, |  |
| 16:5, 35:15, |  |
| 35:16, |  |
| 49:12, | , 79:17, |
| 83:11, |  |
| 297:21 |  |
| acting 38 | $38: 22$ |
| Action 20:11, |  |
| 158:9 |  |
| active $331: 19$,$332: 6$ |  |
|  |  |
| activities |  |
| 53:16, | , 71:10, |
| 72:11, | , 93:22, |
| 93:24, | , 94:2, |
| 174:11, |  |
| 332:22, |  |
| 333:21, |  |
| 333:24, 350:6 |  |
| activity 35:3, |  |
| 72:8, 72:9, |  |
| 94:21, 99:25, |  |
| 108:13, |  |
| 296:24, |  |
| 297:25, |  |
| 324:24, |  |
| 342:3, 348:8, |  |
| 349:14 |  |
| actual 105:4, |  |
| 143:1, |  |
| 156:22, |  |
| 230:19, |  |
| 266:4, 286:8 |  |
|  |  |

238:23,
239:12,
316:21
across 30:15,
30:16, 32:1,
52:6, 62:10,
67:5, 89:6,
95:10, 183:8,
187:12,
189:24,
285:25,
286:23,
329:5, 330:7
Act 1:10, 1:11, 10:10, 11:18, 11:19, 13:6, 35:16, 49:11 49:12, 79:17, 83:11, 94:24, 297:21
acting 38:22
Action 20:11, 158:9
active 331:19, 332: 6
activities
53:16, 71:10,
72:11, 93:22,
93:24, 94:2,
332
333:21,
333:24, 350:6
activity 35:3,
72:8, 72:9,
94:21, 99:25, 108:13, 296:24,
297:25,
324:24,
342:3, 348:8,
actual 105:4,
143:1,
156:22,
230:19,
add 18:24,

18:25, 22:14,
178:8,
186:14,
204:12,
204:15,
211:24,
241:12,
358:20
added 118:8
adding 235:12, 346:14
addition 11:4, 53:25, 59:9, 74:5, 130:1, 177:12, 201:6 additional

10:16, 26:12,
27:10, 44:6,
44:8, 44:10,
53:9, 63:1,
111:9, 118:8,
122:22,
123:2,
128:17,
135:1,
139:16,
151:14,
238:25,
239:16,
256:18,
256:19,
270:18,
270:19,
272:19,
287:6,
288:25,
310:15,
328:22,
332:17
Additionally
33:10, 75:19,
76:5
additions 201:15
address 26:19,
72:13, 80:11, 147:5, 222:3, 228:9,
249:18,
264:17,

267:24,
277:19,
338:17, $346: 4$
addressed
65:17, 81:14, 135:18, 146:21,
147:4, 292:4, 292:21
addresses
83:12, 84:5
addressing
224:25,
225:2,
228:13, 248:6
adequacy
267:22,
291:22
adequate 30:1, 35:6, 42:4, 62:20, 64:23, 68:24, 75:12, 76:1, 76:23, 89:17
adequately
35:8, 65:18, 71:5, 71:17, 77:2, 135:18, 292: 4
adhere 20:16
adjacent 25:2,
25:3, 25:4,
25:6, 25:18,
61:10, 61:13,
75:4, 111:20,
114:12,
151:16,
185:21,
218:24
adjustment
339:10
administer
13:15
administered 106:17
Administration 30:19, 145:13, 286:22
Administrative

13:16, 16:5, 21:1, 286:3 administrators 78:22
admirable 92:12
admit 117:22,
125:18,
147:21,
186:16
admits 53:19
admitted
113:21,
122:25,
127:9,
147:14,
148:15,
148:16,
148:17
admitting
147:23
adopted 73:4
advance 18:6
advantage 163:4 advantaged

225:24, 226:7
Adventure
45:24, 46:24,
47:15
adverse 22:15,
38:8, 40:21,
49:3, 50:5,
66:22, 68:15,
72:1, 72:10,
75:9, 76:18,
77:20, 89:19,
89:24, 90:10,
92:16,
161:20,
161:24,
203:20,
214:17,
298:2,
298:12,
298:15,
299:5,
304:17,
343:19,
358:8,
359:25,
361:6, 361:8
adversely
22:18, $30: 3$,
69:2, 69:6,
70:5, 71:9,
76:17, 80:9,
81:19,
160:17,
160:24,
161:3, 161:9,
161:19,
163:5,
177:25,
183: 6,
331:16,
334:1,
357:21, 358:9
advice 196:11
advise 90:21
advocacy 81:9
Advocate 6:25,
6:28, 17:22
advocated 38:12
aerial 66:17,
156:20,
157:22,
174:8, 231:2,
231:3,
318:18, 319:6
aerially 25:7,
61:14, 66:5
aerials 353:2
aesthetic
12:14, 22:20,
34:12, 48:25,
82:7, 108:15,
296:20,
298:1,
298:25,
357:20, 358:9
affect 22:18,
30:4, 69:2,
69:6, 71:9,
$71: 12,76: 17$,
182:25,
183:3,
265:25,
321:23,
331:16,
334:1, 344:7, 345:1,

357:21, 358:9 affected 30:13, 160:24, 161:9,
161:19,
177:25,
183:6, 271:2, 285:19
affecting 29:17
affiliated
14:25
affiliates
270:20, 271:5
affirm 20:1
affirm. 20:4
afforded 332:18
Afternoon
155:10,
190:22,
222:20,
224:17,
224:18,
243:25,
244:1,
259:15,
268:12,
293:16, 335:1
age 159:2,
234:2
age/class 96:21
agencies 73:4,
77:15, 77:18, 84:6, 295:17, 296:4
agency 78:2,
78:4, 240:6, 256:19
agenda 18:21, 20:17, 55:19, 85:21
agent 331:9
ages 159:2
ago 138:19, 344:5
agree 34:23,
39:12, 93:11, 95:5, 108:17, 137:14, 156:9, 159:21,

167:22,
168:5,
191:16,
199:2, 211:8,
218:19,
226:19,
227:20,
242:23,
243:12,
248:24,
256:4, 257:9,
274:19,
349:11
agreeing 209:1
agreement
272:18
agricultural
167:23,
168:6,
168:12,
327:25,
328:7, 329:18
agriculture
168: 4
Ah 236:10,
244:25
ahead 28:13,
86:6, 89:8,
90:2, $90: 13$,
152:21,
152:24,
175:20,
215:6,
224:15,
258:24,
259:13,
274:20,
291:15,
293:8, 341:7, 361:22
al 172:6, 177:2
Alan 71:23
alerted 151:18
aligned 279:16
alignment
72:23, 72:25,
228:2,
314:13,
315:10
allocate 113:11
allocation
286:23
allotments
113:10
allotted 20:16, 113:14
allow 18:16, 60:25, 61:1,
101:6,
125:19,
127:12,
147:2, 147:3,
147:7,
152:21,
153:23,
164:7,
187:10,
188:1,
199:13,
214:3,
265:11,
265:16,
267:25,
274:20,
284:8,
287:11, 289:15
allowed 12:8,
63:21,
154:16,
156:12,
192:14,
194:9,
194:12,
232:5, 232:7,
248:18,
274:15,
290:3,
344:14,
345:11
allowing 25:11, 66:2
allows 174:9, 183:13, 243:1
almost 26:6,
53:4, 53:5,
55:1, 178:18, 276:25,
289:11, 303:2
Alna 10:23
alone 67:16
alongside 23:13
already 19:13,
51:20, 75:18,
96:19, 101:2,
101:3,
101:15,
102:2,
104:23,
116:19,
128:20,
129:6, 167:7,
171:24,
174:13,
186:4,
204:22,
204:24,
222:10,
233:18,
233:21,
264:4,
272:20,
274:22,
298:19,
306:8,
327:19, 331:3
alter 171:22,
174:2,
178:21, 179:9
alteration
35:1, 160:19,
161:5, 196:17
alternate 52:3
alternating
58:4, 59:2,
74:10,
268:18,
279:11,
279:15,
279:19,
279:21,
280:22
Alternative
22:2, 27:24,
34:25, 41:23,
48:6, 48:9,
50:1, 50:10,
50:14, 51:19,
66:21,
152:18,

154:10,
293:23,
293:24,
294:1, 294:8,
294:10,
294:12,
294:14,
294:22,
294:23,
295:6,
335:13,
335:16,
336:12,
345:23, $346: 2$ Alternatives

12:20, 21:25,
22:3, 22:9,
22:13, 42:1,
48:16, 49:9,
49:14, 51:17,
51:18, 51:23,
134:13,
152:19,
153:19,
247:19,
269:10,
276:9, 277:4, 293:21,
294:25,
295:2, 335:9,
335:12,
335:23,
336:8,
336:10,
336:11,
336:15,
336:20
Although 18:18, 75:10,
143:15,
227:17
Amanda 224:21
American 159:24
Among 183:1,
342:2, 345:25
amongst 134:22
amounts 83:16,
158:15
amphibians
188:16
analyses
299:24,
301:17,
339:13
analyst 258:15
analyze 87:24
analyzed 88:25, 206:18, 293:21
analyzing 36:13
and/or 17:1, 75:3, 250:20
Androscoggin
303:24,
329:20,
329:23
angle 291:1, 301:2, 307:20, 324:10, 333:1 angled 319:20 angler 218:4 Anglers 3:8, 17:10, 33:11, 33:16, 113:18
angles 67:3, 324:11
animal 163:4
Animals 188:15, 190:13
announcement 259: 4
annual 249:6, 251:5,
252:17, 258:9, 258:10, 285:24, 286:2
annually 251:18
Anson 10:23, 82:1, 302:6, 327:22, 329:16
answered 176:1, 176:11, 186:4, 222:9, 232:24, 274:22
answering 98:6, 98:14,

190:25,
344:12, $347: 5$
answers 125:4,
153:11,
221:5, 344:9
Anthony 3:29
anticipate
110:5, 110:9, 232:10
anticipated
61:18, 258:10
anticipates 258:10
Anybody 96:7, 190:25, 200:13, 336:17
anyway 217:1
anyways 55:14
apologize
134:5, 140:6,
214:20,
226:22,
227:23, 246:14
Appalachian
4:7, 4:26,
17:17, 32:14,
33:18, 37:12,
38:1, 40:10,
294:1,
294:15,
302:23,
303:20,
306:16,
318:7,
318:10,
318:13,
320:6,
354:19,
355:4, 355:5
apparent
165:22,
298:8, 302:9
apparently
148:12,
226:16
appear 169:13, 212:13, 215:18,

261:4, 262:25 appearance 49:22
appeared 297:8
appears 123:21,
175:7, 212:1, 262:3, 262:8, 263: 4
Appendix 306:1 apples 249:15,

249:25, 250:1
Appleton 11:6, 60:22
Appletown 70:15
applicable
78:15, 276:4, 299:9
applications
69:11, 71:15, 78:2, 171:2, 269:9
applicator 230:25
applied 68:17, 84:10, 230:13, 231:2, 231:4, 304:20
apply 39:11,
275:4, 304:15
appreciate
175:15,
242:22,
250:23,
361:24
appreciation
296:21,
298:17, 299:1, 304:3
approach 286:12
approached
47:18
approaching
192:25, 197:4
appropriate
20:11, 43:2,
79:18, 85:7,
114:1, 130:6,
135:25,
136:1, 146:8,

151:8, 191:1,
231:9,
256:20,
352:19
appropriated 106:24
appropriately 67:19
approval 21:19,
27:23, 68:18,
145:20,
228:16
approvals
59:17, 59:18
approve 49:18
approved 77:6,
90:23, 144:5,
258:11, 296:7
approximate
334:15
approximately
30:11, 37:16,
80:12, 80:22,
82:3, 84:15,
121:24,
122: 4,
127:24,
173:15,
176:16,
176:20,
177:16,
192:8,
194:15,
199:16,
218:2,
219:23,
220:14,
227:25,
231:19,
234:19,
299:21,
$310: 3,310: 5$,
311:20,
313:2,
313:13,
318:12,
319:15
April 14:5,
28:6, 68:2, 220:21
aquaculture 295:24
aquatic 41:4, 191:8, 191:10, 225:11, 225:12
Architect 295:10, 297:5
arduous 47:25
arguably 68:8
argued 351:7
arguing 100:16, 175:9
arguments 100:25
Army 14:13, 67:12, 84:2, 84:8, 85:1, 316:15
Arnold 303:23
arrangement
19:20, 48:5
Aside 37:22
asks 42:10
aspect 130:2
aspects 50:3,
108:22,
223:22, 300:2
assert 149:20
asserting 343:3
assertion
343:19
assess 35:8, 177:11, 335:7, 342:7
assessing 88:7, 88:11, 88:12, 146:6, 275:6, 276:8
Assessment 12:14, 40:22, 52:11, $87: 23$, 215:15,
216:4, 217:8, 296:13, 297:7, 297:17, 300:3, 300:11,

302:2,
304:13,
308:21,
335:11
Assessments
88:15,
295:14,
295:21
assessor 46:4
assets 294:3,
294:17
assigned
308:17,
308:21
assignment
357:3
Assistant 14:1
assisted 78:1
Associates 295:11
Association
36:8
assume 115:13,
126:2,
134:14,
140:7, 168:3,
272:9,
273:24,
286:7,
338:11,
341:16,
348:17
assumed 70:25,
167:6, 224:3
Assuming 34:25,
127:22,
128:25,
135:12,
135:24,
181:18,
181:24,
252:7, 254:2
assumption
128:1, 135:9,
137:15, 181:6
assumptions
241:24,
243:10,
272:22
assurance 48:2,

273:11,
273:13
assurances
273:18,
273:20
ATL 294:2,
294:16
Atlantic 77:17
attached
201:23,
202:3, 202:4, 205:1, 213:15
Attachment
195:1, 195:2,
195:8,
195:23,
205:9, 260:7,
260:14,
303:11
Attean 322:13, 346:14, 346:21
attempt 94:9, 98:3, 112:10, 116:11
attending 28:17
attention
29:13, 29:21,
32:4, 92:11,
93:23, 94:7,
179:19, 300:20
Attorney 1:28, 2:6, 2:14, 14:1, 14:9, 87:6, 221:3, 270:9
attracts 348:18
attributes
65:23,
206:17, 207:1, 207:3
ATV 45:23
Atwood 2:7, 2:15
Auburn 330:7
auditor 46:5
August 194:5
Augusta 3:33,
4:14, 4:21,

5:39, 6:30
author 296:12
Authority
13:14, 13:18, 46:17
available 13:2, 14:19, 19:14, 19:20, 74:8,
74:9, 121:4,
124:8,
128:13,
156:4, 169:5, 207:11,
225:20,
246:20,
258:14,
334:22,
336:20,
336:21,
350:25,
351:9,
351:15,
352:14
Avangrid 56:5, 293:18
average 112:14, 145:17, 176:20, 180:15, 181:10, 286:1, 286:6, 318:1, 318:2, 318:5, 322:24 aviation 24:10
avoidance 62:2,
67:16, 68:13,
69:9, 71:2,
80:1, 83:18,
108:25,
116:17,
214:10,
256:12,
275:20
avoided 22:9,
51:24, 62:19,
63:1, 65:19,
67:18, 72:16, 79:19, 108:23 avoiding 22:25, 23:7, 23:12,


63:4, 65:24,
108.21

108:24, 214:6
avoids 85:14
awards 78:21
aware 20:15,
94:1, 95:12,
95:20, 96:3,
101:14,
106:23,
107:13,
109:17,
109:22,
110:20,
122:5
145:15,
159:14,
159:15,
159:23,
174:18,
174:22,
174:25,
200:3, 259:5,
267:5,
267:10,
267:16,
268:4, 268:8,
277: 6,
348:12
348:12,
348:17
31:15, 41:13,
52:19, 89:19,
102:8,
233:25,
290:12,
312:3,
312:20,
312:21,
313:13,
14.1,

321:20,
322:19,
322:22,
346:25
$<\mathrm{B}>$
B. 6:9, 333:1
backbone 333:22
backdrop
310:14,
317:20
background 302:20, 305:22, 312:6
backpack 230:13
badger 222:11
badgering 222:13
Baker 320:25
balance 50:20, 258: 4
balanced 258:1
balancing 50:3, 255:24, 339:9
Bald 11:6, 302:22,
318:15,
321:6,
321:10, 321:24
ballpark 149:14
balls 316:13,
316:15, 316:18
Bangor 16:21, 19:21
Bank 197:21, 198:1, 198:11, 205:24, 209:13, 209:17, 243:5
banks 209:16, 290:12
barely 308:2
Barkley 7:9, 17:23
barn 100:3, 101:2
barrier 76:15
Barry 6:27
barry.hobbins@m aine.gov 6:32
base 52:18, 180:9,

180:16, 181:6 baseline 182:10 basically 48:11, 86:3, 171:23, 181:5, 226:16, 259:25, 310:20, 322:23
basin 32:3,
80:23, 82:16, 216:20, 218:22
basins 72:3
basis 121:18,
153: 4,
162:15,
162:24
178:24,
179:11,
238:22,
239:11,
241:15,
252:17, 286:2, 286:19, 337:16, 337:19
Baskahegan
343:24,
344:1, 347:8, 348:3, 348:8, 349:15
Bass 5:36
bathroom 322:18
battery 152:10, 244:20, 245:10
BCM 3:15, 7:15
Bear 87:2,
87:7, 224:19,
226:12, 238:8
Beattie 11:6, 24:3, 38:4, 157:19, 260:20, 306:23, 307:1, 307:3, 307:4, 307:5
beautiful

$$
32: 23, \quad 40: 8
$$

Beaver 191:22
became 332:5
become 43:17, 165:1
becomes 200:23
becoming 166:1, 330: 3
began 47:17,
48:7, 130:24
begin 18:9, 18:11, 60:8, 112:15
beginning 21:5, 109:1,
112:16, 114:10, 119:10, 317:1
begins 14:10, 119:19, 271:11
behalf 44:16, 49:8, 54:3, 54:6, 54:14, 54:19, 55:11, 152:25, 153:9, 259:16, 268:13, 293:18
behind 305:14, 307:23, 333:5
belabor 140:3
belief 134:22, 173:6, 248:14, 267:8
believed
138:20, 151:3
Beliveau 3:30, 3:38, 5:11
bells 342:23
belong 33:23
beloved 361:11
below 52:14, 66:5, 81:25, 328:24
Ben 44:15, 45:21, 259:15
bend 316:2,

316:3,
325:15, $326: 9$
beneath 24:7,
65:24, 66:16, 232: 4
benefit 102:3, 102:5, 130:13, 130:15, 161:7, 214:8
benefits 48:3, 50:6, 50:10, 50:19, 51:13, 56:25, 120:5, 120:7,
121:19,
128:15,
130:14,
160:19,
160:21,
161:5, 164:3,
165:23,
165:24,
216:16,
217:19,
219:12,
238:25,
239:16,
287:6, 288:1, 338:25
Benjamin 3:37, 5:35, 35:23
benjamin.smith@ soltanbass.co m 5:41
Benji 150:2
Benthic 203:5
BERUBE 9:11, 293:16, 293:17,
335:4, 335:6,
335:10,
335:14,
335:18,
335:21,
335:24,
336:3, 336:6,
336:16,
336:23,
337:1, 337:8,

337:14,
337:22,
338:1, 338:6, 338:10
best 28:11,
31:24, 68:13,
69:10,
103:10,
120:6, 222:2,
222: 9,
229:14,
230:21,
236:7,
275:20,
280:4,
285:14,
324:11,
340:16
Better 103:1,
104:4, 105:8,
134:13,
144:10,
156:11,
211:20,
221:16,
229:21,
241:3, 244:7,
280:20, 281:6
Beyond 98:2,
236:24,
266:25,
272:19,
272:21,
291:9, 292:5, 302:21,
312:6, 347:2
bid 129:23,
131:4, 224:2, 248:17, 254:12, 255:7, 269:20, 270:8, 270:11,
271:3, 272:8, 272:9,
272:16,
272:20,
272:23,
273:6, 279:8,

286:15
bidders 269:25
bidding 286:10
bids 246:2
big 172:12,
292:13,
322:16,
334:12
Bigelow 171:7,
294:18
bigger 200:9,
233:24,
268:20,
269:1, 316:20
biggest 171:14, 267:5, 316:7, 329:22
biking 332:9
billion 127:24, 129:5
Bingham 58:23, 326:24
biodiversity 29:18, 44:3
biomass 211:1, 211:20
Biotic 203:5
bird 38:2,
85:3, 85:9, 169:1
birding 332:10
bisect 37:18
bisecting 40:20
BK 217:25
BKP 11:11,
11:13, 217:25
black 58:20, 304:23
blank 213:21
blend 310:14, 313:21, 317:20
blessed 33:24
block 18:24, 37:19, 41:4, 43:22, 95:18, 95:21, 96:17, 113:11,
260:2, 261:1, 262:7,

262:18, 320:19, $356: 1$
blocks 95:14, 96:4, 96:5, 96:18, $96: 20$, 155:10, 322:20
blow-up 306:21
blowup 319:18
blue 15:9,
15:10,
226:12,
259:10,
318:8, 318:23, 322:7
Board 45:3,
45:15, 45:16, 45:17, 297:8
boat 53:11, 309:2, 317:10, 349:20
boater 331:23
boaters 40:7, 53:6, 53:9, 53:11
boating 332:10
Bob 2:32,
86:21, 87:3
Bob. haynes@myfa irpoint.net 2:37
bodies 39:19, 70:14
body 32:16, 38:23, 39:17
boepple@nhlandl aw.com 3:19, 7:19
Bog 303:16
Border 10:15, 22:6, 22:7, 23:2, 37:2, 47:5, 58:17, 58:19, 59:10, 73:20, 76:5, 93:2, 112:19, 114:20, 157:19, 168:18,

245:16,
307:2, 307:4, 322:4, 322:5, 332: 3
bordered 205:19
borders 42:18
borne 270:19,
272:21,
272:23
BOROWSKI 3:37, 8:23, 35:23, 150:1, 150:2, 150:11, 150:24, 151:24, 152:5, 152:12, 152:17, 152:23, 153:7, 153:15, 153:24, 154:5, 154:9, 154:14, 154:17, 154:25, 155:3, 155:15, 155:19
bottom 57:5, 103: 8, 113:12, 266:7, 286:11
bounce 227:8
Bouncing 228:7
Bound 45:25
boundaries 11:13
Boundary 2:27, 17:8, 29:5, 29:9, 87:5, 91:15
Box 3:32, 3:40,
4:27, 5:13,
5:38
boxes 266:9
Bradley 157:2
Bradstreet 11:7, 150:18
Branch 66:7,


59:20, 201:25, 202:11, 213:14, 267:17, 305:8 bringing 100:20, 301:10, 301:11
brings 92:25, 243:20, 348:20
broad 139:10, 156:21, 242:2
broadcast 230:13
broadcasting 230:23
broaden 280:4
broadly 299:3
Brookfield 5:6, 48:5
Brooks 70:24
Brotherhood 3:23, 17:13, 36:3
brought 186:11, 259:17, 260:5
brown 301:3,
310:13, 312:15
Brunswick 5:28
buffer 12:19,
24:15, 34:22, 60:12, 64:3,
64:24, 70:1, 76:22, 76:23, 77:3, 77:12, 82:12, 108:3, 110:17, 110:25, 111:17, 184:23, 192:7, 196:23, 197:15, 198:5, 199:10, 214:4, 214:7, 307:7, 316:9,

316:11, 339:18, 355:13, 355:16 buffering

12:14, 267:23
build 56:9,
91:10,
223:23,
272:11, 286:9
building
102:24,
103:1,
104:13,
105:5, 139:2, 223:9
built 91:7,
99:4, 103:19, 105:6, 106:22, 121:12, 121:13, 134:11, 135:12, 137:13, 143:15, 183:17, 243:10, 328:19, 347:10
bullet 57:5,
57:12, 57:14, 57:19
bunch 150:15
burden 34:24,
35:12, 50:18
BUREAU 1:30
bureaucrats
106:6
burial 266:10
buried 44:5,
122:5,
122:10,
127:25,
129:7, 154:6,
154:10,
266:3, 287:8
Burns 67:23,
68:3, 70:9,
78:1, 275:3,

276:11,
276:22,
277:22
burying 41:25,
52:1, 278:17, 285:19, 287:5
bus 93:7
Business 19:21,
32:7, 33:20,
45:17, 56:4, 247:14
businesses
47:12, 286:24
button 15:9, 259:10
Buxton 3:29, 35:20, 35:21, 126:9,
126:15,
146:13,
149:18
Buzzell 7:7,
8:12, 17:22, 50:24, 54:4, 54:13, 55:8, 55:10, 55:11, 55:13, 113:20
Bypass 107:6
Byway 2:33, 29:3, 29:7, $30: 14, \quad 30: 21$, 30:25, 107:6, 304:6, 322:2, 322:3, 322:4, 322:11, 325:19,
326:2, 326:3, 326:25,
327:7,
327:17,
348:14,
348:20,
348:25,
349:6, $349: 8$,
349:10,
349:13,
350:1, 361:11
< C >

C-1 120:9
C. 260:7

Cabins 45:22,
313:7
calculate 181:14, 262:1
calculated 85:5, 85:7, 151:3, 158:25
calculates 252: 9
calculation 180:16, 181:22
calculus 230:5
call 10:2, 102:22, 113:7, 215:6, 247:16, 268:11, 286:17, 293:9, 307:22
called 38:21, 87:4, 99:1, 142:4, 143:4, 143:25, 252:8, 281:9, 331: 6
calling 92:11
calls 29:21
camp 46:14,
53:15,
165:11, 307:9
camps 309:4, 317:7
campsites 309:3
Campus 1:23
Canada 2:29,
2:33, 10:21,
17:9, 29:2, 29:6, 30:17,
30:21, 31:22,
$32: 1,32: 6$,
51:10, 51:14, 52:2, 107:3, 107:5,
107:16,
107:25,
111:25,
112: 4,

112: 18,
300:21,
322:2, $361: 10$
Canadian 22:5,
22:7, 23:2,
76:5, 93:2,
152:7,
157:19, 168:18, 307:2, 322:4, $322: 5,332: 3$
candor 242:23
canoe 53:15
canopy 25:12, 43:16, 51:6, 70:23, 77:19, 82:15, 194:8, 194:11, 197:5, 197:8, 197:25, 202:22, 203:3, 203:9, 203:13, 205:17, 282:18
capable 184:25, 185:10, 185:12, 185:14, 185:16, 192:22, 192:24, 194:12, 194:21
capacity 246:9, 246:10, 266:1
Capital 130:1,
130:6,
130:10,
247:10,
251:3, 251:9, 251:18, 252:15, 285:23, 286:2, 286:4, 286:6, 286:16, 286:19, 286:21, 286:22,

314:12,
314:14,
314:18,
314:20,
315:10,
324:19
Caratunk 10:23, 17:10,
32:12, 32:13,
32:17, 33:1,
33:19, 45:22,
45:24, 46:6,
113:18,
331:25
care 169:13,
313:15, 360:24
cared 361:2
career 45:18, 87:18
careful 62:3
carefully
21:21, 22:21,
23:22, 36:13,
302:24,
332:23
Carpenter 7:9, 17:23
Carrabassett
44:22, 47:9, 66:6, 81:25, 327:22
Carrie 7:9,
17:22
carry-in 309:2
carrying
252:19,
285:16,
285:22
Caruso 8:6,
32:10, 32:11
case 14:14,
48:5, 74:14,
78:14,
135:21,
137:11,
213:12,
263:19,
301:18,
317:15,

340:17
cases 163:21
cash 130:8
catching 33:13
categories
242: 4
category 115:9, 303:14
catering 33:5
Cathy 4:18, 341:13
cause 34:5, 37:15, 75:8, 100:23, 166:18, 166:24, 183:9
caused 29:14, 30:24, 31:19, 51:25, 93:23, 104:10
causes 72:9
causing 90:10
caveats 125:18
cell 15:18
Center 3:39,
5:12, 110:15, 110:23,
301:19,
319:11
centered 177:16
Central 1:7, 2:4, 10:8, 21:8, 21:10, 31:5, 58:7, 59:23, 60:4, 73:22, 138:19, 293:18, 300:13
certain 92:3, 102:14, 102:16, 109:21, 111:23, 112:23, 148:12,
255:8, 275:4, 282:11,
282:23,
286:7, 291:2,

351:25
Certainly
33:23, 88:9,
116:24,
156:6,
211:25,
225:24,
225:25,
239:6, 239:9,
253:5,
256:19,
285:2, 304:6,
321:23,
348:11,
349:17,
359:16
Certification
1:12, 10:11, 11:21
certify 149:7, 363:4
cetera 322:17
chain 31:8
Chair 98:1
Chairman 38:14
challenge
153:2, 153:4
challenges 136:25
Chamber 3:25, 3:26, 17:14, 17:15, 36:3, 36:4, 46:12
chance 149:9, 209:23, 341:21
change 43:14, 74:12, 97:21, 104:1, 228:15, 267:8, 298:5, 298:9,
309:12,
310:10,
313:24,
314:23,
314:24,
316:7, 317:7, 321:16, 340:8
changed 126:2,

127:1,
138:22,
351:23
changes 103:25,
134:16,
139:11,
157:5,
272:19,
272:21,
273:3, 273:5,
286:16,
346:23
changing 97:1,
97:5, 110:8
channel 200:20,
200:22,
201:2, 201:5
Chapter 16:6,
17:1, 108:12,
297:21,
297:22,
298:14,
298:22,
299:22,
302:3, 303:6,
304:14, 306:1
character
12:12, 22:17,
22:19, 30:4,
$32: 5,33: 25$,
34:12, 39:25,
40:2, 40:5,
49:14, 49:21,
297:23,
298:11,
298:22,
299:6, 348:7,
348:19,
348:22,
348:24,
357:21,
358:10,
360:25, 361:3
characterizatio
n 343:22,
359:7
Characterizatio ns 73:15,
73:16, 259:24
characterize

261:14, 262:19
characterized 196:20
charge 252:8, 252:18, 252:19, 285:22, 286:9
charitable 45:5
chart 125:3
cheaper 253:21
check 155:15, 249:11, 306:20, 329:9
chemical 229:1, 230:3
chemicals 229:18
cherry 166:12
Chesterville 10:24
children 137:1
choice 332:19
choices 112:22
choose 113:12, 230:6, 241:3, 279:5
choosing 23:1
chose 51:23, 307:14, 317:11, 351:2
chosen 22:14, 85:3, 121:10, 347:10
Chris 47:5, 131:24, 153:1
Christopher 46:11, 47:8, 47:12, 48:21
Circle 3:31
circles 180:11
circling 234:16
circular 181:15, 181:25
circumstance 270:25
circumstances 156:2
cite 201:17,

204:9,
219:11, 220:2
cited 131:20,
167:6, 172:5,
177:2, 187:3, 206:14
citizen 87:7
City 3:22,
3:39, 5:12,
17:13, 36:2
civil 241:17
civilization
37:5
claim 95:9,
102:21,
332:14,
332:17
claiming 103:24
claims 45:2,
107: 6
clarification
150:3, 151:25
clarify 85:21,
175:25,
195:13,
221:5,
221:19, 337:14
clarity 55:7
Class 38:4, 159:2, 234:2, 307: 6
Clean 1:8, 10:5, 10:18, 21:15, 27:22, 28:1, 37:1, 56:9, 56:16, 68:1, 78:5, 83:11,
119:24, 120:13, 120:16, 129:12, 245:3, 293:19, 296:9, 297:16 cleanest 32:15 clear 37:17, 39:18, 41:13, 57:7, 83:9,


96:1, 96:13,
103:5, 143:9,
150:24,
174:12,
186:5,
198:11,
205:8, 210:1,
229:19,
254:23,
270:23,
270:24,
271:25,
280:19,
283:8, 285:5,
51:18
clearance 283:4
教

172
176:18,
180:15,
181:2, 181:8,
181:10,
189:25,
197:20,
198:1, 198:6,
198:7,
198:10,
261:21,

$$
200 \cdot 0,200.4
$$

Clearcuts 63:9,
73:23, 110:8,
162:22,
172:11,
172:16,
180:6,
180:13,
180:22,
180:25,
181:15,
181:25,
182:5, 189:7,
189:10,
189:19,
189:23,
190:14,
311:16
clearcutting
173: 8,
173:12,
173:14,
176:4, 176:8,
176:23,
179:22, 182:7
cleared 73:19,
74:23, 233:3,
233:14,
261:24,
262:25,
265:9, 266:4,
266:21,
283:19,
342:21,
355:17
clearings 96:21
clearly 14:25,
148:18,
149:21,
149:22,
183:17,
186:7,
214:16,
253:20,
254:12,
337:23
Clement 14:13
client 42:18,
42:21, 42:25,
90:13, 90:16, 90:21, 90:25
clients 33:12,
87:13, 87:23
climate 43:14,
228:11,
228:15, 267:8
close 24:3,
45:16, 72:20,
94:11, 94:15,
116:12,
116:19,
117:14,
172:21,
209:9,
218:21,
232:16,
250:23,
289:12
closed 100:3, 163:7, 342:3, 342:7,
342:25,
357:22
closely 31:2, 60:19,
178:11, 299:18, 300:13
closer 28:22, 58:14, 79:6, 94:18, 318:5, 339:15, 339:16
closest 22:5, 312:2, 312:20, 319:13, 322:20, $347: 1$
closing 20:14, 362:2
closure 196:21, 197:3, 197:5, 197:25
Cloud 350:24
Club 4:7, 4:26, 17:17, 37:12, 45:24, 46:5
clusters 157:15, 157:18, 157:24, 158:2
clutch 279:17,
279:19,
279:22
CMP-3-F 283:18
CMP-3.1A 72:22, 94:13
CMP-3.1B 72:22
Cmp/avangrid 254:21
co-founder 46:7
co-locate 47:23
co-located 66:18, 75:20, 93:1, 281:1, 301:5, 301:9, 317:1, 318:8, 320:6, 322:8,

326:5,
327:23, 357:6
co-locating
23:5, 25:17,
72:18, 82:10,
83:1, 92:23,
92:24, 235:22
Co-location
75:16
co-owner 46:23
coarse 188:13, 188:17
Coburn 23:20,
24:18, 27:3,
32:2, 52:18,
53:13,
107:14,
107:18,
237:8,
237:22,
250:5, 250:7,
257:10,
277:14,
302:16,
304:5,
306:24,
311:2, 311:5,
311:14,
312:1, 313:6,
313:11,
323:14,
323:15,
330:25,
339:25,
340:1,
340:23, 361:9
Coburn/johnson
253:8
Coffee 16:1,
16:2
Coleman 46:25
collaboration
332:23
colleague 67:22
collect 20:23
collection
306:15
collectively
67:13
colon 220:12
color 298:10, 301:3, 312:15 column 128:12, 128:13
combination 120:7, 352:9
combinations 152:3
combined 71:3
comes 102:16, 229:20, 232:9, 243:9, 307:11, 315:18, 344:21
comfortable 190:25
coming 87:9, 122:15, 267:15, 282:25, 287:25, 304:22, 310:24, 314:12, 319:22, 336:19, 350:25
comitted 45:4, 81:8, 82:12, 254:25
comma 226:21
commencing 1:24
comment 36:6, 53:25, 308:16, 344:2, 359:18
commented 344:6, 347:19
comments 13:6, 54:9, 95:6, 227:3, 297:13
Commerce 3:25, 3:26, 17:15, 36:3, 36:5, 46:12
Commercial 2:9, 2:17, 53:4, 104:5, 105:14,

112:11,
114:15,
114:17,
114:24,
115:19,
134:23,
174:21,
312:10,
324:20,
324:23,
325:4, 325:6, 360:10
Commission 1:4, 10:5, 10:11, 11:21, 11:22, 11:23, 12:5,
12:7, 14:9,
18:3, 19:2,
19:8, 19:9,
20:19, 38:5,
38:12, 53:19, 345:13,
362:7, 363:15
Commissioner
1:27, 13:12,
13:19, 13:23, 16:13, 16:16, 47:4, 149:19
commit 272:17
commitment
78:24,
240:22,
279:23
commitments
71:16
committee
126:4, 126:7
common 124:22, 226:9, 226:13
Communications 14:7
communities
38:11, 39:16, 45:19, 130:4, 150:16
community
45:17,
150:14,
238:7, 331:20
compaction


56:18,
115:16, 295:16 Company 2:4,

31:5, 46:20, 47:2, 59:23, 60:4, 67:24, 142:4, 142:5, 151:11, 151:15, 223:14, 248:20, 254:24, 276:25, 277:1, 300:13,
331:6, 331:13
COMPANY'S 1:7
compare 104:9,
104:15,
126:17,
172:13,
263.12

285:19,
349:19
compared
185:20,
210:23,
254:18,
337:19
Comparing
74:15,
102:23,
103:17,
116:22,
128.1,

212:9,
254:10, 255:9
comparison
104:21,
105:1,
105:18,
117:2,
125:3,

245:23,
249:16,
250:16
compatible
24:1, 197:13
compensate
21:23, 26:4,
27:19, 42:6,
44:1, 61:7,
64:6, 65:6,
67:2, 67:15,
80:15, 85:4,
109:4, 150:7,
150:25,
151:23,
275:15, 276:8
compensated
29:18, 65:19, 67:19
compensating 256:16
competing
120:21, 267:13, 268:7
competitive 30:18, 270:6
competitors
211:19,
211:22
compilation
124:4, 124:11
complete 41:16,
241:10,
304:9, 351:2, 351:11
completed 14:20, 128:11, 305:6
completely
74:17,
105:16,
126:21, 352:6
completing 31:3
completion
18:20, 331:15
COMPLIANCE 1:29
complicated 279:3
component 141:13,

143:8, 201:7, 273:11, 276:1 components

27:17, 29:9, 147:18, 279:10, 329:21, 337:24
composed 36:1, 206:1
composition 40:16
comprehensive 81:15, 85:17, 183:1
comprise 261:24
comprised 261:21
comprising 259:25
compromise
95:15, 96:5, 112:20
compromised 41:17
computer 14:4
computerized 299:24, 353:7
concedes 38:7
concept 100:8, 264:17, 301:25
concepts 105:16
concern 25:14, 31:19, 31:22, 42:23, 60:21, 69:24, 178:16, 186:9, 186:13, 226:11, 237:3, 290:2, 292:11, 292:13, 292:19, 354:10, 359:17
concerned 37:16, 37:21, 43:18,


178:14, oncerning
246:20,
246:21
concerns 29:25,
39:24, 65:18,
107:3,
236:13,
291:21,
291:25,
331:15,
353:15
concise 20:17
conclude 85:11,
162:24,
203:14,
203:17,
204:3, 211:18
concluded 55:2,
71:25,
357:16,
359:21
concludes
178:20,
179:7, 296:15
conclusion
69:5, 173:18,
189:21,
211:24,
257:19,
296:18,
333:25,
336:20,
341:25,
353:24,
354:4, 354:6,
354:7,
357:22,
358:5,
359:23,
360:19, 361:7
conclusions
297:11
Concord 3:17,
concrete 109:24 condition

71:22,
104:11,
185:20,
187:25,
198:3,
202:22,
266:12, 281:9
conditional
108:9
Conduct 12:1, 13:14, 16:7, 20:6, 20:10, 158:22, 169:24
conducted
11:22, 70:11,
83:17, 345:16
conductor
185:17,
192:25,
230:16,
232:3, 232:4,
232: 6,
232:11,
232:17,
233:19
conductors
23:25, 24:10,
188:23,
281:2,
302:10,
310:17,
310:19,
310:25,
314:25,
316:12,
317:21,
317:25,
325:13,
325:17,
330:23,
342:23
conferences
16:10, 155:25
confess 201:20
confirmed
70:14, 70:25
conflates 40:24
conflict
108:11,

108:16, 108:18
confusion 119:8
congratulate 37:3
conjunction 124: 6
Connect 1:8, 10:6, 10:18, 21:15, 22:8, 27:22, 56:9, 68:2, 78:5, 120:17, 145:23, 244:13, 245:3, 245:19, 279:15, 293:19, 296:9, 297:16, 349:7
connected
43:24, 75:2, 190:7, 248:12
connecting 141:10, 310:18
connection 146:23
connectivity 40:18, 43:13, 73:1, 73:7, 81:13, 95:11, 99:25, 183:13, 185:24, 186:17, 190:10, 191:4, 191:17, 240:23
connectors 310:18
connects 301:13
consequence 177:9
consequences 29:15, 29:17
Conservancy 5:20, 5:25,

17:19, 43:7, 43:8, 43:11,
224:21,
236:14, 241:6 Conservation

5:21, 17:19, 25:13, 30:10,
43:8, 44:20,
60:24, 61:1,
67:9, 78:18,
78:20, 79:1,
126:13,
126:25,
136:21,
224:23,
227:1, 239:3,
240:11,
243:20,
243:24,
294:4,
295:15,
337:9, 338:2,
338:7, 338:8
conservative
316:18
conserve 44:10
Conserved 27:9,
59:14, 138:17
consider 20:22,
49:13, 52:1,
130:7, 133:8,
168:20,
170:11,
170:15,
235:22,
236:15,
236:25,
237:4, 278:3,
297:24,
299:8,
301:25, $346: 1$
considerable
82:3, 301:21,
351:20
consideration
12:4, 22:4,
28:4, 55:17,
133:17,
239:2,
240:10,

246:22,
247:5, 295:8,
302: 4,
339:20,
346:3, 346:8
considerations
157:8
considered
43:3, 49:10,
50:14, 75:11,
101:25,
110:12,
110:21,
111:14,
159:24,
159:25,
165:19,
196:23,
235:12,
235:24,
236:2,
248:13,
253:14,
262:6,
264:15,
278:17,
289:1, 298:7,
298:12,
303:10,
336:11,
345:23
considering
42:1, 235:18, 254:9
considers 158:9
consisted 176:4
consistent
40:1, 199:12,
232: 6
consisting
37:11
consists 29:5, 33:10, 67:12, 173:7, 173:12
consolidated 327:18
constantly 97:1, 97:5, 174:10
constitute

72:1, 358:7
constituted 77:19
constitutes 301:15
constraints
20:16, 236:4
construct
278:18, 282:20, 284:4 constructed

64:5, 114:12,
114:14,
140:15,
148:7, 152:7,
164:12, 248:9
consulatancy 153: 8
consult 282:21
consultant 90:24
consultation
64:17, 65:15, 70:21, 78:3, 150:19, 195:6, 343:10, 346:22
consulted
76:24, 178:11
consulting
68:4, 283:6
Consumer 3:21, 17:12, 35:22, 36:2, 126:16, 146:14, 149:19, 150:3 consuming 48:1
cont. 3:2, 4:2, $5: 2,6: 2,7: 2$
contact 331:13
contain 78:10,
78:17, 84:16, 161:20, 177:24, 282:15
contained 149:11, 302:3
containerized 151:17

continued 134:23, 256:2, 358:25, 362:13
continues 139:21, 240:25, 255:5
Continuing 110:8, 137:22, 168:24
continuous 31:13, 190:14
continuously 168:14
continuum 302:12, 302:20
contractor 241:17, 241:18
contractors 230:20
contracts 56:15
contradict 169:13
Contrary 45:2
contrast 298:10, 300:6
contributed 198:17
contribution 71:3, 80:25, 81:1, 201:11, 240:20
contributions 78:13
Control 58:7, 59:12, 62:16, 71:13, 71:14, 77:10, 80:6, 110:2, 110:4
controlled 81:5, 114:15
controller 47:10
controls 80:5
conversation 222:1, 224:9
conversations 15:8, 136:14, 256:2, 259:8
Conversely 160:19
Conversion 81:18, 83:24, 84:1, 84:24, 158:18, 158:19, 160:14, 160:15, 161:3, 161:9, 161:21, 163:19, 280:3
convert 163:17
converter 10:15, 59:1, 280:6
converters 280:5
converting 279:19
convinces 36:17
cooperating 81:9
cooperation 31: 4
Coopers 301:13
coordinator 29:2
Copies 14:18, 18:8, 123:3, 123:5, 127:21, 147:13, 164:16, 201:24, 205:3, 215:20
copy 12:23, 18:21, 19:15, 164:15
core 29:15, 43:22
corner 307:13, 308:12, 309:5
Cornville 46:15
Corporation
17:20, 44:17, 44:18, 47:7,


47:11
Corps 14:13, 67:12, 84:2, 84:8, 85:1, 316:15 orrection 192:19
correctly 176:2, 176:12, 202:10, 210:22, 246:19, 281:24, 335:5
correlation 203:3
corresponding 158:11, 160:23
corrugated 242:9
cost-effective 257:8, 257:23
costing 251:9
costs 27:5,
27:8, 50:18,
120:5,
128:22,
130:3,
223:25,
238:25,
239:15,
251:3,
270:18,
285:16,
286:3,
286:22,
295:5, 337:10
Council 4:6,
4:12, 4:19,
4:33, 17:16, 37:13, 341:15
counsel 14:1,
18:17, 150:2
count 302:9
ounties 176:14, 176:21, 241:24
countless 332:4
country 30:16,
32:20, 33:13, 33:17
County 47:4, 167:19, 168:7, 168:11, 168:20, 168:22, $344: 2$
couple 15:20, 106:4,
123:18,
127:4,
131:17,
134:1,
214:19,
221:1, 221:5,
222:19,
264:18,
278:9,
289:20,
304:19,
309:21,
327:8, 335:3, 347:20
course 19:14, 31:9, 87:18, 136:1,
201:13, 298:18, 299:23, 303:19, 305:1
Court 1:21, 14:20, 363:2, 363:13
cover 43:17, 63:22, 74:13, 75:3, 102:15, 104:2, 158:7, 162:21, 172:9, 190:14, 200:5, 200:18, 203:4, 203:9, 203:13, 209:13, 225:19, 306:4,

312:14, 350:10, 350:13, 350:23, 351:2
coverage
237:15, 237:16, 237:17, 237:19, 273:25
covers 69:17
cows 100:4, 101:2
Crabapple 46:19
crane 61:24
create 24:13,
43:24, 74:11, 90:10, 96:18, 102:22, 103:18, 103:25, 111:22, 162:6, 172:3, 281:20
created 154:18, 179:17, 179:22, 180:3, 180:7, 182:19, 189:7, 189:19, 190:8, 231:23
creates 332:21, 342:2
creating 25:20, 30:22, 63:20, 104:4,
231:14, 280:3
creation 41:10, 66:20, 234:12
credibility 146:6, 146:7, 146:22, 152:19, 153:2, 153:4, 153:20
credible 146:11
crew 232:9
crews 230:24
crisis 134:18

| $\begin{gathered} \text { criteria 12:4, } \\ \text { 12:6, 12:12, } \end{gathered}$ |  |
| :---: | :---: |
|  |  |
|  | 12:23, 13:5 |
| 13:7, 20:18, |  |
|  | 21:19, 27:23 |
| 35:13, 39:8, |  |
| 39:10, |  |
|  | 108:25, |
| 145:20, |  |
| 147:6, 147:9, |  |
|  | 228:16, |
| $\begin{aligned} & 296: 14, \\ & 297: 3, \\ & 297: 15, \quad 299: 9 \end{aligned}$ |  |
|  |  |
|  |  |
| critical 32:5, |  |
|  | 39:22, 41:19, |
|  | 73:2, 75 |
|  | 87:24, 139:22 |
| critically |  |
|  | 41:21 |
| criticism |  |
|  | 353:19 |
| criticisms |  |
|  | 45:8, 45:15 |
| criticized |  |
|  | 354:14 |
| Cross 24:7, |  |
|  | 28:18, 51:12, |
|  | 63:23, 64:15 |
|  | 82:4, 127:9, |
|  | 127:17, |
|  | 155:7, |
|  | 167:14, |
|  | 167:15, |
|  | 204:15, |
|  | 215:7, 267 |
|  | 318:25, |
|  | 320:24, |
|  | 324:9, 32 |
|  | 329:3 |
| ross-examinati |  |
| on 18:13, |  |
|  | 18:20, 86:7, |
| 86:13, 86:19, |  |
| 87:6, 109:16, |  |
|  | 113:2, 113:4, |
| 113:10, |  |
| 146:19, |  |
|  | 149:7, 155:8, |
|  | 155:9 |

criteria 12:4,
12:6, 12:12,
12:23, 13:5,
13:7, 20:18,
21:19, 27:23,
35:13, 39:8,
39:10,
108:25,
145:20,
147:6, 147:9,
228:16,
296:14,
297:3,
297:15, 299:9
critical 32:5,
39:22, 41:19,
73:2, 75:1,
87:24, 139:22
critically
41:21
criticism
353:19
criticisms
45:8, 45:15
criticized
354:14
Cross 24:7,
28:18, 51:12,
63:23, 64:15,
82:4, 127:9,
127:17,
155:7,
167:14,
167:15,
204:15,
215:7, 267:4,
318:25,
320:24,
324:9, 326:1,
329:3
ross-examinati
on 18:13,
18:20, 86:7,
86:13, 86:19,
87:6, 109:16,
113:2, 113:4,
113:10,
146:19,
155: 9,

175:22,
259:14,
334:21, 345:7
cross-examine
86:15,
124:14,
125:8, 156:1
cross-examined
251:20
cross-examining
14:24
cross-section 236:23, 309:25
crossed 25:4, 25:7, 61:11,
61:14, 65:21,
66:4, 66:7,
325:22, 358:1
crosses 23:15,
50:8, 81:22,
107:25,
294:2,
294:16,
318:16,
318:21,
354:19,
355:5, 357:4
crossings
26:14, 41:9,
66:18, 66:20,
80:3, 294:20, 305:23,
306:18,
356:5, 356:6, 356:13
crowd 348:10
crown 196:21, 197:3
crux 298:3
cultural 22:11
culvert 61:19,
65:8, 78:24,
81:4, 81:10,
201:10,
240:25,
241:4, 241:6,
241:15,
242:3,
242:17,

242:18, 314:19
culverts 26:9, 64:10, 81:7, 240:18, 240:21, 240:24, 241:20, 241:21, 241:25, 242:5, 242:19, 242:25, 243:4, 243:8
Cumberland
10:24, 58:9
curious 121:22
current 10:13,
45:15, 45:16,
58:3, 58:5,
58:16, 59:2,
74:9, 74:10,
123:12,
151:23,
258:11,
268:18,
269:5,
279:11,
279:15,
279:18,
279:20,
279:21,
280:23,
285:20
currently 46:5,
46:17, 48:4,
76:8, 104:18,
137:19,
179:15,
227:12,
232:2, 256:7,
257:12,
257:13,
267:11, 268:5
cursory 40:23
curve 232:6
customers
31:24, 56:25, 255:20,
272:23, 273:8

| $\begin{gathered} \text { cut 41:13, } \\ 109: 23, \end{gathered}$ |
| :---: |
| 116:23, |
| 184:25, |
| 192:15, |
| 194:18, |
| 199:21, |
| 231:25, |
| 232:12, |
| 232:14, |
| 233:12, |
| 262:24, |
| 263:3, |
| 282:19, |
| 282:24, |
| 284:3, 284:11 |
| cuts 63:9, |
| 73:23, 110:8, |
| 261:3, 262:9, |
| 263:20, |
| 311:17 |
| cutting 32:1, |
| 51:5, 52:20, |
| 86:5, 115:3, |
| 115:4, 117:9, |
| 117:18, |
| 261:11, |
| 312:24, |
| 344:11, |
| 351:21 |
| cycle 63:9, |
| 192:21, |
| 192:24, |
| 232:12 |
| $\begin{aligned} & \text { cycles } 40: 22, \\ & 76: 17 \end{aligned}$ |

< D >
D. 2:6, 5:10

Daily 16:21
Dam 47:24,
66:6, 81:25, 304:1, 326:6, 326:15, 328:24, 328:25,
329:7, 360:8, 360:12, 360:17,

360:24
damage 37:15,
51:19, 51:22,
51:25, 52:12,
52:15, 52:20,
61:23
damaged 103:19
damaging 22:2,
27:24, 41:24, 295:5
dampened 332:8
Dan 187:2
dark 301:3,
310:13,
312:15
dashed 304:23
data 78:4,
124:9,
124:21,
126:20,
126:22,
127:3,
151:10,
151:12,
151:16,
173:13,
215:12,
278:16,
350:10,
350:12,
350:16,
350: 20,
350:25,
351:7, 351:9,
351:15,
352:14,
352:22,
353:7,
353:24,
354:10,
354:14
date 30:16,
121:16,
122:23,
125:25,
130:12
DATED 145:16, 205:10, 363:17
David 4:25,

14:6, 155:21
DAY 1:14,
28:17,
361:23, 362:5
day-to-day
221:15
days 130:23,
300:1, 305:7
daytime 17:4
DC 58:16,
58:20, 59:8, 143:7, 279:23, 280:3
Dead 26:7,
31:5, 44:22, 82:18, 83:4,
217:23,
217:25,
218:6, 218:9,
219:14,
220:3, 220:5,
220:14,
220:15
deadline
123:10,
123:11
deadly 52:21
deal 98:25, 134:17
dealing 93:21
dealings 20:7
debris 188:14, 188:17, 198:16, 198:23, 199:1, 199:3, 200:4, 200:8, 201: 6
decade 196:13
decades 31:13, 295:22
December 345:16
decide 301:16
decided 52:10, 301:22, 323:24
deciding 361:6
decision 21:2, 55:5, 55:6, 230:5,

272:14, 359:3 decision-making

13:18
decisions
112:23,
258:8, 346:9
decommission
135:2, 137:8
decommissioned
97:24,
221:23,
221:25,
222:15,
222:21,
222:23,
223:2,
223:20,
224:12
decommissioning
138:7, 221:8,
223:5, 244:9,
273:13,
273:16, 274:4
decommissions
221: 6
decrease
203:16,
203:18,
204:6, 204:7,
358:23
decreased 204:5
dedicated 45:19
deep 265:3
deeper 205:25
deeply 290:8
deering 69:3
defer 94:9,
179:2, 236:8,
257:14, 265:4
define 114:24,
136:18,
159:5,
159:12,
298:18,
337:23
defined 70:13,
108:20,
108:21,
137:8,
169:17,

248:7,
298:14,
298:19,
299:22, 303:5
defines 99:10,
232: 4
defining 95:18,
95:21,
170:16,
170:17
Definitely
139: 9,
154:23,
286:23,
316:13,
316:14
definition
94:22,
159:15, 159:18, 159:21
definitions
62:24
deflect 92:10
degrade 40:4, 40:9, 342:24
degraded 342:22
degree 300:6, 324:10, 324:11
deliver 10:19, 28:1, 56:11, 245:11, 271:15
delivered
246:12
deliveries 56:21, 119:22
delivering
134:13,
279:24, 280:1
delivery
119:24,
278:16
demonstrate
21:18, 34:4,
34:10, 34:16, 41:22, 59:5, 62:18, 63:25, 64:23, 67:17,

71:20,
108:13,
166:13,
281:21,
298:23, 299:4
demonstrated
13:4, 70:3,
71:8, 72:14,
80:8, 135:18
demonstrates
32:5, 223:24
dense 187:9,
198:17,
199:5, 205:19
denser 205:24
densities 72:2
deny 35:17,
42:11, 51:16, 98:15
depend 88:3
dependent
191:20
Depending
152:17,
199:23,
266:5, 266:8,
288:21,
288:24
Depends 89:16,
91:17,
169:15,
194:3,
194:20,
233:15,
234:1,
282:24, 288:12, 288:13
depict 262:6, 262:17
depicted 260:14
depicting 309:7
depiction
260:25,
283:18
depictions
264:9
depletion 74:14
depreciation
251:13,

251:14,
285:18,
286:25
depression
286:4
depressions
74:20, 74:23
depth 75:22,
147:18,
208:13, 291:2
derived 42:24,
179:25, 180:2
describe 64:3,
79:24, 114:7,
124:24,
229:14,
310:19
described
64:17, 69:21,
79:13, 85:6,
145:5,
268:25,
297:20,
339:25,
348:12, $349: 5$
describes
167:21,
311:11
describing
114:17, 187:4
description
271:9, 275:21
descriptions
123:23
design 25:10,
27:16, 31:19,
83:20, 109:2,
256:1
256:15,
298:24
Designated
2:31, 3:13,
3:28, 4:10,
5:9, 5:23,
5:34, 6:8,
6:26, 7:13,
13:11, 36:5,
60:6, 107:8,
226:10,
257:5,

303:20,
314:4, 314:5, 315:13
designation
13:13, 31:11
designed 21:21,
23:22, 49:2,
64:5, 66:25,
85:13
designing
223:8, 293:21
Desirable 102:9, 102:10
desire 345:2
desired 31:8
desk 259:18
despite 72:7,
77:16, 202:21
destination 345:25, 346:2
destinations 112: 7
destroy 106:3
destroyed
53:18, 74:20
destruction 41:16
destructive 55:16, 112:10, 229:17
detail 122:13, 161:13, 178:4, 196:9, 231:22, 311:11
detailed 243:16
Details 136:5, 302: 8
determination 35:14,
187:25,
287:19
determine
50:16, 50:20,
137:23,
188:21,
239:7,
247:10,
254:19,

256:24,
299:19,
300:4, 351:5
determined
70:17, 71:1,
75:15, 75:23,
77:1, 111:6,
136:10,
230:15
determining
229:16, 247:19,
257:22,
272:13,
302:4, 347:14
detrimental
31:23, 52:24
develop 44:24,
223:17,
304:12,
305:3, 351:18
developed
62:17, 65:15,
67:8, 68:8,
68:11,
165:11,
165:25, 166:7
developer 136:9
developers
295:16
developing
53:10,
223:17,
223:22,
243:7, 299:17
developments
261:17,
263:16
devices 15:18
devils 136:5
devoid 74:17
devoted 45:10
DEWAN 9:13,
295:11,
297:2, 297:4, 297:5,
333:12,
334:9, 339:8, 340:16, 343:21,

344:22,
344:25,
345:4,
345:12,
346:16,
346:20,
347:14,
348:5,
348:10,
348:16,
348:20,
349:1,
349:17,
349:23,
350:2, 350:8,
353:5, 355:21
dewintering
25:25
diagram 305:11,
306:21,
318:18
diameter
188:25,
200:24
diameters
199:20
Diblasi 7:11,
17:25
DIF\&W 194:24
differ 84:7
differed 84:10
difference
94:1, 203:5,
203:10,
206:19,
207:4,
207:25,
208:15,
209:4, 209:7,
210:25,
211:1, 211:8,
211:11,
211:15,
212:5, 213:4,
213:6, 213:8,
213:13,
261:10,
309:22,
319:15
difficult

47:25,
287:23, 303:1
dig 129:2,
231:13
dimensional
339:19
diminish 34:2, 296:21
diminishes 299:1
dining 16:2
dinner 341:10
dire 29:14
direction
15:24,
307:16, 326:13
directional
24:8, 52:10, 52:12, 82:5, 290:11,
290:20,
290:21, 290:25
directions 45:11, 320:1, 321:9
directly 15:16, 38:20, 74:20, 153:21, 164:22, 288:4
Director 1:30, 13:10, 14:7, 36:7, 46:11, 46:17, 47:6
directors 31:21
Dirigo 331:6
disagree 38:6, 360:2, 361:14
disapprove 49:19
discretion
78:21, 81:2
discuss 60:13, 66:24, 71:7, 81:20, 83:7, 147:19, 183:4, 228:17, 299:10,

304:15
discussed
16:11, 85:24,
171:19,
173:25,
183:8,
187:14,
187:15,
271:20,
277:8,
335:22,
336:1, 343:14
discusses
158:7,
160:21,
177:1, 237:7, 280:10
discussing
60:8, 118:16, 119:6, 193:20, 284:14
discussion
38:15, 39:1,
57:12, 76:21, 85:11, 127:9, 158:8, 158:11, 158:14, 160:23,
161:8,
161:18,
161:20,
177:24,
178:23,
179:10,
185:2,
205:15,
292:3, 292:6, 356:12
discussions
356:21, 357:1
dispersal
182:25, 183:3
disputing 354:5
distance 93:2,
169:3,
234:21,
237:21,
254:4, 302:1,

```
    302:12,
    302:20,
    303:3, 312:7,
    313:21,
    319:1,
    319:15,
    319:21
distances
    172:9, 190:8,
    280:1, 305:21
distinctly
    175:7
distinguishable
    313:22
distinguished
    30:15
distribute
    123:6
distributing
    127:21
Distribution
    56:18, 74:8,
    74:10,
    146:16,
    254:24,
    325:18
district 47:1
disturbance
    61:2, 62:19,
    64:15, 64:20,
    66:12, 77:14,
    79:25, 170:18
disturbances
    26:16, 72:8,
    170:13
disturbed
    76:12, 117:15
dive 287:1
diverse 164:8
diversity
    163:6,
    163:20,
    163:24,
    305:21
divert 93:23,
    94:7
divide 95:13,
    96:4, 251:1
divided 300:18
division 62:24
```

doable 254:3
document 99:13,
125:12,
149:8,
149:11,
169:25,
195:10,
196:7,
196:16,
214:24,
216:21, 260:10, 305:4
documented
50:11, 305:25
documents 50:6, 180:23, 187:19, 256:21
dog 332:9
doing 37:7, 39:18, 39:19, 39:21, 88:15, 146:5, 183:21, 211:19, 290:11, 312:17, 326:11, 343:13, 350:22
dollar 128:14, 151:4, 286:6
dollars 30:20, 106:5
dominantly 166:17, 166:23, 168:6
dominate 328:12
donate 64:12
donating 26:10
donation 65:10
door 100:3, 101:2, 274:6, 274:12
doors 15:21, 15:24
Doris 14:3
Dostie 1:20, 14:20, 14:21, 363:2

Dostie $\qquad$ 363:12
dot 314:17, 334:10
dots 314:11, 328:25
double 307:20, 319:19, 352:16
double-check 249:2
doubles 213:12
doubt 182:3
downstream 26:10, 315:15
dozens 38:2
dpublicover@out doors.org 4:30
drainage 196:25
dramatically 41:18, 127:1
draw 211:24
draws 69:5
drift 231:7
drill 52:9,
52:11, 82:5, 290:11, 290:20, 290:21, 290:25
drilled 58:13, 291:11
drilling 24:9, 52:12, 291:1, 291:2
drip 265:24
Drive 315:24, 324:8, 325:25, 327:8, 330:7, 348:25
driving 325:10, 326:7,
326:13, 326:16, 349:19, 360:7
drop 128:23
dropping 281:12

Drummond 6:10, 6:18
due 70:18, 89:25, 169:10, 347:21, 347:22, 347:23, 347:25
duration 75:22, 266:21, 326:9, 326:17
Durham 10:24
DWA 250:5, 250:12, 253:10
dwell 39:6
dwelling 96:6, 102:12
DWYER 9:14, 331:5, 331:6, 334:7
< E >
Earlier 54:1, 63:3, 64:17, 108:20,
121:16,
121:19,
130:13,
133:16,
134:4, 176:1,
197:8, 221:2,
227:9,
227:23,
250:22,
253:3,
263:13,
267:22,
268:15,
268:25,
271:20,
277:8, 289:3, 309:9, 324:2, 337:12, 349:5
Early 71:21,
73:5, 73:10, 75:3, 76:13, 91:12,

101:11,
101:15,
101:17,
101:25,
111:1, 158:8,
162:21,
172:16,
185:20,
186:1, 186:6,
186:18,
186:21,
188:14,
188:20,
236:2,
238:15,
238:18,
293:12,
361:23
Earth 139:23,
156:20,
174:8,
174:15,
175:6,
351:21,
351:22, 353:2
easement
337:20, 338:8
easements
136:17,
239:3,
240:11, 337:9
easier 189:23, 201:24
easily 226:14
east 51:11,
59:2, 66:1,
235:3, 291:9,
312:2, 313:9,
320:1, 329:23
Eastern 13:10,
43:12, 309:4, 309:5
easy 52:25,
283:17,
285:23
ecological
29:15, 29:17, 40:17, 78:7, 83:14,
163:21,

171:7,
197:17,
197:20,
197:24,
198:2,
338:16, 338:18
ecologist 29:10
Economic 34:2, 44:25, 47:6, 137:18,
224:8, 247:15
economical 266:15
economically 70:20
economies
38:10, 39:15
economy 242:19, 347:24
ecosystems 51:6
ecotone 163:22
Ed 50:24,
113:20
EDC 255:17, 255:20, 286:11
Edcs 120:4
EDF 244:25, 245:1, 245:15
edges 24:16, 172:8, 172:10, 177:17, 323:17
EDP 244:24
educate 140:16
educating 352:5
educational 30:9, 44:24
Edwin 7:7, 17:22
effect 38:9, 40:21, 66:22, 70:5, 71:18, 72:1, 73:7, 76:18, 77:20, 90:10, 100:1, 103:1, 110:13,

| 110:21, | m 6:23 | elevated 52:20, |
| :---: | :---: | :---: |
| 172:6, | eight 16:12, | 112:12 |
| 177:19, | 25:10, 26:6, | eligible 303:21 |
| 178:5, | 60:22, 63:20, | eliminate |
| 178:16, | 231:14 | 24:10, 92:15, |
| 178:22, | either 33:2, | 270:13, |
| 179:9, | 74:23, 75:25, | 280:12, 288:2 |
| 179:14, | 110:25, | eliminating |
| 236:20, | 111:18, | 82:6, 231:6 |
| 273:7, 299:5, | 135:7, 144:3, | Elizabeth 3:14, |
| 340:19, | 213:24, | 7:14, 32:11, |
| 340:22, | 215:1, 215:3, | 113:16 |
| 345:14 | 225:18, | Elm 2:34 |
| effective | 262:23, | Elsewhere |
| 330:21 | 285:8, | 44:12, 218:12 |
| effectively | 301:18, | ELY 4:11, 8:7, |
| 27:19, 280:24 | 301:23, | 9:2, 37:10, |
| effects 53:20, | 308:22, | 38:19, 39:5, |
| 68:15, 89:19, | 309:10, | 39:12, 41:3, |
| 161:21, | 314:15, | 196:2, 196:4, |
| 161:25, | 315:9, | 204:11, |
| 166:15, | 317:19, | 204:15, |
| 169:10, | 318:11, | 204:18, |
| 170:3, 177:1, | 318:13, | 215:19, |
| 177:6, 177:9, | 327:25, | 215:25, |
| 177:12, | 328:3, 328:7, | 220:25, |
| 177:13, | 329:19, | 221:1, |
| 178:24, | 332:12, | 221:18, |
| 179:10, | 356:7, 358:14 | 222:6, |
| 179:17, | elaborate | 222:13, |
| 183:10, | 226:3, 270:10 | 222:25, |
| 299:7, | Electric 56:18, | 223:7, |
| 299:12, | 71:25, | 223:16, |
| 339:16, | 205:23, | 224:14, |
| 352:23 | 254:24, | 361:21 |
| efficient | 271:17 | Embden 10:24, |
| 18:16, 258:6, | Electrical | 303:19 |
| 279:24, | 3:23, 17:14, | emergency 15:20 |
| 279:25 | 36:4, 87:13 | emergent 205:20 |
| efficiently | electricity | Emily 6:17 |
| 280:23 | 10:20, 51:17, | eminent 29:10 |
| effort 36:15, | 51:21, 56:13, | emotional |
| 36:19, 133:7, | 56:21, 56:24, | 332:14 |
| 156:3, | $74: 1,74: 7$, | employed 67:23, |
| 224:24, | 74:8, 271:16 | 230:3, 361:16 |
| 238:8, 333:3 | electronic | employee 42:15 |
| efforts 183:12, | 15:18 | employees |
| 186:12, | element 281:16 | 276:25 |
| $333: 6,352: 10$ | elements 63:23, | Enchanted |
| ehowe@dwmlaw.co | 203:15, 240:5 | 80:23, 82:16, |



216:20,
218:1,
218:21, 311:3 encounter

321:2, 321:3
encountered
88:16, 111:5
encouraged
269:24
encroaches 38:3
end 11:25,
58:11, 59:20,
97:22,
134:21,
158:21,
160:20,
162:8, 164:9,
167:21,
195:24,
201:1,
202:13,
202:14,
224:6,
234:21,
237:15,
238:24,
241:5,
249:20,
251:20,
306:17,
309:3,
317:10,
318:20,
341:5, 360:21
Endangered
12:17, 24:23,
25:5, 26:11,
34:19, 34:20,
61:6, 61:12,
69:13, $65: 10$,
78:23, 80:25,
106:2,
106:12,
106:14,
106:21,
162:1, 186:12
ended 293:11
ends 58:25
engaged 133:19, 140:5
engender 49:16, 295:3
engineer 144:8, 223: 4
engineered 131:2
Engineering
67:24, 68:3,
83:20,
133:22, 138: 9,
142:23,
144:7,
221:14,
264:21, 280:2, 281:5
Engineers
14:13,
144:14,
144:23,
222:3,
222:19,
264:25,
278:25,
280:15,
287:11,
288:10,
290:4,
300:14,
305:9,
307:23,
312:16,
317:23,
330:19,
339:11
England 1:8,
10:5, 10:18,
10:21, 21:15,
27:22, 28:2,
46:2, 56:9,
56:12, 68:1,
78:5, 119:23,
224:7,
271:17,
281:3,
293:19,
296:9, 297:16
English 250:22
enhance 188:15
enhancement
78:12, 81:3, 106:19
enjoy 53:6, 53:7, 53:12, 346:10
enjoying 31:15, 303:8, 332:4
enjoyment
296:21,
298:17, 299:1, 304:3, 344:7, 359:1
enough 139:10,
185:16,
201:14,
227:16,
228:21,
248:17,
256:25,
265:5, 351:8
ensure 15:8,
42:21, 44:2,
52:21
entail 111:9
enter 66:13, 185:17
entered 19:13
enthusiasm 332: 8
enthusiasts 333:23
entire 15:12, 25:20, 58:8, 72:5, 96:10, 101:22, 109:19, 109:24, 165:18, 166:4, 168:20, 177:20, 253:24, 254:1, 256:5, 257:9, 264:9, 277:1, 299:23, 317:2, 351:9 entirely 45:3,

63:15, 285:1, 361:7
entirety 43:22,
325:19
entities 17:1
entitled
247:24,
344:13
entity 276:23
entomologist
70:10
envelope
251:16,
252:17,
286:18
environment
22:3, 27:25,
30:3, 34:16,
36:21, 41:25,
49:16, 49:23,
59:7, 88:1,
89:20, 97:12,
102:3,
115:21,
275:9, 295:3,
344:3
environmentally
102:1, 295:5
environmentally
-friendly
228:25, 230:2
envisioned
139:5
envisions 80:16
EPA 73:5,
164:3,
164:15,
166:5, 166:12
equal 262:3,
278:21
equally 246:1, 361:13
equipment
26:14, 26:15,
62:13, 77:9,
77:12, 115:7,
283:11
equivalent
182:19
erect 283:15

Eric 7:9, 17:23
Erosion 62:16,
$71: 13,77: 10$,
80:4, 80:6
erroneously 182: 5
escaped 101:3
especially
27:14, 43:15,
72:11, 361:25
Esq 2:6, 2:14,
3:14, 3:29,
3:37, 4:11,
4:18, 5:10,
5:35, 6:9,
6:17, 6:27,
7:14
essentially
68:19, 74:16,
154:3,
170:14,
231:25,
247:11,
260:8,
263:13,
265:11,
279:17
establish
140:20,
148:18,
187:9,
345:14, 359:10
established
47:20,
217:11,
239:23,
272:20,
345:13
establishing 25:25, 147:24
estate 47:1,
236:8,
293:17,
331:7, 336:9
estimate
179:21,
179:24,
180:3,
198:22,

241:16, 242:10, 242:12,
242:16,
243:1, 243:6,
243:11,
243:14,
252:18
estimated
129:5, 131:1, 180:6, 182:1
estimating
232:15, 242:2
estimation
121:11
et 172:6,
177:2, 322:17
evaluate 10:7, 13:3, 111:2,
128:17,
159:1, 224:2,
295:17,
300:15, 306:1
evaluated
187:23,
226:6, 272:9, 304:10
evaluating 22:7, 38:21,
43:3, 146:6
Evaluation
111:5, 126:3,
126:6,
128:12,
130:16,
130:18,
130:21,
130:22,
151:9, 247:8,
247:13,
247:14,
255:7,
276:12,
276:16
evaluations 296:1
evaluator
128:19,
128:21,
131:4, 246:3
evening 12:1,
event 200:25
Eventually
97:23, 198:8
Eversource 129:11
everybody
19:25, 28:16, 203:12, 215:20, 341:5, 362:10
everyone 259:5, 259:9, 341:7
everything 99:4
evidence 10:7,
13:7, 17:5,
19:13, 20:22,
22:1, 22:17, 24:20, 26:18, 27:21, 50:16,
72:8, 148:9, 162:9,
162:12,
163:7,
170:25,
173:17,
173:21,
174:5, 234:6, 260:4, 325:3, 343:18, 349:22, 356:24, 359:8 evident 325:7 exact 159:15, 181:7, 182:9, 198:2, 290:22
Exactly 48:17,
148:4
153:15,
172:14,
178:3, 183:8,
222:20,
223:13,
232:16, 245:5
Examination
8:20, 9:1,
9:15, 259:19
examiner 38:7
examiners 39:13
example 22:24,
23:12, 23:23,
25:24, 40:3,
44:3, 64:7,
67:3, 138:16, 139:12,
146:17,
149:22,
165:9, 166:6,
226:13,
240:25,
302: 6,
330:12,
333:19,
338:20,
343:24
Examples 24:14, 45:21, 139:19, 143:12, 222:4, 222:15, 299:25, $304: 4$
excavation 266:4
Exceed 27:17, 86:2, 193:3, 193:4
exceeding 83:5, 84:12, 84:22
exceeds 78:15, 83:15, 85:18
excellent 146:17
Except 153:13
exception 12:9, 61:19
excerpt 218:10, 304:21, 306:3 excited 246:1
excluded
125:15,
164:9,
164:11, 165:21
excluding 20:11
exclusively 112: 5
Excuse 54:17, 57:10, 69:3,

72:24, 93:18, 126:9, 166:8, 167:3, 182:2, 204:11,
204:21
executed 188:2
execution 69:11
Executive 36:7,
46:11, 46:16, 47:6
exercise
157:25,
254:3, 262:1, 332:19
Exhibits 94:13, 145:23,
147:14,
147:23, 148:3
exist 51:17,
94:4, 182:16, 295:7
existed 128:12, 137:25
exists 51:21,
53:8, 66:21,
75:18,
104:18,
105:18,
179:15,
227:12,
279:22
exits 15:21
expand 44:20
expanded 25:8,
61:8, 62:4,
64:16, 65:12,
292:24,
318:23,
320:10,
320:15,
321:22,
327:5, 333:17
expanding 37:22
expanse 340:19
expansion 80:7
expansive
152:18
expect 58:11,
149:14, 192:9, 199:8,


199:19,
263:19,
286:20
xpectation
59:19,
221:12,
223:18
expected 20:6,
121:16,
130:11,
221:24,
223:24,
298:16
expecting 97:19
expects 35:10
expense 82:3,
251:14
expenses
252:16,
255:9, 286:13
expensive 48:1,
50:15, 121:2,
121:8,
121:21,
128:5, 129:10
experience
30:22, 31:14,
31:18, 31:24,
32:7, 40:6,
40:10, $45: 14$,
68:5, 68:10,
138:3, 221:7,
222:22,
223:1, 223:7,
223:16,
265:1, 277:1,
297:6,
321:24,
321:25,
358:24,
360:5,
360:13,
360:18
experienced
331:21
expert 126:19,
333:12,
341:18
expertise
200:12,
242:24
experts 257:15, 339:21
Expires 363:15
expiring 273:14
explain 99:17,
99:21, 99:22, 102:23,
128:2,
169:14,
214:8, 236:5,
236:8, 265:7,
272:6, 274:12
explained 354:16
explore 47:19
exploring 332:4
exposed 109:25,
205:24
exposure
270:13,
326:17
express 231:5, 292:19
expressed 359:17
expressly 13:20
extend 134:25, 301:16, 320:11
extending 304:24
extends 265:23
extension 179:16
extensive 117:9, 168:12, 300:3, 352:3, 353:1, 353:6, 354:12
extensively 201:18
extent 22:25, 61:21, 82:25, 85:14, 169:25, 187:19,

232:1, 233:11, 289:16, 299:19,
300:9, 353:12
extol 101:8
extolling
98:25, 100:3
extra 293:13
extract 265:24
extraneous
106:14
extraordinary 36:19
extreme 91:9,
91:20, 177:19
extremely
178:23,
179:10
extremes 91:18
eye 309:16
< F >
FAA 316:16
face 137:1
faced 53:2
facilities
10:20, 47:23,
56:10, 152:6,
154:21,
275:12,
295:24, 329:8
facility 154:8,
331:25
fact 85:6,
121:20,
125:11,
151:13,
151:15,
151:18,
166:7, 166:9,
168:11,
169:8, 171:6,
177:7,
177:13,
218:21,
224:4,
301:21,
313:19,

332:22,
346:5, 350:3, 352:21, 353:23,
359:20,
360:23,
360:25
factor 110:5,
246:10,
278:16
factors 130:15, 251:8,
255:24,
258:5, 270:4, 285:18, 287:3
facts 21:2, 133:5
factual 170:25, 178:24, 179:11
Fahi 303:18
failed 34:4, 34:10, 34:13, 34:16, 35:5, 35:7, 35:11, 41:22, 42:4, 50:17, 52:1
failure 146:18, 281:23
Fair 20:14,
116:21,
133:18,
137:9, 145:4,
227:16,
265:5, 266:13, 284:14, 343:22, 349:19
fairly 142:13, 171:18, 201:18, 210:14, 218:21
fall 135:13
Falls 11:1,
53:13, 80:23,
82:15, 82:23,
200:22,
200:24,

216:19,
217:17,
217:23,
218:6, 314:6,
314:8,
315:14,
315:16
familiar
120:14,
120:15,
120:16,
140:7, 142:4,
143:17,
145:12,
187:1,
194:22,
195:4, 196:7,
341:17
familiarity
264:20
family 46:22
Far 27:17,
51:8, 83:5,
85:18,
120:11,
136:5,
144:22,
172:18,
189:6,
189:18,
258:16,
265:24,
290:12,
333:23,
334:14,
336:6,
336:11,
337:23
farm 245:15
Farmington
1:23, 10:24,
15:14, 82:1,
328:6, 329:17
Farrar 7:10, 17:24
fashion 116:17
faster 249:3
fault 280:18,
280:20,
287:16,

287:17, 287:19
faults 280:11, 280:13
feasible 48:6, 67:7, 246:20, 266:15
feature 43:24,
91:15, 191:2, 228: 4
features 40:19, 66:23, 72:12, 72:20, 73:18, 88:8, 94:15, 94:18, 105:15, 116:20, 117:14, 182:16, 191:4, 191:17, 227:10, 227:12
Federal 14:15, 30:19, 45:5, 59:18, 67:25, 73:4, 78:2,
83:11, 83:12, 83:16, 84:13, 251:15, 295:16
federally 107:8, 303:20
Fee 61:4, 61:5, 78:10, 78:19, 85:4, 85:6, 85:8, 106:16, 239:3,
239:23,
240:11,
337:10,
337:17, 338:9
feedback 15:7, 234:13
feel 89:18, 91:1, 91:6, 114:2, 201:12, $225: 25$,
$228: 18$,

345:12, 347:4
feels 129:17,
156:10
fees 26:23,
26:24, 67:10, 67:14, 85:4
felt 89:9,
240:6,
300:16,
309:18,
310:22,
310:25,
312:21,
317:13,
352:18
female 46:10
FERC 46:20, 48:1
Ferry 33:18
few 14:2,
45:12, 142:2, 151:25,
194:17,
222:4, 236:5, 245:15, 268:14, 288:20, 290:23, 291:3, 319:5, 320:3, 328:25, 341:4, 343:14
fewer 111:6
Field 70:11,
83:17,
217:22,
230:19,
296:1, 296:10, 299:25, 300:1, 305:3, 305: 7,
308:10,
323:6, 352:2, 352:4, 352:5, 353: 6
fifth 326:23
figure 192:5,
317:23,
350:23, 352:9
figures 125:1
figuring 91:24
file 19:16, 19:19
Filed 18:5,
42:20, 130:23, 205:12
fill 74:21,
83:22, 83:25,
84:4, 84:12,
84:18, 84:21, 85:2, 85:8, 288:14, 289:5, 289:8, 289:9
filtered 315:1, 323:9, 323:22
final 26:17,
57:19
Finally 35:5, 42:3, 61:17, 175:21, 303:4 financial 134:7, 223:23, 273:11, 273:12, 273:19, 286:10
find 35:11, 36:25, 37:1, 49:1, 49:2, 116:4, 124:15, 132:9, 196:1, 201:20, 203:8, 206:3, 264:13
finding 68:23, 213:1
fine 167:12, 176:15, 226:1
fines 203:4, 209: 6
finish 76:21, 341:4, 344:14, 346:20
finished 19:1,

99: 4
firebelt 299:9
firm 35:25,
56:20, 68:5,
295:12,
295:14,
295:18,
295:22,
296:8, 345:17
firms 295:19
Fish 40:8,
46:5, 53:15,
64:12, 211:2,
211:12,
211:20,
212: 6,
212:22,
216:5, 217:3,
217:8, 218:4,
267:13,
268:7,
280:11,
315:21
Fisher 123:23, 123:25
fishery 25:3, 26:10, 61:11, 65:6, 65:20, 214:5, 218:4, 219:1,
219:25,
220:12
fishing 33:11, 46:9, 82:21, 217:24, 329:6, 332:8, 348:1, 348:3, 348:10, 349:16
fit 34:15,
97:11, 155:13
fits 36:20
fitting 30:1
five 23:18, 73:8, 81:22,
277:7, 293:5, 300:17, 300:18, 322:12
fixed 252:8,

255:1,
269:20,
269:25,
270:7,
270:11,
271:3, 273:6, 286:9
flagged 260:12
Flagstaff
84:13, 216:15
Flaherty 3:30,
3:38, 5:11,
35:21, 35:23
flat 360:16
flaw 50:12
flexibility
175:16,
243:13
flip 324:3
flipping
189:11,
214:25
floodplain
196:19
Floor 5:37,
334:10
flow 54:1,
130:8
fly 147:25
focus 12:8,
12:12, 84:3,
92:21, 141:2,
156:7,
236:14,
300:20,
352:10
focused 19:7,
178:15,
186:12,
227:3,
295:13,
307:17
focuses 33:12
Focusing
311:24,
319:12,
331:23
folded 223:19
foliar 62:7,
229:11
folks 14:3,
142:24,
196:12,
221:14,
236:9,
242:24,
243:21,
273:10,
275:4, 348:7
follow 18:13,
45:4, 94:24,
229:15,
249:19
follow-up
97:13,
174:14,
221:1,
230:18,
259:22,
268:14,
288:23,
337:11,
339:24
followed 18:10, 69:16,
230:22, 299:14
Following 10:23, 12:12, 12:21, 16:19, 24:24, 51:16, 69:20, 70:17, 72:17, 74:4, 75:4, 76:11, 79:12, 210:5, 297:19
follows 73:17
food 25:12,
41:21
foot 37:24,
61:15, 66:10, 70:23, 76:25, 82:12,
110:16, 110:17, 110:25, 111:3, 112:11, 150:22, 190:11,

192: 8,
192:12,
192:16,
193:25,
194:1,
194:10,
197:4,
200:24,
201:13,
214:3, 242:5, 266:20, 289:22, 312:13, 320:14, 328:2
footprint
154:19,
154:24,
268:20,
269:1, 289:8
foraging 332:9
foregoing 363:4
foreground
302: 7,
302:14, 305:13, 305:21, 323:23
forester 28:20, 29:2, 47:1, 97:2, 170:22, 187:24,
233:11, 332:1
foresters 196:12
foresting 169:9
forestry 43:21, 73:23, 93:22, 94:2, 96:21, 158: 4,
162:22,
172:14,
174:11,
179:15,
179:17,
190:9,
197:12, 325:4
Forests 31:1, 43:16, 73:17, 124:6, 166:11,

170:16
forever 94:4, 135:9
forgive 248:22
forgot 331:9
form 116:16, 298:11
formal 242:11
formed 44:19
former 47:10
forms 26:22, 355:12
formula 85:5
forth 17:1,
20:18, 79:4,
165:11,
214:25,
286:5,
298:11,
302:11,
309:21,
317:17,
321:15,
324:3, 339:19
forward 37:6, 248:15, 254:14, 256:3, 270:4, 293:3
found 203:3, 205:22, 206:1, 225:18, 303:17, 308:7
Foundation
5:21, 17:19, 43:8, 126:13, 126:25, 140:21, 145:22, 147:24, 217:16, 224:23, 243:21, 243:24, 359:11
foundations 109:24
founder 47:11
founders 47:9

Four 12:20,
21:20, 23:14,
24:7, 25:6,
26:13, 60:6, 60:13, 61:13, 65:2, 66:4, 66:17, 73:2, 77:21, 77:23, 82:9, 109:13, 192:21, 194:19, 229:1, 230:3, 232:11, 255:1, 274:3, 295:21, 319:18, $334: 6$
four-season 46:24
Fourth 26:16
fragment 41:8, 89:7, 191:7, 191:10
fragmented 63:8, 73:17, 88:17, 89:6, 104:24, 116:19
fragmenting 40:19, 43:24, 94:18, 116:20, 173:18, 182:16, 182:18, 191:2, 191:4, 227:10, 227:12, 228:4
frame 155:13
Franklin 176:14, 176:20, 179:22, 241:23
frankly 146:20
free 114:2, 169: 9, 170:12, 332:18
frequency 145:17

Fresh 34:18, 218:5
Friday 228:18
Friends 2:27, 17:8, 29:5, 29:9, 87:4, 281:5
fringe 196:19
frogs 191:20
front 88:23, 92:5, 114:5, 118:25, 132: 7, 132:11, 132:16, 134:18, 161:11, 205:3, 215:17, 227:14, 287:5
frontage 26:7, 82:14, 82:17, 83:4, 83:5, 220:2, 220:13, 316:25
frozen 61:20, 62:11, 77:12
fueling 62:8
full 25:12, 43:16, 58:7, 70:23, 75:25, 131:2, 204:20, 214:3, 243:5, 271:10, 282:18, 284:8, 309:7, 309:11, 327:6, 338:23, 360:5
full-height $60: 25,66: 3$
fully 58:11, 80:3, 80:18, 81:13, 131:2, 161:11, 177:11, 247:25, 248:3, 290:5
function 35:7,
200:16,
216:5, 235:4
functions 78:7,
83:14, 200:3,
200:10,
215:11,
216:2, 217:3
Fund 26:12,
61:6, 64:13,
65:11, 71:4,
78:20, 78:23,
79:1, 81:1, 106:5, 106:14, 106:18, 240:24, 244:9, 273:16
Funded 30:18, 242:14 funding 78:13, 81:7, 106:24, 241:9
funds 251:24
furthest 312:4
future 44:13,
97:21,
110:10,
134:9,
135:19,
137:1, 137:4,
137:21,
138:2,
138:22,
138:23,
139:6, 139:25
fuzzy 140:6
< G >
Game 46:5
gap 156:17,
156:22,
156:23,
156:24,
157:11,
157:18,
157:23,
158:1, 314:15
gaps 158:3

Gardiner 284:23
gas 56:22,
87:14
gasoline 347:22
gated 307:10
gather 10:6,
257: 4
gathered 157:14
gave 176:1,
242:13, 242:16
gears 231:9
General 1:28, 11:16, 14:1, 15:23, 15:25, 19:3, 19:5, 20:8, 20:9, 40:23, 124:23,
125:6, 141:1,
149:17,
155:13,
161:18,
222:21,
225:16,
286:3,
286:22,
298:17,
303:7, 304:7,
338:5, 338:6,
338: 9,
338:10,
346:7,
347:19,
347:23
Generally
18:19, 82:11, 121:18, 149:13, 149:15, 158:25,
175: 4,
185:15,
231:17,
251:15,
251:17,
264:7, 265:7,
286:20,
292:12,
292:14,

301:19, 313:21,
317:20,
344:3, 352:17
generated
198:23,
199:1, 199:3,
271:16
generating 10:20
generation
28:2, 56:12,
154:21,
268:21,
269:2, 269:5
generations
31:18
generator 245:18, 281:11
generators 282:7
gentleman
126:24
Geographic 237:21
geographically 164:8
GERALD 1:27, 262:19
gets 232:16, 355:22
getting 90:22, 92:24, 141:15, 237:18, 250:21, 259:3
Gilbreath 2:14, 21:9
GIS 151:12
give 20:2, 29:8, 45:21, 56:6, 136:17, 136:18, 151:7, 164:18, 165:9, 181:7, 202:12, 220:8, 249:21,

283:18,
319:7,
320:18, $346: 6$
Given 19:8,
27:14,
113:10,
127:11,
146:10,
146:11,
154:20,
158:9, 177:6,
178:22,
179:9,
188:18,
221:18,
226:24,
358:16,
359:2,
359:20, $361: 5$
gives 181:2,
181:4
giving 196:12
Gleason 201:21,
202:20,
203:2, 203:8, 203:14, 203:17,
203:22,
203:23, 204:4
globally 37:20, 40:14, 43:9, 171:14
Gloucester 11:1 goal 20:14,

59:19, 81:11, 85:18, 116:1, 140:23,
145:8, 197:2
Gold 27:4,
60:22, 70:15,
$70: 18,70: 24$,
213:17,
214:2, 237:9,
237:23,
309:7,
309:11,
338:21
Google 156:20, 174:7,
174:15,

175: 6,
351:21,
351:22, 353:1
Gore 11:10,
46:11, 81:24
Gorge 47:16,
47:19, 47:20,
48:13, 48:16,
51:12, 52:7,
52:9, 52:11,
52:13, 53:6,
333:9, 342:9,
342:15,
343:9, 358:2,
358:7,
358:10,
359:25
Gorham 4:28
gospel 353:10
Gotcha 270:7
gotten 341:9
Governing
13:15, 16:7
governor 345:13
Grace 311:23
grade 308:19,
308:23,
311:17,
311:20
grams 212:16, 212:22
Grand 80:23, 82:15, 82:23, 216:19, 217:17, 217:23, 218:6
grant 30:19,
78:21, 106:18
granted 343:24, 346:4
graph 59:4
graphic 311:8, 311: 9
grappling 129:19
grass 209:17, 210:3, 210:4
gray 15:9, 300:24
Great 21:14,

98:25,
122:18,
141:19,
147:18,
225:16,
226:11,
234:15,
273:9, 329:5,
336:25
greater 22:14,
45:18, 83:4,
111: 4,
163:23,
205:25,
241:4,
243:14,
261:24,
263:18,
293:24,
294:9,
294:12,
294:13,
294:22
greatest 85:14, 177:5,
226:25,
267:11,
268:5, 307:15
greatly 41:17,
51:24, 84:22, 361:2
green 304:22, 305:12,
307:3, 308:7, 311:3, 311:6, 311:12, 314:10, 322:7,
324:17, 326:4
Greene 10:25
greenfield 133:9
Greenlaw 308:15
grid 10:21,
56:13,
271:17, 279:9
ground 61:21, 62:11, 64:19, 66:12, 100:10,

| 115:12, |
| :---: |
| 117:21, |
| 157:25, |
| 177:21, |
| 183:19, |
| 185:1, |
| 221:10, |
| 223:19, |
| 231:5, |
| 232:14, |
| 233:6, |
| 233:20, |
| 266:11, |
| 287:9, |
| 289:15, |
| 290:10, 333:8 |
| $\begin{aligned} & \text { grounds } 32: 22, ~ \\ & 125: 15 \end{aligned}$ |
| $\begin{aligned} & \text { grouped } 18: 15, \\ & 54: 17 \end{aligned}$ |
| Groups 36:9, |
| 81:10, 113:8, |
| 306:14, |
| 334:22, 341:6 |
| grow 63:22, |
| 66:3, 192:13, |
| 192:15, |
| 199:13, |
| 232:5, 232:7, |
| 232:8, |
| 232:10, |
| 233:6, |
| 233:22, 290:3 |
| growing 34:3, |
| 177:14, |
| 185:16, |
| 230:15 |
| grows 188:21 |
| growth 101:11, |
| 172:20, |
| 199:13, |
| 233:16, |
| 291:7, 291:8 |
| growths 233:13 |
| guaranteed $56: 20$ |
| guess 91:17, |
| 94:16, 96:10, |
| 106:25, |
| 125:10, |

115:12,
117:21,
157:25,
177:21,
183:19,
185:1,
221:10,
223:19,
231:5,
232:14,
233:6,
233:20,
266:11,
287:9,
289:15,
290:10, 333:8
grounds 32:22,
125:15
grouped 18:15,
54:17
Groups 36:9,
81:10, 113:8,
306:14,
334:22, $341: 6$
grow 63:22,
66:3, 192:13,
192:15,
232:5, 232:7,
232:8,
232:10,
233: 6,
233:22, 290:3
growing 34:3,
177:14,
185:16,
230:15
grows 188:21
growth 101:11,
172:20,
199.13,

231:16,
growths 233:13
guaranteed
56:20
guess 91:17,
94:16, 96:10,
106:25,
125:10,

135:15,
142:16,
171:10,
216:3,
226:23,
253:17,
265:6, 265:7,
281:19,
288:23,
337:22,
338:10,
338:20, 355:2
guests 53:5,
53:11
guidance 84:5,
229:14,
229:20,
239:22
Guide 3:9,
17:11, 30:11,
33:11, 33:15,
46:1, 46:8, 113:19, 331:21
guided 251:19, 304:13
guidelines 80:5, 242:2, 248: 6
Guides 2:28, 17:9, 29:6, 29:20, 30:5, 31:12, 33:16
guiding 29:23, 30:8, 33:12, 46:14
guy 280:11
guys 144:23, 289:3
< H >
H-frame 142:22,
143:10,
143:13,
143:25, 144:1
H-frames 144:16
habitat-wise 102:1
habitats 44:9,

68:16, 69:2,
73:2, 75:1,
79:15, 85:3,
85:10,
102:14,
150:16,
163:22,
164:24,
165:3, 165:6,
169:4,
171:14,
240:1, 339:18
Hale 7:11,
17:24
half 231:19,
293:11,
293:13,
302: 7,
302:14,
307:7, 321:4
half-a-mile 234:19
halfway 172:23
hall 16:2
Hampshire 52:4,
124: 6,
129:11,
129:24
hand 215:1,
215:20, 230:12
handed 203:7, 204:12, 216:21
handful 309:3
handle 281:18
handling 14:4
handout 204:19
handpicked 45:12
happen 136:24, 255:11, 288:3
happened 222:5, 281:25
happening
54:10, 105:4
happens 255:2
happy 56:5,
122:12, 251:23
hard 63:14,
74:11,
103:11,
103:25,
205:2,
221:23,
261:12,
261:15,
261:16,
263:16,
319:14,
319:16, 347:3
hardscape
261:21
harm 24:21,
34:17, 40:5,
61:2, 64:1,
64:25, 69:2,
69:6, 70:4,
71:9, 72:10,
75:8, 77:19,
81:18, 90:11
harmful 52:23
harmoniously
30:2, 34:15,
36:20, $97: 11$
Harris 46:20,
47:23, 47:24,
331:24, 360:8
Harrison 187:2
harsh 53:2
harvest 162:23,
196:17, 197:1
harvested 63:8,
176:6, 176:7,
176:22,
176:23, 260:5
harvesting
72:22,
171:24,
173: 6,
173:11,
173:19,
175:8,
175:11,
176:3, 352:24
hate 281:4
Hawk 3:10,
17:11, 33:19, 113:19

Haynes 2:32,
8:5, 28:14,
28:15, 28:19,
28:24, 29:1
Haynestown
11:13
HD 330:20
HDD 24:9,
306:10
HDPE 242:9
HDVC 268:16
head 15:22,
115:14,
139:18,
235:7,
246:14,
287:25,
288:18,
289:3, 310:24
heading 58:23
headwater 72:2, 206:17, 207:1, 219:6
heal 52:21,
52:22
health 49:17, 295:4
hear 19:2, 19:4, 21:7, 25:21, 54:16, 60:1, 87:1, 113:15, 122:16, 242:23, 332:16
heard 97:19, 125:14, 126:17, 159:9, 159:10, 222:16, 226:8, 259:8, 259:11, 259:23, 260:3, 291:18, 297:13, 300:17, 306:8, 306:10,

309:9,
316:14, 339:8
Hearings 16:8, 28:17, 52:8, 130:24,
131:7,
131:20,
359:15
heart 40:14,
41:3
heavily 168:7,
263:17
heavy 26:14, 196:21
heights 63:22, 75:25, 185:16, 188:21, 199:12, 231:17
held 16:4, 16:9, 46:18
Hello 50:24, 295:9, 331:5
help 41:20, 90:25, 99:24, 106:20, 106:21, 131:21, 140:16
helped 106:12
helpful 129:18, 132:24, 166:10, 166:14, 215:5, 234:16, 235:9, 275:5
helping 28:7, 31:17
helps 352:9
Herald 16:23
herbaceous
198:18,
198:25,
199:1, 199:3, 199:6
herbicide 77:8, 229:11
herbicides

52:21, 62:7, 230:11
hereby 363:4
herpetologist
70:11
hidden 347:1
high 10:13,
22:12, 40:17,
43:12, 43:13,
75:15, 128:7,
145:14,
157:21,
158:2,
192:13,
192:17,
194:1, 194:5,
268:17,
287:18,
351:25
higher 84:10,
130:14,
156:18,
157:11,
194:18,
205:21,
212:4, $349: 14$
highest 30:8,
107:13,
157:15, $342: 3$
highlighted
164:21,
164:23
highly 321:22,
321:23, 325:5
Highway 30:19,
74:14, 74:15
highways 73:20,
182:17
hike 53:15, 320:3, 321:1, 321:5, 353:10
hiker 320:23, 321:23
hikers 33:16, 40:7, 355:23 hiking 40:9, 82:21, 112:6, 319:2, 319:8, 319:23, 332:9 Hill 4:34
hills 301:21
hillsides 342:2
Historic 32:17, 303:22
history 27:14
Hmm 275:13,
276:20,
291:13, 355:2
Hobbins 6:27
Hobbstown 11:8
Hoffmeyer 46:6
hold 18:19, 46:10, 95:6, 123:19, 138:2, 166:8, 337:17
holding 47:2, 242:11
Hole 318:20, 320:2, 320:23
home 32:14, 32:19
homes 323:16
honest 104:14
honestly 97:10
hope 54:20, 113: 4
hoped 55:25
hopefully 151:10, 171:13
hoping 147:25, 259:18
horizontal 24:8, 82:5, 290:11, 290:19, 290:21, 290:25
horseshoe 82:23
hosting 115:7
hour 128:14, 231:4, 293:12, 293:13, 321:4, 325:21, 327:9
hours 19:21, 319:4, 319:24,

321:5, 327:8, 332: 4
House 6:29,
46:16, 135:12
Howe 6:17
huge 139:18, 290:8
human 41:11, 72:7, 72:9, 94:20, 170:12, 170:18, $342: 3$
hundred 290:23, 291:4
hundreds 38:1, 41:14
hunt 40:8, 53:1, 53:15
hunters 33:16, 52:25
hunting 32:22, 46:9, 82:22, 332:8
Hutchinson 46:3
Huts 47:11
HVDC 31:22, 279:5, 279:23, 280:10, 288:19
Hydro 139:17, 301: 6
Hydro-quebec 254:24, 269:21, 279:7
Hydroelectric 331:25
hydropower 10:20
hype 21:18
hypothetical 104:12

< I ><br>I-9 215:9<br>I-95 74:15<br>I. 106:25<br>IBM 166:6,<br>166:9, 166:13

iconic 51:12
idea 97:17,
139:16,
163:8,
163:19,
173:10,
179:14,
182:2, 191:1,
221:22,
241:18,
265:22,
285:16
ideal 102:14,
203:16,
203:18,
204:6, 204:7,
214:11
identical
178:18
identified
41:6, 48:22,
70:7, 70:13,
139:22,
150:15,
150:17,
151:12,
157:17,
178:13,
227:3, 227:5,
237:3, 243:7,
262:14,
299:21,
303:9,
303:16,
349:13
identifies 166:9
identify 81:10, 126:10, 146:18, 156:21,
157:22, 178:16
identifying 22: 4
IECG 268:15
IF\&W 25:8,
70:11, 70:13, 70:17, 70:21, 71:1, 73:14,

75:19, 75:23,
77:2, 81:2,
81:9, 81:14,
186:8,
186:13,
195:4,
197:14,
197:25,
201:7, 234:9,
237:3,
292:13,
292:18,
309:10,
338:23
IFW 267:10, 268:5
ILF 80:18
illustrate
142:12,
306:11
illustrated
129:4, 296:16
illustration
148:4, 302:15
illustrations 148:7
image 120:9, 324:2, 328:8, 334:13, 334:17
imagery 174:8, 174:15, 175:6 imaginary 232:3
imagine 106:2,
134:24,
134:25,
139:6, 224:9
immediately 25:18
impacted 72:21, 74:20, 75:10, 82:14, 83:6,
161:14,
161:16,
170:8,
174:13,
190:11,
227:5,
271:21, 273:3
impacting

358:25
impair 298:21
impeach 125:10
impede 76:16
impediment
75:23
impediments
332:21
impervious
102:24,
103:20,
104:4,
104:13, 105:6
implement 80:18
implementation 69:8, 78:12, 80:4, 81:3
implemented
61:17, 62:17,
65:14
implementing 73:3
implies 349:2
importance
36:13, 36:21, 188:13
important 39:22, 41:14, 43:17, 130:1, 137:3, 139:23, 165:1, 241:14, 270:5, 282:6, 301:25, 302:3, 334:11, 345:24, 346:4
importantly 300:12
impossible 303:2
improperly 26:8, 64:10
improve 145:6, 163:6, 163:20
improvement 163:9
improvements 141:24

| improves 73:7 | 352:23 |
| :---: | :---: |
| improving 339:2 | included 71:15, |
| in-service | 127:24, |
| 121:16, | 150:22, |
| 130:12 | 152:9, |
| in-stream | 154:20, |
| 26:16, 61:18, | 188:12, |
| 64:15, 71:10, | 202:8, 245:7, |
| 80:2, 200:5, | 245:8, |
| 200:23 | 272:23, |
| in. 19:25, | 275:6, |
| 114:2, 140:5, | 275:21, 332:2 |
| 147:8, 274:20 | includes 12:13, |
| inaccurate | 12:16, 26:3, |
| 135:10, | 27:16, 67:9, |
| 149:10 | 69:19, 78:16, |
| inadequate 42:6 | 79:12, 81:4, |
| inadvertently | 130:9, 158:7, |
| 18:24 | 164:5, 177:7, |
| inappropriate | 235:2, 240:5, |
| 153:3, 222:12 | 259:9, 348:13 |
| inappropriately | inclusion |
| 40:24 | 163:3, 303:21 |
| incapable | income 251:15, |
| 170:20 | 258:2, |
| inch 188:25, | 258:10, |
| 200:24, | 258:17 |
| 218:2, $242: 3$ | incomplete |
| inches 200:1, | 351:1 |
| 200:10 | incorporate |
| include 13:17, | 70:22 |
| 17:7, 20:11, | Incorporated |
| 24:14, 25:10, | 29:3, 76:25, |
| 27:9, 45:17, | 124:9, |
| 77:7, 80:2, | 200:23, |
| 80:21, 82:22, | 205:14 |
| 83:21, | incorrect |
| 115:10, | 149:21, |
| 152:6, 160:4, | 149:23 |
| 160:7, | increase 44:25, |
| 160:11, | 49:23, |
| 251:9, | 101:21, |
| 268:16, | 177:25, |
| 268:20, | 178:22, |
| 269:1, 269:5, | 179:9, |
| 269:18, | 196:25, |
| 270:11, | 210:22, |
| 273:12, | 211:16, |
| 276:9, 296:1, | 211:21, |
| 335:12, | 212:25, |

213:2, 285:6, 285:7,
286:20,
286:21
increased 27:4, 27:7, 41:11,
74:7, 271:22, 301:7
increases
64:21, 66:15, 205:18
increasing
49:18, 95:11, 295:5
increasingly
165:1, 166:2
incredibly 289:9
incremental
224:3,
237:10,
237:13
incur 255:3
incurring 254:17
Index 8:1, 203:5
Indian 294:19, 331:25, 360:7
indicate 186:8, 269:17
indicated
150:20, 151:16, 258:16, 342:19
indicates 171:12, 173:14, 353:8
Indicating 117:1, 289:24
indication 346:7
indirect 79:22, 80:11, 80:20, 81:17, 219:8
individual 20:12, 230:14, 232:10,

```
    281:10,
    281:11,
    304:17
individuals
    360:6
Industrial
    3:21, 33:22,
    34:10, 34:14,
    34:17, 35:3,
    35:22, 36:1,
    51:7, 115:5,
    115:9,
    115:12,
    117:20,
    146:14,
    149:19,
    150:2, 150:4,
    332:7, 347:11
industries
    33:5, 87:14
Industry 10:25,
        31:13, 33:4,
        34:3, 45:25,
        46:22, 96:22,
        117:16,
        138:4, 190:9,
        227:19
influence
        169:10
influenced
    94:20
inform 83:18
informed 21:1
infrastructure
    51:7, 56:23,
    227:19,
    345:1,
    345:24,
    346:3, 346:8
initial 61:22,
    62:10, 99:11,
    232:25,
    233:17,
    307:18,
    312:11,
    317:16,
    331:13
Initially
    126:3, 276:11
initiated
281:10,
281:11,
304:17
individuals 360:6
Industrial 3:21, 33:22, 34:10, 34:14, 34:17, 35:3,
35:22, 36:1,
51:7, 115:5,
115: 9,
115:12,
117:20,
146:14,
149:19,
332:7, \(347: 11\)
industries
33:5, 87:14
Industry 10:25, 31:13, 33:4,
34:3, 45:25,
46:22, 96:22, 117:16, 138:4, 190:9, 227:19
influence 169:10
influenced
94:20
inform 83:18
informed 21:1
infrastructure
51:7, 56:23,
227:19,
345:1,
345:24,
346:3, 346:8
initial 61:22,
62:10, 99:11,
232:25,
233:17,
312:11,
312:11,
317:16,
331:13
Initially
126:3, 276:11
initiated
```

150:13
Inland 38:2, 60:19, 64:18, 65:16, 70:6, 85:2, 85:9, 178:12,
227:4, 234:9, 235:15, 291:23
Inn 47:13,
47:14
Innovative 100:17, 105:11
input 200:20
inputs 200:16
inside 210:10
inspection
19:15
install 143:4, 283:12
installation 26:15, 115:5, 115:11, 142:19, 278:19, 283:13, 347:16
installed 26:9, 64:10, 142:20
instance 37:1, 181:2,
310:22, 317:22
instances 68:21
instantaneously 282:8
instead 95:2,
117:7,
181:15,
236:23,
351:6, 355:3, 356:18
instinct 248:5, 287:10
instructions 155:25, 156:5
insulation 64:21, 66:14, 205:18
intact 29:11,
37:19, 72:6,
94:17, 94:25,
170:11,
171:14,
196:20,
214:8, 260:1,
260:2, 261:1,
262:7,
262:18,
358:14
integrated
73:3, 99:1,
100:12,
100:24,
101:9, 164:4
Integrity 76:2, 203:5
intended 24:24, 112:16, 234:8 intending 259:11
intensely 260:5 intensively

171:20, 174:1
intent 36:11
intention 192:5
intentional
324:22
intentionally 305:20
intercept
343:11,
346:13,
346:14, 350:1, 358:21 interconnected 333:22
interests 42:21
interfere
22:19, 34:11, 108:14, 296:19, 297:25, 298:16, 298:24, 321:25, 331:17, 332:11, 334:2, 357:19
interference 332:24
Interior 94:19, 95:16, 169:4, 169:6, 169:9, 169:25,
170:7,
170:11,
170:16,
170:21,
171:1, 171:8, 178:1
intermittently 321:14
International 3:23, 17:12, 17:13, 36:3, 126:16, 150:4
interpretive 322:17
interrupt 54:1, 57:1
interrupted 134:3
interrupting 134:5
interruptions 15:19
intersected 75:14
intersection 324:15
intersects 324:22
intervals 266:10
intervening 22:23, 23:10, 157: 6
Intervenor 15:1, 42:20, 50:25, 54:17, 54:20, 86:15, 86:19,
113:20, 341:6
Intervenors
2:23, 3:2,
4:2, 5:2,
6:2, 7:2, 17:6, 18:1,

18:3, 18:4,
34:9, 45:2,
45:3, 54:3,
54:6, 54:15,
113:17,
341:16
interviewed
139:7, 347:18
intrinsic 30:24
introduce 297:2
introduced
167:9
introducing
125: 8
introduction
41:11,
267:13, 268:7
intruding 232:8
intrusion 48:15
intuitively
221:13
inurement 45:7
invaluable
333:23
invasive 41:12
invested 30:20
investigated
210:8, 210:9
investment
251:11,
251:12,
251:15,
254:13,
254:19
investments
58:4, 135:1,
152:10
involved 46:22,
88:21, 138:7,
276:12,
339:20
involving 306:8
IP 141:11
Irby 142:4
irrelevant 217:12
irreparable 37:15
irrevocably
53:18

ISO 56:12,
271:16,
281:3,
281:10,
281:21, 282:6
isolated 26:9,
62:25, 63:16
Issue 35:14, 48:22, 65:2, 69:15, 69:17, 69:18, 76:21, 77:23, 79:11, 88:18, 90:22, 186:11, 255:13, 257:16, 267:24, 281:20, 298:4 issued 56:16, 68:23
issues 36:14, 36:16, 69:4, 253:11, 254:3, 280:16, 287:13, 291:20, 291:24
item 276:4
items 345:25
itself 51:23,
108:20,
203:12,
266:3, 310:9, 340:6, 355:20
IVM 99:2,
99:13,
101:17, 102:19
< J >
J. 1:20, 5:35, 6:27, 295:11, 363:2, 363:12
Jack 150:8,
150:16,
151:17, 303:17
Jackman 324:21

James 1:29, 341:17
Janet 29:10, 167:17, 169:19, 171:11
January 292:25
Jay 10:25,
14:12, 58:24, 141:10
jays 226:12
Jeff 155:23, 190:23, 195:21, 215:19
Jeffrey 4:32, 5:10, 72:5
jeffrey.reardon @tu.org 4:37
jeopardize 108:10
Jerry 13:22, 35:24
Jersey 74:16
Jim 13:23
Jimmie 84:14, 216:8
Jimmie/harwood 216:3
Joanna 6:9, 49:8, 152:25, 266:24, 268:12, 335:2
job 88:8, 90:24, 92:19, 242:17
jobs 223:14
Joe 47:8,
47:12, 48:21, 318:20,
320:2,
320:23, $356: 2$
John 45:24
join 36:15, 146:19
joined 14:8,
35:24, 301:1
Joining 13:21
joins 58:20
joint 10:3
jointly 11:22, 152:5, 153:10
Journal 16:20, 16:22, 71:24
jtalbert@preti. com 5:16
jtourangeau@dwm law.com 6:15
Judd 324:16, 324:19
Judith 46:3
jump 114:2
junction 266:9
justified 305:5, 354:20, 354:21
justify 177:7
< K >
Kathy 7:9, 17:23
kayak 353:11
kayaker 316:5, 331:21
Keep 20:17, 28:7, 113:13, 281:4, 355:21
keeper 148:21
keeping 341:10
key 43:15, 223:22
kill 52:25
Kim 7:10, 17:23
kinds 103:19, 333:21
Kingdom 174:16, 175:1
Kingfield 46:23
KIRKLAND 14:5, 148:23, 155:17, 220:23, 329:10, 329:12
Knowing 287:18, 338:22, 346:24
knowledge

124:22,
125: 6,
153:11, 175:3
known 44:17,
49:8, 68:6,
268:13
knows 97:20
kv 141:9
< L >
label 215:2, 215: 6
labeled 131:24, 261:9, 262:13
labor 242:20, 337:23
laced 262:8
lack 31:8, 38:21, 40:16, 118:7, 127:10, 178:22, 354:10
lacking 40:23
lacks 170:18
laid 59:5, 339:10
Lake 24:6, 84:14, 216:15, 304:1, 308:21, 344:1, 344:4, 344:7, 348:4, 348:8, 349:15
lakes 30:12, 33:14
Lakeside 45:22
land-based 225:13
landfills 295:25
landlocked 217:24, 218:3, 219:2
Landmarks 303:14
landowner 294:7, 294:21
landowners
33:6, 109:23,
136:20,
331:12,
332:24
lands 81:5,
81:7, 138:21,
138:22,
238:24,
239:12,
240:12,
294:4, 303:7, 338:2, 338:3, 349:6
Landscape
32:18, 62:25, 88:1, 102:3,
156:18,
156:22,
157:11,
157:23,
163:4,
166:17,
166:23,
167:18,
168:13,
169:16,
191:3,
295:10,
297:5, 298:5,
300:7,
302:19,
328:12
landscapes
51:9, 164:6, 165:25
Landvest 47:1
lane 314:21,
315: 6
lanes 62:13
language 57:15, 57:17
Large 33:22,
47:1, 52:23,
68:5, 68:11,
95:13, 95:18,
95:21, 96:4,
96:17,
167:21,
174:25,

177:25,
190:9,
191:25,
200:4, 260:1,
260:2, 261:1,
262:7,
262:18,
262:22,
265:21,
265:22,
284:20, 290:7
largely 218:20
Larger 154:18,
154:23,
163:3,
199:25,
201:3,
211:15,
211:17,
211:21,
213:3, 213:5,
213:7, 241:1,
288:15
largest 29:23,
37:18, 40:19, 41:4, 46:14, 51:10, 68:8, 82:23
Larrabee 301:9
Larry 47:8, 48:21
last 33:23,
41:6, 51:10,
57:5, 57:12,
57:14, 57:18,
57:20, 58:25,
68:9, 103:9,
119:10,
137:16,
145:10,
163:13,
178:17,
178:19,
179:6, 196:2,
196:3, 196:4,
196:5,
196:14,
201:1,
216:21,
223:15,

285: 4,
297:11,
335:4, 345:16
Lastly 59:15,
301:12,
302:19, $304: 6$
late 21:16
later 35:23,
55:25,
133:13,
144:6,
221:14, 243:9,
267:17,
311:10, $341: 4$
lattice 144:17,
144:19, 300:24
launch 309:2, 317:11
Law 1:12, 3:15, 5:21, 7:15, 10:11, 11:20, 13:6, 17:19, 36:11, 43:8, 80:6, 99:9,
126:13, 126:25, 224:23, 243:20, 243:24, 297:22
laws 45:5
lawyer 46:15
lay 115:6,
116:1, 233:8, 283:13
lead 245:18,
331:8, 331:9, 331:22
leader 331:22
leaders 45:18
leaf-off 306:4
leaning 200:19
learn 257:15
least 168:17, 168:18, 195:2, 196:12, 196:21,

229:17,
265:24, 346:4
Leave 133:12,
213:20,
278:25, 280:14, 280:20, 284:5, 329:13
Leeds 10:25, 329:24
Left 28:10,
100:4,
109:14,
120:13,
143:24,
148:22,
155:16,
329:12,
334:6, $334: 22$
Legally 45:4, 198:10
legislator
46:16
length 23:3,
73:20,
109:19,
110:14,
110:22,
121:24,
122:5,
124:24,
125: 6,
125:11,
128:6,
134:24,
198:23,
199:8,
234:24,
280:8,
316:24,
317:3, 319:12
lengths 125:12, 289:13
less 22:2,
23:4, 24:1,
27:24, 41:24,
66:22, 68:21,
75:22,
112:15,
128:5, 157:6,

189: 6,
189:19,
203:13,
206:7, 232:6,
233:1, 238:1,
246:9, 295:5,
310:18,
325:20,
336:22
lessen 49:15,
49:22, 295:2
lessened 51:24
lessens 73:8
letter 36:11
Leuthold 112:3
level 40:17,
43:13,
100:17,
145:14,
157:22,
185:1,
200:16,
207:24,
233:6, 241:9,
298:9, 303:3,
336:8, 336:9,
336:11,
340:8,
347:15,
347:19
levelized 128:14
levels 185:25
Lewiston 3:22,
10:16, 10:25,
16:19, 17:13,
36:2, 37:2,
58:1, 58:2,
58:9, 58:25,
154:1,
154:10,
280:7, 301:10
Lewiston/auburn 3:26, 17:15, 36:2
lgilbreath@pier
ceatwood.com 2:20
liaison 331:11
license 20:24,

46:9, 46:10
licensed 28:20, 29:2, 230:25, 295:10,
297:5, 333:18
Licensing 1:29, 16:8, 20:18, 46:21
Lidar 350:24
lies 118:6
Lieu 26:23,
61:5, 67:9,
67:14, 78:10, 78:19, 85:4, 85:6, 85:8,
106:16, 239:23
life 34:2,
40:21, 76:17,
97:20, 97:22,
137:7,
138:12,
221:4, 224:5, 255:11,
273:14,
332:1, $334: 13$
lifetime 228:18
lift 28:8
light 15:9,
15:11, 50:13, 205:24, 259:10, 355:23
lightening 288:3
lighter 318:23
lights 141:6
Likely 168:14, 171:21,
174:2, 177:4, 178:21,
179:8, 189:6, 189:18,
197:6, 197:7, 212:18, 349:14
Limit 38:25, 39:2, 54:9, 82:10, 93:16, 93:19, 318:11

| limitations |
| :---: |
| 231:2 |
| limited 12:5, |
| 13:13, 19:11 |
| 41:21, 42:23 |
| 82:20, |
| 158:10, |
| 166:2, |
| 178:23 |
| 179:10, |
| 232:13, |
| 290:9, 29 |
| limiting |
| 196:17, |
| 248:1, 356:18 |
| $\begin{aligned} & \text { limits } 281: 7 \\ & 362: 1 \end{aligned}$ |
| linear 68:11, |
| 75:24, 80:12, |
| 80:22, 87:19, |
| 87:25, 88:15, |
| 88:16, 94 |
| 220:12, |
| 231:20, |
| 234:19, |
| 286:19, 287:3 |
| Link 15:14, |
| 120:13, |
| 129:12 |
| linkage 43:15 |
| Lisa 2:14, 21:9 |
| list 161:15 |
| $\begin{aligned} & \text { listed 182:15, } \\ & 195: 18 \end{aligned}$ |
| listen 20:22 |
| listening |
| 293:10 |
| $\begin{aligned} & \text { listing } 304: 9, \\ & 306: 7 \end{aligned}$ |
| Litchfield |
| 284:19, |
| 284:23 |
| live 32:20, |
| 34:6, 53:8 |
| live-stream |
| 15:14, 79:6 |
| $\begin{gathered} \text { live-streamed } \\ 15: 13 \end{gathered}$ |
| live-streaming 259:7 |

limitations
231:2
limited 12:5,
13:13, 19:11,
41:21, 42:23,
82:20,
158:10,
166:2,
178:23,
179:10,
232:13,
290:9, 292:6
limiting
196:17,
248:1, $356: 18$
limits 281:7,
362:1
linear 68:11,
75:24, 80:12,
80:22, 87:19,
87:25, 88:15,
88:16, 94:3,
220:12,
231:20,
234:19,
286:19, 287:3
Link 15:14,
120:13,
129:12
linkage 43:15
Lisa 2:14, 21:9
list 161:15
listed 182:15,
195:18
listen 20:22
listening
293:10
listing 304:9,
306:7
Litchfield
284:19,
284:23
live 32:20,
34:6, 53:8
live-stream
15:14, 79:6
live-streamed
15:13
259:7
lived 47:14
livelihoods 33:2
Livermore 10:25
lives 47:14, 87:8
LLC 5:36
Lloyd 47:3
LLP 3:30, 3:38, 5:11
loads 115:25
Local 3:24, 17:14, 45:23, 46:3, 51:1, 68:1
localized 290:9
locally 74:10
locate 116:12, 280:18, 281:1
located 12:24, 15:21, 15:23, 18:21, 19:16, 52:14, 59:1, 63:6, 67:6, 74:23, 94:14, 107:7,
107:18,
168:6,
171:20,
173:25,
218:1,
280:19,
295:11,
302:17,
305:14,
314:16,
315:15,
323:22,
324:18,
324:23, 347:3
locating 23:18, 72:19, 107:13, 115:19
locations
23:24, 27:3, 61:8, 73:12, 81:22, 109:21, 283:1,

283:14,
305:4, 306:6,
317:9,
322:12,
327:18,
340:5,
340:19,
342:7, 342:8, 343:14
locking 315:19, 324:24
Lodge 3:10, 17:11, 33:19, 46:14, 113:19
logging 32:17, 33:4, 43:23, 72:21, 73:24, 74:2, $93: 25$, 94:11, 115:2, 115:16, 115:25, 116:12, 116:22, 117:18,
118:2, 118:4, 169:11, 170:8, 227:18, 311:16, 312:11, 312:24, 314:19, 314:20, 314:21, 324:20
logic 249:19, 249:22
Logically 360:22
logistical 15:20
logistics 50:3, 246:21
logs 188:25
long 29:11, 41:20, 47:20, 53:1, 94:3, 111:16, 169:3, 172:9, 174:21,

| 200:24, |
| :---: |
| 240:17, |
| 242:6, 264:6, |
| 280:1, 327:7, |
| 351:14, |
| 352:13 |
| long-term |
| 56:15, |
| 238:16, |
| 254:25 |
| long-time 47:4 |
| longer 30:23, |
| 53:8, 122:1, |
| 135:19, |
| 136:21, |
| 137:25, |
| 138:23, |
| 199:15, |
| 200:9, |
| 278:18, |
| 278:21, |
| 287:14, |
| 315:22, |
| 317:21, |
| 325:11 |
| longitudinal |
| 236:23 |
| looked 58:13, |
| 108:23, |
| 120:4, |
| 157:21, |
| 174:15, |
| 175:6, |
| 242:17, |
| 286:12, |
| 287:14, |
| 299:17, |
| 305:22, |
| 305:24, |
| 312:16, 357:2 |
| looks 210:21, |
| 283:25 |
| loss 35:6, |
| 44:2, 78:7, |
| 83:14, 85:18, |
| 160:16, |
| 163:18, |
| 166:18, |
| 166:24, |

200:24,
240:17,
242:6, 264:6, 280:1, 327:7,
351:14,
352:13
long-term
56:15,
238:16,
254:25
long-time 47:4
longer 30:23,
53:8, 122:1,
135:19,
137:25,
138:23,
199:15,
200:9,
278:18,
278:21,
287:14,
315:22,
317:21,
325:11
longitudinal
236:23
looked 58:13,
108:23,
120: 4,
157:21,
174:15,
175:6,
242:17,
286:12,
287:14,
299:17,
305:22,
305:24,
312:16, 357:2
283 210.21,
28.25
loss 35:6,
44:2, 78:7,
83:14, 85:18, 160:16, 163:18, 166:24,

178:1, 281:9
lost 63:15,
158:23,
164:25,
165:4, 165:6,
165:20,
165:25,
167:1, 170:2
lot 38:3,
102:8, 136:7,
139:15,
223:14,
241:17,
255:18,
259:6, 259:7,
288:1,
330:25, 339:20
lots 165:11, 215:11, 337:24
loves 87:8
low 23:13, 289:10
Lowell 263:10
Lowelltown 11:9, 307:4
Lower 80:23, 82:16,
177:14, 202:23, 216:20, 218:1, 218:21, 311:22, 328:24
lowest 28:2, 119:23, 271:17, 272:14, 273:2
LTD 331:7
lumpy 309:18
lunch 86:8,
86:10, 173:1, 175:16,
221:21,
221:25,
222:16,
222:17
Luncheon 175:19

LUPC 7:8, 54:5, 54:6, 54:15, 269:9, 299:12, 350:15, 362:6 lure 32:19
Lyman 7:10,
17:23
< M >
M. 71:23
macro 336:8, 336:11
Madame 146:13
Madison 322:5
Madore 14:6
magnitude 241:19
main 56:8, 139:19, 141:1, 145:8, 313:14, 348:24
mainly 325:16
maintain 24:11, 66:10, 76:1, 91:12, 91:14, 99:5, 185:23, 186:17,
196:19,
230:4, 255:23
maintained
25:2, 66:2,
100:7, 162:7, 162:14, 183:19, 185:19, 187:21, 188:17, 231:23,
234:3, 234:7, 265:19, 265:20, 266:12, 266:21, 291:10
maintaining 25:25, 30:8, 63:19, 63:20,

73:10
170:21, 197:2 maintains

186:3, 214:11 maintenance

27:5, 27:6,
27:16, 62:8,
64:20, 77:9,
232:9,
232:12,
234:12,
237:11,
238:3,
250:10,
251:10,
254:18,
275:22,
275:24,
285:17
major 250:22,
281:20
majority 72:24,
72:25, 74:22,
75:16,
114:10,
114:11,
129:6,
295:13, 344:5
makers 134:22
mammals 191:22,
191:25
manage 101:22,
183:12,
198:5, 221:15
managed 106:5,
171:20,
172:15,
174:1, 198:6
Manager 13:24, 59:22, 60:3, 141:1,
141:12,
293:17, 296:8
managing 238:18
Manchester 4:35
Mandy 7:10, 17:24
manmade 73:18, 304:3
manner 49:3,

85:13, 183:13 manual 228:25,

229:10, 230:2 manually 229:19 Map 59:4,

141:15,
156:19,
227:14,
235:1,
260:11,
261:20,
264:2, 284:1,
306:22,
322:3, 333:2,
351:24
Maple 3:16,
7:16
mapping 157:24,
262:1, 296:2,
296:11,
331:11,
351:2, 353:7,
353:20,
353:21
maps 124:7,
124:10,
125:25,
215:12,
260:8,
264:13,
282:22,
283:6, $354: 15$
Marginal 6:11, 6:19
marked 149:6
marker 316:13,
316:14, 316:18
markers 24:10
market 282:6
marking 147:23
married 332:13
marten 159:24,
160:4, 160:8,
160:11,
185:24,
186:7, 186:9,
186:17,
186:20,
187:4,

191:23, 291:20
Mass 118:19, 212:15, 212:22,
244:13,
255:17
Massachusetts
51:14, 51:18,
51:22, 56:14,
56:17, 56:18,
57:18, 119:6,
119:14,
120:4, 152:2,
153:14,
155:1, 247:7,
247:12,
254:23,
255:20,
269:22
270:25,
271:2,
272:24,
273:8,
278:17,
285:9, 286:10
master 46:8
mat 61:24
MATC 356:23
match-up 279:14
material
164:22,
165:13, 276:2
materials
183:11,
188:13,
228:8, 242:8,
242:20,
259:18
math 181:18,
181:22,
242:15,
248:23,
249:10,
250:21,
251:19,
252:6, 254:6
mats 62:10,
62:12, 77:13
Matt 7:10,

17:24, 21:8,
278:8
MATTER 1:6,
13:12, 250:4,
298:5, 339:11
Matthew 2:6 mature 43:16,

75:25,
158:10,
158:11,
158:14,
158:21,
158:22,
158:23,
159:25,
185:25
maximize 22:21
maximizing
23:9, 81:12
maximum 189:4,
189:15,
192:11,
193:15,
193:22,
198:23,
199:7, 199:20
Mayfly 12:17,
24:25, 34:21,
60:10, 60:17,
69:23, 70:5,
70:7, 282:16
Mcdonnell
67:24, 68:3,
70:10, 78:1,
275:3,
276:12,
276:22,
277:23
Mcmahon 29:10, 167:17,
169:19,
171:11
MDIFW 196:16
means 111:7,
$141: 5$,
$151: 20$,
$159: 19$,
$171: 8,212: 4$,
$229: 2$,
$279: 10, \quad 363: 6$
meant 59:15, 117:13, 330:17
measure 64:19, 107:19, 116:18
measured 131:1
measures 24:24, 25:22, 26:3, 62:18, 63:25, 64:22, 65:13, 65:14, 67:17, 68:13, 69:9, 71:3, 77:7, 80:2, $90: 8$, 90:18, 91:3, 99:12, 237:7, 237:16,
275:21,
292:5, 296:3, 296:16, 300:15, 330:18, 338:15, 343:7, 361:15
measuring 290:16
mechanical
228:25,
229:9, 230:2, 230: 9
mechanism 135:25, 239:23, 269:18
mechanized 62:12
media 21:18, 300:25
meet 35:11, 36:23, 50:17
meeting 70:12, 112:18, 224:7
meets 11:17, 11:20, 13:5, 21:19, 27:22, 27:25, 78:13, 295:6
megawatt 128:14,

281:17
megawatts 10:19, 28:1, 56:11,
271:15, 281:8, 281:12, 281:19, 281:22, 282:2, 282:10
member 20:9, 45:15, 45:25, 156:11, 331:19
Members 19:6, 30:11, 45:3, 45:8, 45:9, 45:17, 231:21, 332:18
membership 45:16
memo 133:5, 133: 6
Memorial 3:31
memories 31:17
mention 14:11, 28:6, 57:3, 133:5
mentioned 23:1, 59:6, 120:20, 227:9,
227:24,
230:8, 237:8, 242:9, 268:21, 285:16, 289:3, 305:6, 305:18, 306:6, 330:20, 347:8, 352:25, 355:16
mere 177:8
merely 54:23
merge 305:10
merit 201:14
merited 150:21
merits 13:18

| $\begin{aligned} & \text { Merrill } 2: 8, \\ & 2: 16,11: 9, \\ & 260: 21 \end{aligned}$ |
| :---: |
| met 34:23, |
| 36:11, 36:17, |
| 39:10, |
| 135:19, |
| 150:18, |
| 159:19, |
| 159:21, |
| 297:15 |
| $\begin{aligned} & \operatorname{metal} 109: 18, \\ & 242: 9 \end{aligned}$ |
| method 229:3, |
| $230: 6,266: 5 \text {, }$ |
| $\begin{aligned} & \text { methodologies } \\ & 297: 17 \end{aligned}$ |
| methodology |
| 136:1, |
| 166:13, |
| 296:14, |
| 297:3, |
| 297:10, |
| 297:19, |
| 299:14, |
| 299:17, |
| 302:2, |
| 304:11, |
| 304:15, |
| 304:20 |
| $\begin{aligned} & \text { methods 78:9, } \\ & 229: 16 \end{aligned}$ |
| MGR 1:29 |
| mic 15:10, 87:1 |
| $\begin{aligned} & \text { Michael 123:22, } \\ & 123: 25 \end{aligned}$ |
| micro 336:9 |
| micro-rerouting $109: 4$ $109: 4$ |
| microphone |
| 15:2, 15:5, |
| 28:22, 79:6, |
| 259:5 |
| mid-'80s 151:18 |
| mid-ground |
| 302:13, |
| 302:18, |
| 305:22 |
| d-summer |

Merrill 2:8,
2:16, 11:9,
260:21
36:11, 36:17,
39:10,
135:19,
150:18,
159:19,
159:21,
297:15
metal 109:18,
242:9
method 229:3,
230:6, 266:5,
ethodologies
297:17
methodology
136:1,
166:13,
296:14,
297:3,
297:10,
297:19,
299:14,
299:17,
302:2,
304:15
304:15
methods 78:9,
229:16
MGR 1:29
mic 15:10, 87:1
ichael 123:22,
123:25
micro 336:9
micro-rerouting
109:4
microphone
15:2, 15:5,
28:22, 79:6,
259:5
mid-'80s 151:18
mid-ground
302:13,
302:18,
mid-summer

192:17
middle 111:12, 120:12
migrants 169:4 migration

228:11, 228:15
Mike 3:11,
17:11, 42:15, 113:19
mileage 241:7
million 26:23,
26:24, 26:25,
30:20, 58:10,
78:19, 78:25,
79:2, 82:3,
150:10,
151:23,
169:20,
247:2, 249:1,
249:5,
250:24,
250:25,
252:7,
252:10, 252:12, 252:21, 252:23, 253:21
Mills 46:15, 301:13
mimic 313:17
mind 32:3, 55:14, 113:13, 115:24, 132:7, 224:4, 248:12, 249:18, 355:21
minimal 27:15, 71:22, 75:8
minimally 312:14
minimization 67:16, 68:13, 69:9, 71:3, 80:1, 83:19, 90:8, 90:18, 101:6,

116:18,
256:13,
275:20, 292:5
minimized 35:1,
63:1, 63:18,
72:16, 75:17,
79:20, 82:8,
82:25,
107:22,
255:21,
256:7,
296:23,
299:3,
312:22, 333:6
minimizes
66:19, 85:14, 117: 6,
117:16,
309:19
minimizing
23:3, 23:8,
66:9, 100:14, 109:3,
110:13,
110:21,
166:14,
214:6, 231:6, 253:15
minimum 23:17,
85:19, 185:25
mink 191:23
minor 18:23,
81:15, 109:3
minus 214:25, 273: 6
minute 28:10,
86:3, 86:5,
86:6, 86:12,
123:19,
180:17,
258:25,
293:5, 320:9,
324:14,
337:3, 337:6, 341:2
minute-and-a-ha lf 327:12
minutes 86:5, 109:14, 113:14,


123:18,
148:21,
148:23,
155:5,
155:18,
220:23,
293:14,
319:5, $320: 4$,
321:4,
325:24,
329:10,
329:14,
334:6,
334:25,
341:4, 361:23
miscounting 207:9
misleading
74:17, 149:10
missing 26:8,
31:7
mission 30:6,
44:20
missions 45:6
Mississippi
51:11

265:15
misspoke 176:9
mitigate 80:20,
102:17,
109:12,
236:25,
250:20,
253:7, 256:3,
256:6,
256:22,
257:11,
275:14,
276:
304:17
355:15
mitigated
29:18, 63:19,
65:19, 79:20,
85:16,
mitigating

256:17,
338:14, 340:3
mix 244:20
mmanahan@pierce atwood.com 2:12
Mmm 275:13,
276:20,
291:13
MNAP 151:18
mobilization 242:21
model 223:24, 224:2, 286:10, 305:9
moderate 75:15
moderate-sized 198:16
modified 25:10, 70:21
modifying 72:23, 72:24
moment 232:23, 243:18, 299:11, 299:21, 299:25
momentary 315:7
MONDAY 1:15
monetary 27:17, 79:2, 125:1
money 30:19, 30:23,
106:13,
150:7,
237:18, 242:16, 248:19, 273:7
monies 80:18
monitoring 71:16, 230:18, 230:21
Monmouth 285:1
monoculture 163:25
monopole 143:10,
288:19, 301:1, 310:2,

330:11
monopoles 143:12, 300:24, 309:10
Moose 32:2,
44:22, 192:1,
226:12,
322:15
moral 36:24
morning 10:2,
11:24, 21:7, 28:16, 32:10, 35:20, 37:10, 42:13, 43:6, 44:15, 49:7, 56:3, 59:21, 60:2, 67:21,
86:20,
113:15,
113:16,
113:23,
113:24,
150:1,
222:18,
291:18,
362:4, 362:9
mosaic 96:20,
97:1, 110:8,
136:7,
172:18, 264:12
Moscow 11:1, 58:24, 81:25, 327:15, 329:3
Mosquito 319:11, 321:11
Mostly 167:23, 167:25, 245:14, 292:14, 295:14
motion 131:20
motorists 23:18
Mountains 2:27,
5:33, 17:8,
17:20, 29:5,
29:10, 29:12,
32:23, 40:14,

44:16, 51:4, 87:5, 169:18, 259:16,
301:22,
305:23,
308:15
mounted 230:13
movement 43:15,
75:23, 76:14,
76:16, 95:10,
182:25,
183:3, 183:5,
183:8,
187:12,
189:9, 189:21
Moving 176:25,
307:3, 308:5,
311:2,
312:25,
316:4,
316:19,
318:9,
318:19,
323:2,
323:11,
328:5,
328:14,
339:16
mowed 73:19,
183:18,
183:19
mowing 177:20
Moxie 11:9,
24:6, 46:11,
46:21, 53:13,
76:4, 81:24,
92:25, 304:7,
306:25,
315:12,
315:14,
315:16,
315:18,
315:22,
316:1,
316:19,
317:15,
318:3, 318:9,
318:21,
319:11,
321:12,

330:23,
361:11
MPRP 68:7,
68:8, 68:19,
68:23, 77:6,
77:16,
141:13,
141:21,
142:8,
142:14,
142:20,
142:24,
143:18,
144:22,
145:3, 145:5,
147:18,
284:14, 296:6
MRSA 49:12
muddy 218:5
multifaceted
78:8, 80:19
multiple 41:9,
68:18,
159:20,
242:19,
353:14
multipliers
85:7
municipal
59:18, 303:24
municipalities 10:23
muscles 218:5
muted 177:13
MWGO 30:10
Myers 36:7
myself 336:13, 336:16
< N >
name 13:9,
14:24, 21:8,
32:11, 37:10,
42:14, 44:15,
56:3, 59:21,
60:2, 67:21,
86:20, 87:3,
113:16,
150:1,

190:22,
293:16,
295:9, 297:4,
331:5, 335:4,
341:13, 349:2
namely 48:23
names 215:21, 215:23
naming 225:17
narrow 315:7
narrowed 44:6
narrower 205:25
narrowest 67:7
Nation 30:17, 294:19
National 22:10,
29:3, $30: 14$,
$30: 15,30: 25$, 107: 6,
303:13,
303:18,
303:22,
303:23,
322:2,
341:14,
348:13,
349:6, 349:8, 349:12
native 32:21,
41:5, 166:19, 166:25,
355:24
Nature 5:20,
5:25, 17:18, 43:7, 43:8, 43:11, 224:21, 236:14, 241:5, 264:8, 274:17, 301:20
nature-based 45:1
navigable 331:23
navigational 12:15, 34:13, 298:2,
331:17, 334:3
near 27:4,

needs 33:5, 36:23, 60:1, 134:10, 134:18, 137:4, 159:19, 159:21, 224:6, 256:25, 359:10
negative 29:22, 33:25, 37:21, 177:4, 177:9, 352:16
negatively 37:25, 40:2, 71:12
negligible 207:20, 207:23
negotiated 272:18
negotiating 48:7, 48:13
neighbor 136:9
neighboring 332:23
Neither 106:25
neotropical 169:3
NEPA 88:13
Nest 3:10, 17:11, 33:19, 113:19
nestled 32:13
net 44:2, 78:6, 83:14, 85:18, 121:18, 130:13, 130:14, 258:17
Networks 56:5
newer 351:9
News 16:21, 21:16
newspapers 16:19
Nextera 6:6, 17:21, 49:8, 131:13,

131:23, 132:17, 152: 6, 152:13, 152: 20, 153:1, 153:10, 153:25, 154: 9, 154:18, 154:20, 244:24, 266:25, 268:13, 268:24, 269:8, 335:2
Nextera/cmp
268:15,
268:20
NH 3:17, 4:28, 7:17
niche 33:14
night 19:8, 19:10, 31:7, 201:1
nineth 128:24, 260:15
No. 105:10,
118:4, 126:5, 154:7, 155:2, 159:14, 170:4, 173:9, 186:15,
188:6, 189:2, 194:11, 209:8, 209:20, 213:21, 216:25, 218:11, 246:8, 247:21, 248:4, 249:13, 272:5, 275:1, 276:11, 291:6, 335:24, 344:18, 357:1
Noah 7:11,

17:24
nobody 147:17
nodding 264:22
non-capable
62:14,
184:25,
192:12,
198:18,
199:6,
199:24,
265:21
non-forested 167:22
non-functional
26:8, 64:10
non-industriali
zed 32:18,
32:24
non-intervenors
54:4
non-profit
30:6, 44:18,
44:20, 45:6
non-secular
310:16,
310:19,
330:23
non-synchronize
d 279:8
non-trout
211:2,
211:12, 213:3
None 155:2,
202:25,
343:15,
347:17
Nonetheless
80:10
Nongame 26:11, 61:6, 64:13, 65:11, 71:4, 78:23, 81:1
noon 86:8,
194:5
Nope 234:15
nor 334:1,
336:16
normally 208:10
north 37:15,
42:7, 58:15,

92:25,
107:15,
111:3, 111:9,
228:2,
308:12,
308:14,
309:3, 310:8,
310:23,
313:10,
317:10,
324:19,
324:21
north/south
174:20, 175:1
northbound
320:13,
320:23,
325:2, 325:3,
325:19,
326:24,
327:4, 327:10
Northeast 41:5,
174:16,
175:1,
295:23,
307:13
Northern 24:25, 46:7, 46:24,
60:10, 60:18,
69:23, 70:5,
70:8, 111:8,
120:12,
120:16,
120:25,
121:9,
121:23,
122:3, 122:9,
124:6, 126:1,
127:23,
128:19,
149:22,
168:21,
282:16, 313:5
northwest
308:13,
309:6, 311:23
notable 40:15
Notably 76:3,
77:14
Notary 1:20,

363:3
notch 309:8,
309:15, 309:17,
323:18,
323:20
note 15:5,
18:16, 18:23,
113:12,
120:24,
155:5,
188:13,
197:12,
201:5, 231:1,
327:14, 328:6
noted 63:2,
72:3, 80:14,
110:7,
156:15,
156:16,
264:11,
341:25,
342:5,
342:18,
347:17,
354:18
notes 15:20,
182:24,
214:1,
224:19,
353:22
nothing 20:2,
94:25,
107:15, 171:5
Notice 16:18,
16:25, $324: 7$
noticeable
302:19,
309:18,
312:7,
312:14,
321:22,
322:23, 324:6
noticed 57:4,
151:12
notification
17:3
notify 234:10
noting 353:15
Novello 8:8,


```
< O >
O&M 286:2,
    286:8
    286:13,
    286:20, 287:1
o'clock 18:25,
    86:13,
    175:17,
    341:1, 362:4
object 38:15,
    53:23, 54:5,
    95:1, 98:2,
    123:9,
    123:11,
    129:14,
    145:18,
    145:24,
    146:25,
    147:22,
    147:25,
    152:25,
    154:12,
    156:2, 167:8,
    181:20,
    217:10,
    222:8,
    226:15,
    226:17,
286:8,
286:13, \(286: 20, ~ 287: 1\)
'clock 18:25,
175:17,
175: 341:1, 362:4
53:23, 54:5, \(95: 1, ~ 98: 2, ~\)
\(123: 9\), 123:11, 129:14, 145:18, 145:24, 146:25, 147:25,
152:25,
156:2, 167:8,
181:20,
226.17,
```

$\begin{array}{r}42: 13, ~ 42: 15 \\ \hline\end{array}$
353:25
nrcm@nrcm.org
4:16, 4:23
NRPA 49:25,
50:18, 79:17,
83:10, 85:19,
108:12,
240:4,
297:24,
336:21
numbers 124:23, 129:9, 209:2, 288:17, 290:22
numerous 26:22, 27:16, 39:24, 310:12, 317:9, 340:4

247:23,
247:25,
266:25,
274:1,
344:11,
345:5, 359:5
Objection
38:18, 38:25,
54:20, 55:4,
55:8, 98:15,
124:13,
125:16,
146:19,
152:14,
204:17,
267:14
objectionable 298: 9
objections
122:21, 127:6, 127:7, 167:11
Objectively 332:20
obligated 45:4
obligation 36:25
observation 304:2, 311:19
observed 217:22, 218:5
observer 302:8, 302:17
obtain 248:18
obtrusive 24:1
obvious 102:13, 203:12
Obviously 91:9, 91:16,
115:24,
120:11,
120:15,
127:10,
128:5, 131:3,
143:25,
200:15,
227:18,
246:1,
255:14,
287:4, 288:2,

292:2,
308:25,
312:12,
314:23,
316:7,
316:20,
324:20,
325:9,
325:17,
326:8,
328:10,
338:24,
350:21
occasion 301:1
occasions
297:9, 340:13
occupy 263:18
occur 23:8,
43:19, 48:17,
121:19
occurred 347:15
OCR 30:20,
30:24, 31:21
off-project
65:9
off-shore
295:23
off-site 64:11
off-target
231:6
offer 31:12,
36:6, 82:19, 122:25, 148:17, 167:4
offered 26:21, 26:23, 52:4, 67:14, 148:15
offering 296:4
offers 84:11
Office 1:28,
6:25, 6:28, 13:11, 17:21, 19:22, 300:3, 305:8
Officer 1:18, 13:12, 15:3, 55:4, 60:7, 125:18, 127:8, 147:2, 153:23,


156:5, 257:6, 274:15 officialy $33: 9$ offset 27:10, 67:10, 69:12, 71:5, 84:21, 84:25, 90:18, 217:6, 223:25,
239:24
222:17,
300:25, 303:1 Old 2:29, 2:33, 17:9, 29:2
29:6, 30:17,
32:1, 32:6,
107:16,
107:25,
111:25,
112:3,
203:23,
203:25,
315:10,
322:2,
352:23,
355:3, 361:10
omit 165:13,
165:14
omitted 165:17
on-project 65:9
on-shore 295:23
on/off 15:5
Once 14:19,
32:17, 52:15,
232:15,
272:16,
272:17,
273:6, 280:1,
2
287:7, 303:2
one-page 12:24
one. 128:21,
145:11,
346:21
ones 77:5,
303:16,

343:15
ongoing 276:4,
356:21
online 59:20, 350:25
oops 305:11
open 53:1,
97:5, 101:2, 202:22, 235:18, 241:8, 303:25, 340:19
opened 241:8, 274:6, 274:12
OPENING 8:3, 18:9, 18:24, 21:5, 39:9, 326:14
openings 172:10
opens 323:15
operated 255:6, 280:23
operating 130:2, 255:9
operation 134:23, 134:24, 135:20, 250:9,
275:14, 275:18, 287:21
operational
58:11, 224:8, 280:16
operations 29:23, 162:22, 251:10, 254:17, 285:17, 312:10, 325:6 operator 46:13, 46:19, 287:7
opinion 201:12, 295:1, 349:22, 349:23, 355:14
opportunities 82:20, 333:17 opportunity 30:22, 32:11, 36:14, 36:15, 39:23, 42:14, 54:18, 55:22, 125:21, 127:19, 129:2, 134:25, 333:13
opposed 21:11, 33:9, 74:13, 94:15, 104:3, 105:14, 117:17, 129:16, 143:10, 181:21, 229:3, 253:2, 285:20, 287:9, 337:9 opposite 334:23, 356:2 opposition 34:9, 52:10 optimal 22:7, 236:4
option 48:11, 111:14, 236:3
orange 314:17
Order 10:3,
47:18, 57:12, 57:16, 59:6, 60:7, 69:21, 79:13, 125:8, 130:4, 146:25, 215:18, 241:18, 245:9, 247:10, 248:7, 248:10, 248:19, 254:19, 265:11, 282:20, 286:9,

```
    288:20,
    293:9,
    328:23,
    334:15,
    334:23
Orders 16:13,
    20:19, 49:20
Organization
    29:6, 29:20,
    30:5, 30:6,
    136:21
organizations
    45:6, 45:13,
    295:15,
    356:22
organized 17:7,
    168:8
orient 107:20,
    323:15
orientating
    23:14
oriented 111:7,
    313:8
original
    160:18,
    161:4, 272:20
originally
    42:20,
    127:21,
    201:6, 255:4
others 36:12,
    36:19, 41:18,
    71:17, 114:1,
    163:5,
    169:17,
    187:2,
    248:14,
    265:14,
    299:19,
    346:19,
    356:23
otherwise
    77:11, 79:19,
    156:15,
    164:9,
    164:11,
    165:21,
    298:21
otter 191:22
ourselves 352:5
288:20,
293:9,
328:23,
334:15,
334:23
Orders 16:13,
20:19, 49:20
Organization
29:6, 29:20,
30:5, 30:6,
136:21
organizations 45:6, 45:13, 295:15, 356:22
organized 17:7,
168:8
orient 107:20, 323:15
orientating
23:14
oriented 111:7, 313:8
original
160:18,
161:4, 272:20
originally
42:20,
127:21,
201:6, 255:4
others 36:12,
36:19, 41:18, 71:17, 114:1, 163:5,
169:17,
187:2,
248:14,
265:14, 299:19, 346:19, 356:23
otherwise
77:11, 79:19, 156:15, 164:9, 164:11, 165:21, 298:21
otter 191:22
ourselves 352:5
```

outages 282:8
outcry 358:17, 359:3, 359:7, 359:12
Outdoor 31:14, 34:3, 45:14, 45:23, 53:16, 333:23
Outdoors 46:2, 46:7, 46:24
outdoorsmen 53:14
outfitter 46:3, 46:14
outlined 304:14
Outside 15:21, 62:15, 77:11, 81:8, 185:9,
185:18,
192:21,
193:2,
193:13,
193:20,
193:24,
206:4, 206:8,
229:12,
230:10,
333:14
outstanding
12:22, 25:6, 31:1, 35:9, 60:15, 61:13, 65:21, 65:22, 66:4, 66:17, 66:23, 79:15, 81:21, 81:23, 82:9, 82:13, 82:14, 82:18, 82:24, 277:7, 299:8, 306:17, 308:23, 316:21, 327:21
outweigh 121:20
Overall 57:24,
58:10, 59:16, 111:7, 120:6, 128:18, 130:5, 130:7,

130:16, 163:5, 171:4, 203:15, 211:20, 234:21,
271:14, 289:8, 306:9, 330:19
overhead 24:9, 154:7, 231:15, 278:18, 280:22, 287:17, 287:24, 288:4, 290:18, 315:1, 358:2, 358: 6, 359:22, 359:24
overlap 220:2, 234:25
overlooking
322:15
overly 40:23
overruns 255:19
overseeing
47:2, $296: 11$
overseen 230:24
oversight 234:14
overstate 182:6
overview 18:10,
29:8, 55:20,
56:2, 56:6,
85:22,
156:19, 304:11
overwhelming 349:15, 358:16, 359:2, 359:7, 359:11, 359:17
overwhelmingly 358:24
own 32:25,
51:25, 59:12, 120:15,
$121: 20$,
$180: 14$,
$253: 3,358: 17$
owned 43:1,
$59: 11,112: 1$,
$114: 14$,
$114: 15$,
$304: 1,311: 4$
owner 45:22,
$45: 24,46: 13$,
$46: 19,46: 21$,
$47: 12,287: 7$
owners $32: 20$,
$110: 2$
ownership $58: 8$,
$81: 8,110: 16$
owning $270: 21$
owns $271: 5$
Oxford $241: 23$
$<\mathrm{P}>$
P-RR 12:10, 299:12
p.m. 19:4,

19:6, 362:13
Pachios 3:30,
3:38, 5:11
pacifying 94:7
package 48:14,
80:14, 80:17, 80:19, 92:9
paddlers 40:7
page-and-half 202: 9
Pages 92:8,
132:1, 132:4,
196:2, 196:4,
196:6,
213:18,
215:1,
231:11,
264:5, 303:11
Palmer 341:17,
342:5,
343:11,
346:23,
352:21,
353:14,
353:18,

353:21,
354:11,
354:14
Pam 46:10
pan 309:20,
322:16,
322:24
panelists
345:18
panels 18:15, 113:14,
311:18, 322:17
panning 312:8
panoramic
307:16,
308:13,
319:10, 321:9
paper 28:9,
123:3, 123:5, 201:19, 201:21
paragraph 57:5, 57:21, 103:9, 119:10, 160:21, 161: 6, 165:19, 165:22, 166:4, 177:8, 178:18, 178:19, 179:6, 179:21, 196:14, 271:10
parallel 39:20, 58:21, 262:23, 262:24
parameters
70:13,
202:24, 202:25, 210:8
paraphrasing 170:7
parcel 216:3, 217:6, 314:3
parcels 78:16, 82:19,

138:16, 139:15, 215:13, 215:16, 215:17, 215:24, 216:18, 216:21, 219:22, 314:14, 337:10
Park 303:24, 329:21, 329:22, 329:24, 330:3, 356:22
parks 22:10, 166:10, 303:23, 303:24
Parlin 11:10, 306:24,
312:25, 313:1, 313:9, 323:4, 323:6, 361:10
Partially 75:2, 99:7, 219:8
participants 20:5
participating 47:17
participation
20:12, 21:3,
37:4, 361:25, 362:3
particular
60:10, 89:2,
127:2,
146:15,
192:23,
194:4,
233:23,
260:7,
282:23,
301:18,
302:15,
302:22,
317:12,
340:17,

342:18
particularly
126:1, 143:7,
188:16,
192:2,
200:12,
287:22,
353:19
PARTIES 2:1,
3:1, 4:1,
5:1, 6:1,
7:1, 11:16,
16:25, 18:5,
18:8, 18:10,
37:3, 43:4,
123:17,
123:20,
126:22,
155:11
partner 332:1
Partners 331:7
partnership
224:22,
244:23
parts 10:17,
171:7
party 15:2, 20:9
Pass 120:12,
120:16,
120:25,
121:9,
121:23,
122:3, 124:7,
126:1,
127:23,
128:20,
149:22,
168:13
passage 277:13
passed 255:20,
285:8
passing 23:17
past 46:4,
123:10,
134:23,
137:25,
138:12,
224:3, 287:8, 295:21,

297:9, 347:20
patch 238:7,
264:12
patches 261:4
patchwork
224:24,
312:10
path 119:23, 233:8
Patrol 47:5
pattern 174:10, 322:25
patterns 175:8, 175:11, 302:18, 323:1, 351:22
pause 228:19
paved 62:9,
91:14
pay 26:12
Payer 187:3, 270:13
paying 282:9
payment 61:4,
78:9, 78:22,
78:25
payments 130:3
pays 282:6
Payton 187:2
Peabody 46:18
PEASLEE 14:4, 202:14,
202:18, 213:20, 283:22
peels 261:8
peer 297:14, 341:18
PEGGY 1:28, 9:14, 13:25, 289:19, 329:14, 331:5, 331:6, 334:7
Penobscot 294:19
perceive 319:16
perceived 298:9
percentage
173:11,

176:13,
203:4, 235:5, 285:25,
286:3, 286:7,
349:12
perennial 25:2, 61:10
perform 295:20
performance
195:5, 197:15
performing
26:13
Perhaps 182:9,
242:25,
243:2,
300:12,
337:12,
347:22,
347:23
period 45:7,
137:25,
176:7,
179:23,
180:7, 251:4, 282:11
periodically 63:8
permanence 94:3, 98:17
permanent 27:1, 29:17, 40:17, 40:19, 43:24, 52:18, 74:21, 83:24, 84:12, 84:17, 84:21, 85:1, 85:8, 97:7, 97:18, 98:13, 104:3, 115:11, 115:15, 134:15, 134:20, 135:9, 162:14, 162:23, 172:9, 178:1, 274:17, 288:14, 289:4, 289:8
permanently
$26: 5,37: 17$,
$51: 3,64: 8$,
$135: 13,162: 6$
permeable $76: 14$
permission
$42: 25$
permit $10: 12$,
$35: 15,35: 16$,
$42: 11, \quad 55: 15$,
$59: 16,68: 23$,
$78: 2,89: 4$,
$92: 19$
permits $51: 16$
permitted

51:20, 129:6
permitting
59:22, 60:3, 68:1, 138:10, 284:15
perpendicular 23:15, 107:20, 340:20
perpetuity
78:18
person 46:4,
47:4, 123:25, 124:14,
127:6, 223:6,
230:25,
236:8, 239:8
personal
201:12,
267:8, 305:7
persons 17:1, 19:23
perspective
149:17,
221:15,
257:21,
328:11,
336:10
pertain 100:13
pertained 98:16
pertaining
127:2, 127:7
pertains 240:18
perversely 51:3
Peter 46:15
Peterson 71:23,

204:10,
204:20,
205:16,
205:22,
206:1, 206:3
Petruccelli 35:24
phase 276:5
Philbrick 45:24
philosophy 285:24
Phone 2:11,
2:19, 2:36,
3:18, 3:34,
3:42, 4:15,
4:22, 4:29,
4:36, 5:15,
5:29, 5:40,
6:14, 6:22,
6:31, 7:18
phones 15:18
photo 141:8,
156:20,
157:22,
260:25,
305:19,
324:14
photograph
263:5,
311:14,
311:19,
311:22,
314:17,
323:10,
323:24, 325:1
photographing 300:2
photographs
142:12,
148:5, 305:8,
317:8, 323:20
photos 42:23,
142:3
photosimulation 296:2,
296:12,
296:17,
304:16,
306:5,
307:19,

309: 6,
309:22,
312:12,
313:23,
314:22,
317:16,
320:16,
320:18,
321:15,
323:25,
324:15,
340:1, $340: 2$,
355:10
photosimulation
s 42:24,
300:8,
305:19,
306:3,
306:12,
306:14,
306:23,
317:10,
330:1,
330:15,
330:17,
334:11,
340:5, 357:15
physical
156:22,
157:23,
206:16,
206:25,
207:2, 207:4,
207:5, 210:8,
210:14
physically
212:7
pic 213:22
pick 79:8,
133:12
picked 120:25,
121:14,
121:15,
166:12,
256:2,
325:10,
347:13
pictured 300:25
pictures
140:12,

| 213:18 | 108:8, |
| :---: | :---: |
| piece 28:9, | 110:15, |
| 57:18, | 110:23, |
| 128:16, | 116:19, |
| 200:24, | 117:13, |
| 230:18, | 117:14 |
| 234:16 | planet 136:25 |
| pieces 62:25, | planned 350:6 |
| 200:19, | Planning 1:4, |
| 252:9, 283:14 | 10:5, 14:9, |
| pier 295:20 | 19:23, |
| Pierce 2:7, | 108:19, |
| 2:15 | 109:2, |
| Pilsbury 3:11, | 256:15, 333:4 |
| 17:12, 113:20 | plans 27:13, |
| pine 150:8, | 62:16, 77:10, |
| 150:17, | 355:13 |
| 151:12, | plant 24:23, |
| 151:17, | 34:19, |
| 291:20, | 150:14, 163:4 |
| 303:17 | Plantation 3:6, |
| pink 14:22 | 11:11, 11:14, |
| pipeline 87:14 | 17:10, 33:7, |
| place 11:23, | 42:20, |
| 90:9, 92:12, | 113:18, 329:4 |
| 118:21, | plantations |
| 132:8, | 11:5, 33:8, |
| 137:17, | 151:13 |
| 218:17, | planted 117:21, |
| 298:22, | 151:14 |
| 308:8, | planting 108:3, |
| 313:15, | 115:11, |
| 313:16, | 316:11, |
| 326:23, | 355:13 |
| 346:10, | plantings |
| 347:11 | 24:15, |
| placed 78:18, | 151:17, |
| 78:19, 99:16, | 320:16, |
| 289:14 | 328:22, |
| placement | 356:1, 356:12 |
| $\begin{array}{ll} 83: 21, & 84: 18, \\ 288: 11 \end{array}$ | $\begin{aligned} & \text { plants } 150: 15, \\ & 295: 25 \end{aligned}$ |
| Places 116:3, | playbook 229:18 |
| 131:18, | played 54:25, |
| 182:17, | 332:13 |
| 289:13, | plays 54:24 |
| 303:10, | Pleasant 11:14, |
| 303:22, | 32:15, |
| 355:7, 361:12 | 303:25, |
| placing 94:19, | 318:14, |

108:8,
110:15,
110:23,
116:19,
117:13,
117:14
planet 136:25
planned 350:6
Planning 1:4, 10:5, 14:9, 19:23,
108:19,
109:2,
256:15, 333:4
plans 27:13,
62:16, 77:10,
lant 24:23,
34:19,
150:14, 163:4
Plantation 3:6,
11:11, 11:14,
17:10, 33:7,
42:20,
113:18, 329:4
plantations
11:5, 33:8, 151:13
planted 117:21, 151:14
planting 108:3,
115:11,
316:11,
355:13
plantings
24:15,
151:17,
320:16,
328:22,
356:1, 356:12
plants 150:15, 295:25
playbook 229:18
played 54:25,
332:13
plays 54:24
leasant 11:14, 32:15, 318:14,

318:19,
319:2, 319:9, 319:22, 329:4 pleased 36:6
plentiful
169:5, 171:1
plenty 171:8
plethora 339:21
PLLC 3:15, 7:15
plus 112:11,
193: 7,
214:25,
273:5, 281:18
podium 21:12
point. 224:13,
233:22, 301:2
pointed 132:10,
147: 4
pointing
131:10,
132:8, 302:25
points 23:14,
126:25,
291:9,
299:16,
318:24
pole 144:1,
144:16,
288:11,
301:2, 319:20
poled 307:20
poles 83:22,
84:19, 97:24, 109:24,
117:22,
117:23,
135:23,
143:4, 221:9,
222:23,
339:1,
339:12,
339:14
policy 134:22
politics 21:17
pollutants
66:13
pollution 71:18
ponds 32:23,
33:14,
305:23,

308:20,
308:23
pool 74:19,
74:22, 75:1,
85:2, 292:3
Pooler 84:14,
216:23, 217:4 pools 41:14,

41:15, 41:17,
42:3, 42:8,
63:6, 73:1,
74:19, 75:7,
85:9, 206:1,
208:19,
339:17
poor 196:24
popular 52:9,
112:6, 217:23
population
52:24, 53:2,
72:2, 267:6,
267:12,
267:24, 268:6
populations
41:5, 72:7, 267:9
portfolio 286:1
Portions 10:22,
11:12, 12:2,
19:18, 44:5,
49:19, 50:9,
75:20, 185:5,
186:23,
235:13,
277:19,
322:21
Portland 2:10, 2:18, 3:41,
5:14, 6:13,
6:21, 16:23,
67:24
posed 98:7,
98:9, 238:13
position 37:5,
39:9, 42:17,
46:18,
115:18,
117:19,
351:13,
352:12
positive 30:22, 31:14, 125:2
possibility
34:2, 110:13, 312:17, 333:17
possible 21:22, 22:25, 35:2,
47:24, 52:8, 61:22, 62:3, 62:12, 64:6, 65:5, 65:19, 67:2, 82:25, 85:15, 116:3, 116:6, 188:10, 270:6, 281:1, 361:7
Possibly 34:15, 187:16,
284:25
post 126:3
post-constructi on 276:5
potential
31:20, 47:21,
66:13,
138:20,
177:6,
186:11,
228:10,
236:3,
295:17,
296:22,
299:3, 302:5,
304:17,
307:15,
308:9,
310:21,
313:19,
322:13,
324:1,
325:12,
326:23,
351:5,
353:16,
356:12,
357:17
potentially
44:5, 161:16,

200:18,
227:5,
243:13,
283:4, 340:11
Pownal 11:1,
58:9, 301:12
practicable
22:1, 27:24,
34:24, 41:23,
246:18,
247:18,
293:25,
294:10,
294:14,
294:23, 295:6
practicably
294:10
practical
36:24, 51:23, 79:18
practice 99:2, 99:3, 100:18, 101:9, 188:2
practices
61:16, 68:14, 68:20, 69:10,
71:2, 71:13,
71:15, 73:4,
92:4, 99:10,
99:24,
103:11,
105:12,
105:13,
179:15,
179:17,
187:8,
197:12,
229:8,
229:15,
230:12,
230:21,
275:20
pre-existing 92:13
Pre-file 283:20, 283:21
Pre-filed 18:7, 20:20, 53:24, 60:5, 114:4,

| $\begin{aligned} & 162: 4, \\ & 162: 13, \end{aligned}$ |
| :---: |
| 164:2, 18 |
| 184:7, 184 |
| 187:7, |
| 201:18, |
| 225:6, 22 |
| 228:23, |
| 237:6, |
| 238:21, |
| 239:10, |
| 240:19, |
| 271:11, |
| 271:14, 280: |
| 16:10 |
| 16:10 |
| $\begin{gathered} \text { fe-quali1 } \\ 295: 20 \end{gathered}$ |
| pe-site 126:6 |
| preceded 57: |
| 164:22 |
| recludes |
| 186:22 |
| redators 63:23 |
| refer 144: |
| eferred 48:9 |
| 50:1, 186:3, |
| 186:7, |
| 293:22, |
| 294:2, 294:5, |
| 294:6, |
| 294:11, |
| 294:15, |
| 294:24 |
| rehearing |
| 155:25 |
| prepared 78:3, |
| 123:22, |
| 124:15, |
| 297:15, |
| 300:7, 305:18 |
| eparing |
| 296:1, 296:14 |
| repping 360:9 |
| rescribed 85:5 |
| resence 70:7 |
| $70: 14,70:$ |
| 71:1, |
| 107:5 |
| ent 19:9, |

162:4,
164:2, 184:6,
184:7, 184:8,
187:7,
201:18,
225:6, 228:9,
228:23,
237: 6,
238:21,
239:10,
240:19,
271:11,
271:14, 280:9
pre-hearing
16:10
pre-qualified
295:20
pre-site 126:6
preceded 57:14
precedes 164:22
precludes
186:22
predators 63:23
prefer 144:24
preferred 48:9,
50:1, 186:3,
186.7

294:2, 294:5,
294:6,
294:11,
294:15,
294:24
prehearing
155:25
prepared 78:3,
123:22,
124:15,
297:15,
300:7, 305:18
preparing
296:1, 296:14
prepping 360:9
prescribed 85:5
presence 70:7,
$70: 14,70: 18$,
71:1, 72:7,
107:5
present 19:9,

69:14, 77:22,
121:18,
130:14,
134:15,
162:21,
233:21,
234:11,
293:20
presentation
296:13
presentations
156:15,
157:1, 157:2
presented 50:1,
333:11
presenting
14:23
presents 333:10
preservation
27:1, 65:7,
67:12, 76:6,
78:10, 78:17,
79:1, 80:22,
82:17, 83:3,
84:7, 84:15,
84:20, 84:23,
238:24,
239:12,
240:12
preservations 84:6
Preserve 64:8,
82:16, 112:3,
171:7,
220:11,
294:18, 316:9
preserved
67:14,
106:13,
328:3,
328:20,
358:13
preserving
26:5, 82:7,
331:3,
338:25, 339:3
President
45:23, 46:4,
46:7, 46:23,
$47: 10$, $56: 4$

Presiding 1:18, 13:11, 15:3, 55:3, 60:7, 98:1, 125:18, 147:2, 153:23, 156:5, 257:5, 274:15
Press 15:9, 15:10, 16:23, 45:8, 259:10
pressurized 230:12
presumably 230:20
presumption 38:23
Preti 3:30, 3:38, 5:11, 35:21, 35:23
pretreated 310:20
pretty 203:11, 207:19, 207:23, 264:19, 302:9, 315:4, 326:10, 353:3
prevent 44:12
previous 178:19, 314:13, 345:13
previously 46:1, 59:6, 69:19, 94:12, 171:20, 173:25
price 224:2, 269:20, 269:25, 271:3, $347: 22$
prices 56:21
pricing 133:2, 133:17
Primarily 72:21, 87:13, 87:19, 99:14, 104:1, 156:14,


165:22,
170:15,
19:24,
225:3, 230:8,
230:10,
296:10,
313:8, 314:5,
315:14, 335:3
primary 22:4,
331:12,
348:8, 349:13
prime 296:12
principle
163:21
printed 214:23
Prior 14:22,
88:25, 330:2,
347:15,
347:16
private 43:2,
45:7, 53:5,
53:9, 53:11,
74:2, 87:23,
331:23
privately 43:1,
59:11
proactive 333:3
probability
212:4,
281:12,
287:18,
288:2, 353:8
Probably 88:20,
102:15,
115:8, 139:6,
142:13,
142:15,
168:4,
172:14,
193.6, 193:9,
198.6,

199:17,
199:18,
200:2, 222:4,
228:6,
251:19,
285:14,

288:18,
320:11,
339:8, 347:21
problem 339:20
problems 353:22
Procedural
13:15, 16:13,
20:19, 57:16,
60:7, 69:21,
79:13
Procedure 16:5
procedures
16:11, 304:13
proceed 55:6,
90:2
proceeding
15:12, 17:7, 21:4, 36:18,
38:15, 48:3,
48:20, 89:8,
126:17,
246:19,
256:24
PROCEEDINGS
10:1, 14:12,
18:4, 20:13,
28:8, 39:3,
42:22,
113:22,
126:23,
127:1
363:5
process 10:11, 14:15, 20:25, 39:7, 47:18,
54:5, 54:15,
55:16, 78:3,
83:20, 88:13,
111:1, 111:2,
133:19,
143:15,
178:12,
247:12,
256:15,
270:10,
272:13,
279:4,
297:14,
300:14,
316:17
produce 73:6,

245:9, 347:4 produced 89:3, 177:3 production 171:21, 174:1, 296:11 productive 20:15
products 115:1, 117:16, 227:19
profession 30:7
professional 30:8, 87:12, 305:5
professionally 20:7, 20:10
profile 157:15, 232:19, 313:17
Program 13:25, 30:14, 61:5, 68:6, 78:10, 78:19, 81:4, 85:4, 106:16, 106:17, 150:19, 151:6, 188:3, 243:7, 296:6
programs 44:24
prohibitive 122:11
Prominent 21:16, 46:13, 261:3
promote 73:5, 73:25, 99:24, 101:21
promotes 101:10, 101:17
promoting 30:21, 95:9, 101:20
promptly 175:17
pronounced 151:11, 158:19
proof 34:24, 125:2

| properly |  |
| :---: | :---: |
|  | 242:25, 243:1 |
| properties |  |
|  | 303:21 |
| Property |  |
|  | 109:24, |
| 110:1, |  |
| 111:16, |  |
| 130:2, |  |
|  | 251:11, |
|  | 285:17, |
| 286:4, |  |
| 286:14, |  |
|  | 286:21 |
| proposal 24:23, |  |
| 26:3, 28:18, |  |
| 30:13, 34:5, |  |
|  | 51:25, 56:14, |
| 70:21, 91:13, |  |
| 103:23, |  |
|  | 151:23, |
|  | 152:5, |
|  | 152:12, |
| 152:13, |  |
| 153:25, |  |
| 154:18, |  |
| 154:20, |  |
| 242:11, |  |
| 243:17, |  |
| 244:17, |  |
| 256:8, |  |
| 268:15, |  |
| 268:20, |  |
| 268:25, |  |
| 269:5, |  |
| 285:20, 317:3 |  |
| proposals |  |
| 56:15, |  |
| 102:17, |  |
| 128:16, |  |
| 152:2, 153:9, |  |
| 153:10, |  |
| 153:13 |  |
| propose 86:4, |  |
| 124:25, |  |
| 150:11, |  |
| 154:10, |  |
|  |  |
| $216: 14$ |  |

231:14,
245:15,
269:25,
356:4, 356:17 proposes 358:18 proposing 24:2, 24:7, 25:8,
73:11, 80:19,
84:19, 92:4,
93:15,
111:21,
128:3, 128:6,
150:7,
183:21,
217:5, 355:11
protect 38:13,
47:19, 48:12,
48:14, 60:20,
62:1, 64:22,
66:11, 71:5,
71:17, 77:2,
106:18,
214:5, 219:11
protected
22:11, 35:4,
42:22, 50:4,
65:22, 81:22,
138:24,
219:21,
296:25
protecting
76:9, 100:14, 186:12,
188:22,
219:12
Protection 1:2, 1:10, 10:4, 10:9, 11:18, 12:9, 13:6, 13:22, 35:15, 49:11, 51:15, 55:15, 62:21, 65:4, 68:25, 75:13, 76:8,
77:4, 79:17,
82:22, 124:5, 288:4, 297:21
protective
61:16, 65:13,
77:7, 99:12
proves 53:9
provide 30:6,
31:18, 35:5,
39:23, 42:4,
56:19, 57:22, 63:22, 69:16,
77:4, 79:18,
79:21, 81:14, 130:14,
137:22,
139:21,
139:24,
192:17,
194:1,
200:18,
231:21,
234:6, 333:21
Provided 15:2,
15:15, 31:13, 31:16, 44:10, 68:24, 72:4, 75:12, 76:23, 137:17, 138:17, 138:24, 139:15, 146:8, 151:10, 171:11, 195:6, 197:14, 243:15, 292:24, 299:24, 342:6, 358:12
provides 43:14, 160:19, 279:19, 331:7
providing
67:25, 68:10,
73:9, 80:18,
130:13,
187:11,
238:25,
239:16, 241:9
provision
75:12, 200:5
provisions
27:2, 30:1,
62:20, 64:23,


80:2, 84:2,
127:9,
136:22,
148:4,
246:19,
247:18,
253:14,
336:23
pursuant 10:8, 16:5
pursue 48:8, 51:23
put 90:8,
106: 4,
106:17,
115:8,
117:22,
124:12,
128:7,
128:22,
137:17,
143:2,
144:22,
195:8, 270:3,
272:16,
281:16,
283:14,
288:25,
324:17,
358:18,
359:3, 359:21
puts 341:3
putting 106:13, 111:12,
117:17,
359:8, 360:10
$<\mathrm{Q}>$
qualify 247:7, 265:13
qualitatively 241:4
qualities 299:2, 304:4, 308:18
quality 31:20, 34:2, 64:22, 66:12, 151:7, 151:21,

202:24, 202:25, 255:23, 258: 6,
296:22, 296:25, 298:22, 303: 9, 308:22, 342:22, 342:24, 348:1
quantify 262:1,
283:5
quantity 241:4
Quebec 10:15,
10:21, 28:2, 37:2, 51:18, 56:12, 58:1, 58:2, 58:17, 58:19, 59:10, 73:22,
114:20,
119:22,
119:24, 245:13, 245:16, 271:16, 279:8, 279:20, 280:7
questioned 350:16
questioner
95:2, 98:12, 156:4, 181:20, 267:15, 359:6 questioners 156:7
questioning 15:4, 134:4, 145:25, 148:1, 152:15, 153:5, 153:6, 221:3, 226:16, 259:21, 274:2, 274:18 questionings 359: 6
quibble 228:21
quick 55:21,
149:4,
258:24,
259:4,
285:22,
286:5,
291:16,
326:21,
329:15
quickly 287:20, 311:8
quite 59:5,
83:9, 180:25,
202:8,
312:22,
316:22,
328:25, 339:9
quoted 164:22,
165:13,
169:19,
173:24
quoting 55:5,
55:6, 162:5
< R >
R. 3:37

R4 217:25
R6 11:13, 308:6
R7 11:10
Rachel 46:12
raft 360:6
rafter 46:10
rafters 342:1,
343:13,
358:18
Rafting 45:12,
46:19, 47:13,
53:5, 82:21
railroad
182:17,
227:24, 228:1
Railway 73:23
rain 200:25
raise 19:24,
291:25,
292:10
raised 264:18, 268:15,

291:21, $347: 6$ raises 353:14
range 231:17, 295:18, 357:17
ranging 41:16
rank 128:23,
151:8, 241:6
ranked 128:12,
128:21
ranking 128:18,
245:23,
247:11
rap 315:9,
315:23
rapid 360:14
rare 150:13,
150:15,
161:25
rate 252:8,
270:13, 286:9
rated 308:24,
313:1,
316:21, 346:3
ratepayers
28:3, 270:19,
270:25,
271:2,
271:18,
271:21,
272: 4,
272:15,
272:21,
273:2, 285:8
rather 24:9,
25:19, 62:4,
91:25,
104:12,
105:5, 111:8,
181:10,
234:23,
289:15,
290:19,
291:11
rating 265:25, 308:18
ratings 308:22
ratio 84:8,
84:9, 84:11,
84:22, 84:23,

150:21
ratios 83:16,
84:7, 84:9
ravines 187:11
rborowski@preti
.com 3:43
re-energize
141:9
re-engineering 330:22
re-established 204:1
reach 209:18,
210:24,
211:9,
211:10,
211:12,
212:3, 212:6,
219:1,
233:13,
297:11
reach-in 62:13
reached 241:16, 257:19
reaches 205:23, 206:2, 208:1, 208:2,
208:14,
210:11
react 282:7, 282:11
read 20:20,
57:11,
105:19,
105:23,
114:9,
119:18,
132:24,
164:21,
164:23,
190:6, 196:8,
216:4, 216:7,
217:1,
217:17,
217:20,
217:21,
218:11,
271:7, 299:15
readily 207:11
reading 209:2
ready 55:13,
175:21, 259:3 real 47:1, 90:22,
134:17,
236:8,
281:20,
293:17,
298:12,
326:21,
331:7,
334:13,
336:9, 339:19
realized 139:23
really 100:13,
100:23,
102:2,
104:21,
129:2,
134:10,
137:3,
141:14,
142:23,
159:14,
186:10,
234:1, 238:7,
243:5,
272:16,
276:25,
279:9,
280:15,
284:20,
287:1,
287:11,
312:6, 316:3,
330:17,
334:16,
344:6, $347: 4$
realm 124:23
reason 37:6,
42:9, 43:17,
135:20,
140:10,
162:20,
165:16,
182:3,
224:11,
232:13,
243:5, 285:6,
348:3
reasonability 257:22
reasonable 36:25, 50:2, 66:21, 91:17, 136:9, 190:10, 253:14, 254:9, 254:10, 254:20, 257:8
reasonableness 50:17
reasons 35:10, 42:10, 48:9, 100:22, 106:15, 120:3, 188:23,
236:4, 294:8, 294:21,
314:5,
338:24,
348:21,
348:22,
348:25,
349:1,
352:20, 353:5
rebuild 330:8
rebuilt 301:10
recalculation 131:3
recall 90:15, 157:10, 178:3, 180:25, 183:7, 342:4, 342:25, 343:1
recap 330:16
receive 11:16, 17:5, 248:10
received 11:25, 18:8, 68:18, 273:7
receives 194:7
recent 31:4, 38:6, 68:5, 292:25, 350:16, 350:20,

351:7,
352:22, 352: 24
recently 52:5, 262:23, 262:24, $344: 8$
recited 36:12
reclose 287:15, 287:20
recognize 286:18
recognizing 307:24
recommence 362:4
recommend 38:24, 75:19, 89:7, 89:10, 125:17, 127:7, 147:2, 148:14, 153:22, 154:15, 238:10, 238:11, 238:17, 238:18, 274:14, 300:15,
311:1, 345:10
recommendation
83:15, 90:5
recommendations
81:14, 84:13,
90:25, 91:3,
194:25,
197:11, $306: 7$
Recommended
70:11, 73:13,
$77: 1,83: 8$,
83:15, 84:6, 197:25, 309:13, 310:15, 339:5, 340:14, 343:12
recommending
92:3, 296:3
recommends

64:11, 65:9,
241:1
reconsider 86:9
reconvene 55:24
record 13:17,
18:7, 19:13,
21:1, 38:19,
53:24, 57:7,
124:13,
124:17,
131:18,
147:15,
147:24,
148:13,
150:4, 167:7,
187:19,
188:5,
204:22,
204:23,
205:8,
270:24,
345:3, 345:4,
345:8,
356:14,
356:15,
356:25,
359:8, 359:9,
361:5
recorded 14:17,
15: 8
ecords 132:10,
140:18,
359:18
recover 53:3
recovery
248:10,
248:11,
251:8, 269:18
recreate 32:20,
332:20
recreation
22:10, 33:3,
44:24, 45:14,
46:9, 108:22,
112:6, 158:2,
345:15,
recruited

199:9, 200:8 rectangle 311:3 red 28:8,

305:13,
318:10
redacted 57:4, 246:3
redirect 278:9, 278:13, 291:15
redo 350:19
reduce 23:20, 42:1, 44:4, 44:11, 56:21, 61:23, 92:16,
112:10,
112:17,
164:6,
236:16,
283:3, 283:4,
317:24,
317:25,
324:12,
330:22,
339:12,
340:12
reduced 44:8, 308:3, 318:4
reduces 310:21
reducing 24:5, 56:22
reduction 56:23
reevaluated 137:23
refer 203:7,
206:13,
214:24,
228:24
reference
54:22,
157:13,
167:6,
171:18,
172:6, 177:2,
220:11,
237:11,
260:10,
302:1, 311:7, 343:23
referenced

184:19,
227:22
references
172:5, 188:12
referencing
118:22
referred 193:21
referring 103:4,
103:12,
123:16,
131:16, 132:21, 157: 4, 169:21, 180:23, 183:25, 185:1, 188:19, 238:13, $342: 8$ refined 297:18
reflect 105:3, 128:18, 310:24
reflectivity
310:21
reflects 309:22
refueling 77:8
refuge 188:14
refuges 166:10, 303:18
regard 26:16, 49:23, 260:7, 263:24, 264:2, 292:17
Regarding 28:17, 49:21, 60:17, 65:21, 69:15, 203:8, 206:3, 238:14, 240:19, 343:11
regards 74:18
regenerate 172:17
Regional 1:29, 13:10, 59:17
regionally
43:10, 78:11
regions 205:22,
279:18
Register 303:22
registered 46:8
regrow 198:7
regular 19:21
regularly 63:7
regulates 83:24
regulation
27:18, 246:20, 247:18, 247:22
regulations
13:16,
297:21,
297:22
regulatory
239:22
REID 1:27,
13:22, 149:4,
285:13,
287:4, 288:8
reject 35:17
related 56:6,
56:10, 69:4,
85:11, 97:20, 130:6, 133:7,
197:16,
201:22,
215:13,
255:2,
273:20, 285:24
relates 21:20
relation 338:3
relative 213:7,
232:17,
251:10,
334:13
relatively
40:16, 94:11, 94:15,
158:15,
162:25,
197:3, 355:23
relavent 168:12
release 360:11, 360:12
relevance

$$
\begin{aligned}
& 153: 5, \\
& 153: 19, \\
& 154: 13 \\
& \text { relevant } 20: 18, \\
& 35: 14,38: 20, \\
& 39: 3,55: 1, \\
& 84: 4,98: 4, \\
& 104: 9, \\
& 153: 18, \\
& 185: 4,185: 6, \\
& 274: 2,274: 4
\end{aligned}
$$

Reliability
68:6, 137:18, 140:8,
140:23,
141:2, 145:6,
145:21,
188:3,
188:23,
281:20, 296:6
reliant 160:18, 161: 4
relicensing
48:1
relinquish
136:20
rely 137:19, 169: 4
remain 48:5, 63:11, 75:2, 75:5, 188:1, 190:6, 194:9, 194:12,
201:2, 201:4, 232:21,
256:16, 310:3
remainder
72:19, 85:25,
114:14, 289:6
remained 168:14
remaining 12:2,
13:5, 37:18,
44:9, 63:15,
65:17, 164:8,
220:22,
220:24,
309:15
remains 76:14
remedy 112:10
remember

115:14, 202:10, 213:19, 222:20, 223:13, 242:5, 246:14, 246:15
remind 259:9, 362:9
reminder 113:9
reminding 54:23
remote 30:10, 32:13, 32:22, 33:14, 38:4, 40:4, 40:8, 53:7, 307:5
removal 77:19, 81:5, 82:15, 104:3, 136:15, 205:16, 244:3, 273:13
remove 163:16,
193:1, $324: 13$
removed 21:17, 128:20, 138:11, 185:10, 188:18, 188:22, 192:20, 192:22, 329:6
remuneration 273:7
renewable 37:1, 56:11, 269:2, 269:5, 271:16
Renewables 244:24, 245:1
Rentals 46:21
repair 81:4
repeat 89:22, 110:18, 160:25, 166:20, 219:15, 268:22
repeated 219:19
rephrase

226:23, 359:19
replace 64:9,
81:7, 241:19
replaced 330:10
replacement
61:19, 81:4,
81:5, 81:11,
240:20,
240:24,
241:1, 241:7
replacements
65:8, 78:24, 201:10,
241:5, 243:9
replacing 26:8
replicating
323:11
report 38:7,
89:3, 128:11,
128:19,
128:21,
129:3, 131:4,
145:16,
180:1,
180:24,
215:10,
215:18,
218:13,
246:4,
341:24,
343:2,
345:22,
347:17,
353:25, 355:2
Reported 1:20,
180:22,
205:16
Reporter 1:21, 14:20,
126:10,
126:14,
244:7,
341:12, 363:2
Reporter/notary 363:13
Reporting 14:20
reports 181:7,
258:15,
341:22
represent 15:1, 33:7, 37:11, 59:15, 113:17, 134:16, 192:6, 304:24, 314:11, 314:17
representation 138:1
representations 264:7
representative 19:17, 224:4
represented 42:22, 122:9
REPRESENTING 1:26, 21:8, 21:10, 35:21, 42:16, 43:7, 54:13, 150:5, 305:12, 341:14
represents
58:21, 119:23, 305:13, 333:2
request 14:19, 25:7, 56:14, 78:4, 80:13, 126:19, 167:10, 238:23, 344:14
requested 17:2, 122:22, 151:14, 293:12
requesting 239:11
requests 240:6
require 43:16, 83:25, 95:16, 161:14, 185:24, 190:13, 233:7, 265:18, 316:17
required 27:18, 67:11, 77:15, 79:17, 85:1, 150:25,
151:4,
153:25, 225:18, 240:7, 245:18, 264:21, 265:8, 283:12, 316:15 requirement 130:8, 255:18, 280:2, 343:16 requirements 10:9, 11:18, 11:20, 21:3, 68:21, 71:14, 77:9, 78:15, 79:3, 83:12, 85:19, 240:4, 275:22
requires 84:7, 84:8, 177:11, 294:1, 294:4, 294:5, 294:6, 294:7,
294:14,
294:17,
294:20,
298:23
requiring
247:23,
269:10, 292:9
reread 180:17
research
296:10,
305:2,
351:20,
352:3, 352:5,
353:1, 354:13 reserve 147:20, 148:25,
171:8, 217:14 reserved 86:3, 123:9
reserves 333:25
reserving 85:25 residential

102:25,
103:2, 104:5, 105:7
Residents 7:8, 32:25, 33:2, 51:1, 112:5
resilience 43:14
resiliency 167:19
resilient 43:25
resistant 196:22
resort 46:24
Resource 27:15, 33:21, 35:15, 53:10, 65:17, 65:25, 66:19, 79:19, 85:7, 260:8, 282:22, 283:6, 297:1, 298:18, 298:19, 308:22, 308:25, 345:23
resource-based 33:3
respect 21:25, 22:16, 24:19, 26:2, 26:17, 35:12, 53:20, 54:22, 55:8, 69:3, 125:9, 125:10, 133:1, 158:2, 247:5, 247:7, 250:18, 253:11, 291:24, 292:1 respectfully 42:10
respond 38:17, 54:11, 114:1, 124:3, 124:18, 144:10,

146:1, 146:2,
146:20,
148:2,
152:16,
241:12,
344:16,
359:13
responded
50:13, 80:19
responding
98:11
response 56:13,
70:9, 89:24,
119:14,
132:25,
151:19,
170:6,
207:11,
228:11,
228:15,
244:13,
265:14,
267:19,
285:14,
344:23
responses 78:4
responsibility
38:12, 80:17, 332:2
responsible 88:12, 223:4, 244:16, 296:10
responsive 345:10
Rest 12:2,
149:1,
149:20,
160:20,
161:6, 279:9,
306:11,
322:14,
322:17,
323:3,
346:15,
346:21
restart 259:13
restate 95:25,
96:14,
229:24, 268:2
restaurant 33:19
restoration
76:12, 135:7
restore 136:2, 136:13
restored 74:4
restoring 136:5
restrict 166:4
restricted
74:12, 104:1, 166:7
restrictions 77:8
restrooms 15:23
result 48:11, 60:21, 67:4, 68:14, 71:22, 74:21, 75:6, 76:18, 79:24, 81:17, 84:18, 163:9, 177:5, 181:14, 266:1,
279:17,
333:14,
339:1, 357:14
resulted 182:6, 343:15
resulting
41:15, 74:6, 110:16, 169:11, 172:10, 181:18, 181:24, 198:3 results 160:16, 294:25,
347:5, 358:17
retail 56:25
retain 66:15, 72:11, 73:1,
233:6, 233:16
retained 62:15, 183:14,
188:14,
233:3, 233:5, 233:24
retaining 82:12
retains 13:20

Return 31:24, 186:6, 251:13, 251:14, 254:12, 254:18, 286:24
Returning 31:25
revegetate 63:10
revenue 130:8, 255:1, 255:7
revenues 223:24
review 19:20,
35:13, 70:9,
111:2, 149:9, 166:4, 186:9,
192:23,
296:15,
297:3,
297:14,
341:18,
341:22,
357:17
reviewed 296:7, 297:3
reviewing 22:3, 309:12
reviews 121:17, 295:20
revised 231:11, 231:13
revision 308:1
RFP 118:19, 119:6, 119:14, 152:2, 155:1, 244:13, 247:12, 248:11, 269:22, 272:17, 278:17
rides 31:14
Ridge 11:14, 23:12, 107:14, 107:18, 303:25, 311:4,

322:19,
323:14,
323:15, $329: 4$
riffle 209:6
right-hand
12:25, 13:1,
19:24
rights 82:10,
83:1, 172:8, 202:21
Riley 141:10
rip 315:9,
315:23
rise 347:21
rising 51:6
risk 196:25,
230:15,
248:20,
255:2,
270:14,
280:13,
281:16,
282:12
risks 49:16, 88:7, 255:10, 272:10, 295:3
Riverland 329:20
Riverlands 303:24
Rivers 5:33, 17:20, 30:12, 31:6, 32:21, 33:14, 44:17, 44:21, 47:13, 73:19, 83:3, 259:16, 331:23
Riverside 330:7
roadside 24:15, 320:16
Roaring 12:17, 24:25, 34:20, 60:10, 60:17, 69:23, 70:5, 70:7, 282:15
Rob 5:24, 43:6, 337:7
Robert 28:19, 29:1, 36:7,

46:18
robert.wood@tnc
.org 5:30
Robin 1:20,
14:21, 363:2, 363:12
robust 26:19, 27:13, 67:8, 78:8, 85:16
Rock 24:18,
27:3, 306:23, 308:5, 308:17, 308:24, 309:20, 330:23, 331:2, 338:22, 361:10
role 13:17,
54:24, 54:25, 90:20, 331:8, 331:9
rolled 97:25, 222:24
room 12:25, 14:7, 15:21, 16:3, 18:22, 126:23, 300:9 root 265:23
roots 290:2, 290:9
rotation 194:19
rotten 188:25
rough 242:12
Roughly 127:22, 157:14, 192:12,
241:22,
249:4, 249:7, 250:9,
250:11, 250:15, 250:24, 250:25, 262:2, 302:14, 334:16
round 13:1, 19:16
routed 94:10,
156:17, 290:8
Routes 41:15,
73:21,
119:22,
227:12,
293:22
routinely
117:15,
190:7, 332:19
routing 67:4,
112:16,
157:12
rugged 32:18
rule 334:18
Rules 16:7,
57:18, 79:4
ruling 16:13,
16:16, 318:5
rulings 16:12
Rumford 141:10, 141:11
run 10:14, 52:6
running 96:17,
174:25,
316:6, 322:6, 331:20,
340:20
runs 174:19,
316:24, 317:2
rural 32:13
Russell 46:23
Russo 131:24, 153:1, 153:8, 153:21, 280:9

```
< S >
safe 258:6
safety 49:17,
    137:18,
    185:17,
    188:23,
    192:25,
    230:16,
    232:5, 232:6,
    232:11,
    232:17,
    233:19,
    255:23, 295:4
```

sag 232:3
Salamander
60:11, 60:18,
69:24, 70:6,
70:8, 282:17
Salamanders
12:18, 25:1,
34:21, 191:20
salmon 77:17,
217:24,
218:3, 219:2
salmonid
203:16,
204:6, 267:24
Sandy 44:22,
66:6, 82:1,
328:5
saplings
233:21,
233:25
satisfied
292:20,
292:23
satisfies 240:4
satisfy 297:13
Savage 47:5
save 218:20
saw 147:15,
168:11,
329:2, $340: 22$
saying 85:12,
91:23, 91:25,
93:6, 96:10,
101:1, 105:6,
105:8
105:10,
117:5, 118:1,
119:21,
124:21,
129:17,
135:12,
171:23,
222:14,
242:23,
265:14,
281:25,
285:22,
286:5, 318:2,
335:4, 342:13
says 107:11,

161:3, 166:6, 166:8,
184:22,
190:2,
202:19,
267:11, 351:24
scale 29:16,
33:22, 34:14, 50:19,
167:19,
169:16,
242:20,
262:2, 286:7, 286:25,
298:11, 332:7
scales 50:20
scar 51:3,
52:18, 52:19,
52:22
scarce 162:10, 162:17, 162:25
scarcity 162:8
scenario 177:19
scene 340:1
scenery $31: 1$, 349:13, 350:5
schedule 56:1, 113:13, 229:1, 230:4, 293:4
scheduled 360:11
scheduling 155:12
science 43:11
scientific 208:11
scientist 78:1, 90:2, 91:6
scientists 67:23, 243:14
scope 13:13, 98:2, 237:17, 267:1, 267:3
scores 203:6
screen 179:20, 192: 6, 201:25,

283:17, 305:15,
334:14,
334:15,
340:20,
355:18
screening 333:5
screenshot
164:15
Scribner 4:34
Scroll 196:13, 202: 6
scrub/shrub
101:11,
104:2, 162:7,
163:3,
163:18,
177:18,
225:24,
226:7, 290:7, 290:9,
291:10,
356:10
se 319:17
Sean 126:12,
224:22,
243:23
searched 218:16
seasonal 33:5
Sebasticook 44:22
Second 22:16,
54:22, 60:7,
69:21, 79:13,
87:2, 132:4,
132:19,
166:8,
179:21,
196:14,
204:19,
220:9, 227:8,
240:8,
244:12,
337:13,
341:24,
354:18
secondary 62:9, 214: 6
secondly 130:10
seconds 148:24,

155:18,
220:23,
320:7, 320:9,
320:12,
323: 9,
325:14,
325:20,
326:20,
327:3,
327:11,
329:10,
334:25, 337:6
Secretary 30:18
Sections 16:6,
219:13, $349: 5$
sediment 71:13,
77:10, 80:4
Sedimentation
62:16, 80:6
sediments 66:13
seedlings
233:20,
233:24
seeing 143:22,
321:7,
325:16,
325:17
seek 32:25
seeks 49:3
seem 93:22,
117:1, 147:5,
328:11,
333:13
seemed 347:20
seems 92:9,
298:3, 300:19
seen 52:19,
175:6, 221:8,
253:6, 298:6,
298:7,
348:16,
359:17
segmented
287:22
select 46:4,
47:4
selected 30:14, 30:17, 30:25, 120:1, 120:4,

121:23,
197:2, 246:2, 308:11
selecting
345:24, $346: 1$
selection
118:18
selectively
231:25
Selectman 32:12
self-service
31:8
self-weathering 23:24,
300:23,
301: 4,
310:13,
317:19,
330:11,
330:21
sell 136:19
Senate 46:16
send 16:25
senior 67:23,
77:25
sense 105:2,
117:6,
125:24,
222:22,
233:12,
234:21,
237:17,
282:11,
319:7,
320:18,
334:12
sensitive
22:25, 59:13,
92:17,
108:22, 169:2
sensitivity
22:12
sentence
163:13,
164:21,
164:23,
165:13, 352:17
separate 10:17, 105:16,

215:2, 281:22 September 307:19, 317:17
series 304:16, 323:10
serious 31:21, 90:22, 92:10
seriously 182:5, 182:18
servants 45:19
serve 191:3,
191:5, 200:10, 200:16, 331:11
serves 200:4
Service 14:21, 33:4, 33:12, 33:15, 33:18, 137:20, 173:13, 179:25, 180:23, 356:22
Services 3:9, 17:11, 68:4, 68:10, 113:19, 293:18, 331:7
session 19:10
set 17:1, $\begin{array}{ll}20: 18, & 79: 4, \\ 86: 22, & 87: 10, \\ 133: 5, & 138: 9,\end{array}$ 273:9, 310:15, 315:3, 328:9, 362:1
settled 168:7
seven 76:6, 177:8
several 24:15, 25:21, 26:3, 42:23, 47:12, 65:6, 123:23, 160:20, 161:5, 283:1, 284:21, 297:9, 344:5
severe 74:13, 172:8, 196:23
shade 192:16, 193:25, 206:4, 206:7, 209:12
shall 49:13, 49:20
share 245:22
Sharon 11:1
Sheepscot 66:7, 82:2, 328:15
sheet 12:24, 85:6, 166:7, 166:9
shellfish
216:5, 217:4, 217:8
shelter 41:21, 63:23
Sherman 7:9, 17:23
shield 316:12
shift 155:11
shifting 174:10
shoreline 307:9, 316:23
shorelines 218: 6
short 27:21, 171:18, 202:8, 258:23, 326:10, 326:17, 341:10
short-term 205:18
shortcut 286:17
shorten 24:2
shorter 75:22, 119:19,
119:21,
128:4, 284:5, 339:14
shortest 93:2
Shortly 76:11
shoulder 23:20, 277:13
shouldn't

89:14, 134:19
show 22:1,
22:13, 22:18,
24:21, 26:18,
27:21, 29:25,
34:9, 34:14,
37:14, 50:18,
99:23,
140:12,
142:1,
164:15,
203:15,
203:20,
204:5,
243:14,
300:9,
304:16,
304:20,
304:25,
306:14,
309:24,
317:11,
320:17,
328:8, 330:17
showed 145:16,
218:17,
305:20,
324:2,
357:15,
361:14
showing 120:9,
302:7,
314:22,
316:11,
329:1, 329:7
shown 48:25,
72:22,
111:25,
156:18,
316:18
shows 43:11,
72:5, 184:12,
315:10,
318:18,
320:16
shrubby 187:9
shrubs 63:11,
193:2,
205:20, 209:16,


Similarly 33:15, 205:22
simple 286:17
simply 48:6, 80:18, 105:10, 124:10, 125:3, 179:16, 263:3, 339:11
simulations 305:20, 305:25, 334:19, 361:15
simultaneously 338:19
single 144:1, 144:16,
161:13,
161:15,
177:8, 181:8,
281:9,
281:22,
301:1,
351:16, 352:15
sir 174:17,
187:5, 189:2,
189:17,
193:12,
260:22, 285:3
Site 1:11,
1:12, 10:10, 10:11, 11:19, 11:20, 13:6, 35:15, 49:10, 62:16, 64:11, 73:12, 77:9, 99:9, 126:3, 130:4, 151:7, 196:23, 231:13, 242:1, 297:22 sited 21:21, 22:21, 44:3, 67:1, 77:11, 85:13, 117:8, 255:25, 316:1, 316:4,

332:23
sites 245:12, 245:15, 332:6, 343:20 siting 22:9,

23:12, 62:3, 63:2, 157:5, 242:25, 292:4, 306:10
sitings 330:20
sitting 14:21,
28: 6
situation
89:25,
102:14, 200:17,
271:1, 302:8, 344:1
situations 196:22
six 215:17,
223:13,
223:15,
226:22
size 34:15,
40:12, 171:4, 180:14, 181:1, 181:10, 208:22, 209:4, 241:21, 241:25 242:4, 243:4, 251:10, 281:8
sizes 180:24
sizing 242:25, 243:16
skid 182:20,
261:3, 262:9
skidder 73:23
skiing 332:9
skill 138:9
Skinner 11:10
skip 144:13
Skowhegan 2:35
sky 31:7
sledding 332:9
slice 51:9
Slide 27:4,

```
    57:15, 57:17,
    57:23, 140:6,
    142:2,
    143:17,
    144:13,
    144:18,
    145:11,
    146:15,
    147:1, 262:5,
    263:14,
    299:20,
    301:24,
    304:21,
    308:14
slides 123:2,
    262:15,
    304:20
slightly 176:9,
    202:23,
    212:3, 228:1,
    310:11,
    319:21,
    321:16,
    321:22,
    358:23
SLODA 50:18,
    336:21
slope 339:7,
    356:2
slopes 23:13,
    196:24
slowing 326:8
Small 31:1,
    188:15,
    191:22,
    242:3,
    313:19,
    327:13
smaller 62:25,
    63:11, 95:14,
    96:5, 96:18,
    96:19,
    154:19,
    158:15,
    182:11,
    200:19,
    211:16,
    212:3, 241:2,
    241:3, 261:4,
    329:24
```

Smart 307:22
smells 332:6
snacks 16:1, 16:2
snow 75:22, 306:4, 312:14
snowmobile 32: 21
Snowmobilers 33:16, 36:8
snowmobiling 31:15, 36:9, 332:10
so-called 103:17
Society 36:22, 36:24, 124:5
socioeconomic 34: 6
soft 73:6, 102:22, 102:23, 103:17, 104:17, 104:21, 105:13, 172:3, 261:12, 261:17
soften 99:25, 340:18
softening 166:15
soil 61:23, 77:14, 196:25, 265:25
soils 196:24
solar 152:3, 152: 6,
244:20, 245:10, 246:10, 268:21, 269:1, 269:6, 311:18
solicit 125:3
Solon 30:21, 46:19
Soltan 5:36
solution 48:8, 131:2, 339:22
solutions 36:25, 134:17
solving 137:3
somebody 141:16, 225:25, 316:5
somehow 89:19, 117:2, 129:11
someone 91:9, 106:2, 138:19, 144:9, 144:25, 156:19, 183:17, 327:3, 327:13, 336:14
Somerset 47:3, 47:6, 167:19, 168:21, 176:14, 176:20, 179:22, 241:23
Sometime 47:17
sometimes 121:19, 222:23, 303:1
somewhat 112:15, 177:13, 313:24, 315:1
somewhere 140:18, 360:21
son 46:21
soon 279:22
sort 48:3, 88:22, 108:25, 147:25, 200:20, 229:14, 243:15, 264:7, 265:8, 279:17, 305:25,

312:8, 313:7,
314:15,
315:7,
315:24,
316:2,
321:13,
322:22,
323:10,
323:23,
325:11,
325:21,
326:14,
329:7,
330:13,
345:19,
360:15
sorts 300:2
sound 28:15,
141:11,
141:12
sounded 344:19
Sounds 93:5,
93:14,
206:15,
252:5,
267:14, 332:6
source 345:1,
346:2
sources 183:1
South 1:23,
58:15, 58:23,
58:24, 111:3,
111: 6,
310:23,
312:9, 313:6,
324:19,
327:15,
360:17
southbound
107:16,
322:13,
323:2, 323:8,
323:11,
325:2, 325:8,
325:16,
327:11
southeastern
308:12
southern 10:17,
111:8, 168:7,

168:11,
168:21,
307:9, 318:20
southwest
311:15
space 253:4,
263:18, 284:3
spaces 303:25
span 80:3,
265:23,
289:12,
289:13,
317:21,
318:13
spans 26:15, 318:5
speaking 54:6,
54:14, 54:16,
55:8, 92:7,
133: 4,
259:11,
292:12,
330:25
special 12:9, 25:14, 60:21, 69:24, 156:1, 226:11
specialist 95:15
specialists
96:6
Specifically
17:2, 24:24,
34:20, 38:21,
62:1, 71:23,
115:15,
118:21,
162:16,
177:11,
201:8, 226:6,
227:11,
238:11,
262:2, 283:6,
292:7, 296:5
specifics
127:11,
142:22,
356:13
specified
16:12, 278:16
specifies 49:12
specifying 274:7
specimens
230:14
spectacular 32:23
spectacularly 360:1
spectrum 339:13
speculate 142:17
speed 231:4
Spencer 44:4, 109:19, 110:14,
110:22,
112:4, 228:5, 235:23,
277:10
spend 30:23, 98:25, 286:6
spent 284:14, 300:1, 332:3
sphere 359:18
split 155:6, 155:8
Spokesperson
2:31, 3:13, 3:28, 4:10, 5:9, 5:23, 5:34, 6:8, $6: 26,7: 13$, 29:3, 127:5
Sports 45:23
spray 229:18, 231:2, 231:3
spraying 231:3, 231:5
spread 249:6, 251:4, 252:15, 280:5, 290:8
Spring 12:18, 24:25, 34:21, 60:10, 60:18, 70:6, 70:8, 282:16, 316:6
spruce/fir 163:25
square 288:15, 288:16,
288:20
stability 196:25
stable 196:20
staff 16:3, 18:17, 20:20, 53:19, 123:22, 124:5, 238:22, 239:11, 300:1
stage 88:23, 108:19, 192:15, 333:4
Stages 115:3, 115:4, 172:19
stairs 360:9
stakeholders 224:10
stand 19:24, 151: 9, 151:16, 196:20, 196:25, 303:17, 334:11
standard 43:23, 61:9, 62:4, 99:2, 177:10, 180:21,
203:19,
246:18,
297:17
standards 30:9, 36:17, 161:14, 195:5, 197:15, 208:11, 229:15, 243:3, 297:20, 305:6
standpoint 151:20, 264:21, 265:10
stands 150:8, 158:21
starkly 51:7
Starks 11:2
start 21:6,
55:19, 55:21,
86:7, 86:9,
86:12, 86:13,
172:22,
172:25,
175:17,
181:5, 225:5,
233:22,
244:2, 248:2,
258:23,
260:9,
285:21,
323:14,
334:21,
334:24,
360:20,
360:24
started 21:5, 86:18,
149:24,
175:21,
246:17,
250:22, 259:3
starting 11:24,
19:4, 19:6, 53:3, 225:11, 233:18, 269:16
starts 108:18, 301:5, 332:25
state-threatene d 60:20
stated 42:10, 52:7, 65:16, 69:19,
116:10,
119:18,
134:3, 134:5,
162:20,
171:2,
210:22,
211:7, 238:9,
246:25,
271:11,
271:13,
273:16,
336:24
statement
18:24, 39:9,
116:13,
129:1,
161:18,
162:13,
162:18,
164:5,
170:25,
171:3,
173:20,
173:22,
174:6,
178:25,
179:12,
179:13,
190:4, 212:2,
220:11,
358:1, 359:11
STATEMENTS 8:3, 18:9, 21:5, 148:13, 169:12
States 31:11, 41:7, 43:12, 94:23, 108:12, 146:16, 158:18, 160:15, 164:25, 168:25, 171:17, 172:6, 177:3, 268:5
statewide 333:22
Station 6:29, 10:15, 46:20, 47:23, 59:1, 141:11, 280:6, 290:20, 290:24, 301:9,
stations 235:3, 290:17
statistically 212:12, 212:15,

212:23, 213:2 status 25:14, 36:6, 42:21 statute 27:18, 298:20
statutes 13:15, 36:22
statutory 21:2, 39:8, 147:6 stay 28:11, 30:23, 141:6 stayed 358:13 staying 269:12 STEBBINS 1:30, 13:24, 288:9, 288:23, 289:17
Steel 23:24, 117:23, 143:4, 300:23, 301: 4, 310:13, 330:11, 330:21
steep 187:11, 196:24
stem 353:23
stenograph 363:6
step 102:1
stepped 339:4
stewardship 30:9
stick 147:8, 231:8
Sticking 235:11, 361:25
stipulate 198:25
stock 219:2
stocked 218:2, 219:25
stopped 323:23
stopping
172:25, 323:5
storage 244:20
stores 31:9
straight 332:25
straightest 23:1
straightforward 104:9, 104:14
strategies 313:15
strategy 236:16, 238:16
straw 341:10
streaming 15:16
streams 25:2, 25:4, 25:5, 25:9, 25:13, 30:12, 38:1, 61:9, 61:10, 61:11, 61:14, 62:2, 62:10, 64:15, 70:12, 73:19, 80:12, 182:20,
191:2, 191:3, 191:7,
196:18,
198:17,
201:3,
206:17,
207:1, 219:6,
220:4, 282:15
Street 1:23,
2:9, 2:17,
2:34, 3:16,
4:13, 4:20,
5:26, 5:37, 7:16
stress 56:22
stretch 122:9, 290:19, 312:19, 321:6, 323:4, 323:5, 323:19, 325:11
stretches 53:1, 91:15
stricken 57:4, 57:11, 57:16, 57:17
strike 131:21
strikes 288:3
stringent
61:15, 65:13, 68:21
Strip 11:9,
63:9, 73:23,
260:21,
261:3,
261:11,
262:9,
262:24,
263:3,
263:20,
289:23,
311:17,
323:11
stripped 262:23
strips 12:19,
34:22, 60:12,
64:3, 64:24,
70:1, 76:22,
76:23, 77:3
strong 332:14
strongest 243:2
stronghold 41:7
strongly 52:5
struck 57:7
structure 24:3,
112:12,
115:12,
118:8,
142:22,
143:10,
143:25,
144:2, 214:2, 282:1,
283:13, 284:1, 288:13, 288:22, 288:24, 307:20, 308:2, 308:3, 310:2,
311:18,
313:22,
317:25,
319:20,
324:4,
325:13,
327:5, 327:6,

327:24,
328:19, 330:22
studied 29:11
Studies 71:18,
201:17, 301:17
studying 90:1
subdistrict 299:13
subdistricts
12:10
subject 79:16,
95:8, 267:20,
280:11,
332:19
submissions
155:1
submit 152:1,
224:3, 269:8
submitted 10:7,
13:7, 16:14,
99:8, 112:1,
130:18,
135:3, 153:9,
183:11,
307:19,
308:1,
312:12,
317:16
submitting
124:20
subquestions
232:24
Subsequent
128:20,
151:8, 178:1
substantial
50:15, 56:23
substantially
41:8
Substation
58:8, 83:22,
84:19,
141:10,
289:7,
301:12,
301:13,
301:14,
328:25

Substrate 208:22, 209:4
Subtopic 69:21, 69:25, 70:1, 70:3, 71:8
subtopics 69:4, 69:15, 69:20, 79:12
subwatershed 72: 6
successful
91:1, 91:2, 248:8
successfully 68:14, 68:17,
248:18
successional
71:21, 73:6,
73:10, 75:3,
76:13, 91:13,
101:11,
101:15,
101:18,
101:25,
158:8,
162:21,
172:16,
185:20,
186:1, 186:6,
186:18,
186:21,
188:14,
188:20,
238:15,
238:19
sudden 282:2
Sue 4:11,
37:10, 215:19
suffer 89:21
suffers 200:25
sufficient
342:23
sufficiently 235:9
Sugarloaf
47:10, 47:14
suggest 47:22, 346:16, 346:18
suggested

126:20,
235:14,
237:4,
256:18,
320:17,
346:13,
346:21
suggests 77:18,
151:13,
214:12
suitable 169:5
Suite 5:27,
6:12, 6:20
sum 210:7
summaries
218:20
summarize
59:24, 60:5,
61:25, 65:3,
296:13
summarized
62:24,
215:11,
303:11
Summary 8:15,
9:10, 14:23, 18:12, 69:14, 69:17, 76:20,
77:22, 79:21,
85:22,
116:10,
116:11,
156:16,
182:15,
216:2, 217:3, 296:18
summer 313:23, 324:6, 325:9
summertime 355:24
summit 24:18,
311:14,
311:25,
318:14,
318:15,
319:22,
321:5, 321:9
Sun 16:20
sunlight 194:7,
310:21,

310:24
super 74:15
superintendent
187:24
supplement 50:6
supplemental
183:11,
316:10
supplemented
328:21
supplements
78:4
supplied 305:9
supplies 298:14
supply 281:9
supplying
226:16
support 23:25,
36:10, 62:12,
68:1, 126:20,
162:9,
162:17,
163: 8,
170:25,
173:17,
174:6,
178:25,
179:12,
183:12,
189:8,
189:20,
212:2, 218:3,
243:15,
260:4,
296:18,
343:18,
349:22
supported
70:10, 219:1,
219:24,
300:23
supporting
41:5, 72:6,
173:20
suppose 158:13
supposed 98:5
suppressing
333:24
surfaces
102:24,

103:20,
104:4, 104:5,
104:13
surpasses 79:3
surprise 143:6,
143:19,
175:2,
218:15,
218:18
surrounding
44:23, 45:5,
52:13, 299:6,
300:7,
301:22,
305:24,
357:21
surroundings
24:2
survey 341:25, 342: 6,
342:10,
342:14,
342:19,
342:22,
343: 9,
343:16,
345:16,
345:17,
346:15,
347:8, 347:9,
347:12,
347:15,
347:19,
348:7, 350:3,
358:18,
358:21, 361:1
surveyed
345:22,
348:2, 348:7
surveys 70:12,
70:17, 83:17,
150:14,
217:23,
343:8,
343:11,
343:18,
346:14, 350:1
survive 41:20
survived 37:5
surviving 63:16

Susanne 1:18, 13:9, 149:4
Susie 46:6
suspect 200:1, 355:22
sustain 38:25, 39:2, 54:8
sustained 54:21
sustaining 55:4
swath 162:6, 352:7
swear 19:25, 20:1
sweeping 112:8
swim 47:16, 303:25
switch 15:5, 231:9, 362:6
sworn 19:12
synergies 338:15
system 15:14, 15:16, 279:15, 279:18
systems 146:16, 146:17, 192:2, 333:22
< T >
T. 6:17

T3 217:25
T5 11:10, 11:13, 308:6
Table 13:1, 15:4, 18:22, 19:17, 131:25, 206:13, 206:24, 207:13, 210:20,
211:5, 216:1, 216:2, 259:9, 341:7
tables 214:21, 214:23, 218:17
Talbert 5:10
talked 120:20,
136: 6,
144:16,
209:13,
219:24,
250:19,
255:18,
255:19,
285:15,
290:1, 299:7, 310:11,
331:3, $346: 23$
talks 103:10,
161:2, 161:6,
165:19,
299:20
tall 32:1,
37:24,
185:16,
232:7, 233:1,
233:18,
289:12
taller 25:10,
60:22, 62:14,
70:22, 73:11,
177:18,
187:10,
187:13,
187:20,
188:1, 214:2,
284:8,
309:11,
310:5,
328:11,
328:12, 339:1
taper 257:10,
266:7
tapered 256:5,
257:9,
309:13,
309:23,
309:25,
312:17,
312:19,
330:24,
339:6, 340:7
tapering 24:16,
27:2, 44:7,
111:22,
236:12,

236:16,
236:20,
236:25,
237:8,
237:23,
250:5, 250:6,
250:9,
250:11,
253:6,
253:14,
253:25,
254:4,
257:16,
270:19,
271:22,
273: 4,
274:25,
276:10,
276:19,
339:25,
340:11,
340:21
tar 295:25
task 21:16
tasked 39:18, 88:10
tax 46:5
taxes 130:2,
251:12,
251:15,
285:17,
286:4,
286:14,
286:21
Taylor 7:11,
17:24
team 121:17,
224:23,
231:21,
243:2,
309:13,
330:19,
356:21
tech 14:4, 355: 3
technical 50:3
technique
101:5, 309:19
techniques
62:13,

104:18, 309:14
technology
82:6, 97:21,
134:9,
134:16,
152:10,
245:10,
246:21,
279:6, 280:10
tells 180:25,
181:1
temperate 37:19
temperature
64:21, 66:14
temperatures 202:22, 205:20
Temporary
67:11, 74:4,
80:3, 83:23,
84:1, 84:23,
94:2, $96: 23$,
96:25, 97:2,
172:10, 288:17
tend 192:1
tenth 260:15
term 156:25,
157:2,
157:11,
159:5, 159:7,
159:9,
159:12,
159:15,
159:16,
303:4, 339:8
termination
235:3,
290:17,
290:20,
290:24
terminus 152:7
terms 105:4, 108:22,
111:4, 141:4, 151:20, 188:4, 200:4, 207:25, 230:6,

236:14,
242:20,
270:9, 292:8, 338:5, 338:6, 338:10,
347:5, 354:21 terrain 124:24
Terrance 295:11 terrestrial

73:2, 75:1, 191:10
territory
137:20,
221:11,
308:20
TERRY 9:13,
297:4, 297:5, 305: 6,
305:18,
306:6, $324: 2$,
334:9, 339:8,
340:16,
343:21,
344:22,
344:25,
345:4,
345:12,
346:16,
346:20,
347:14,
348:5,
348:10,
348:16,
348:20,
349:1
349:17,
349:23,
350:2, 350:8,
353:5, 355:21
testified
122:9, 131:7,
248:14,
267:20,
274:16
testify 19:24,
92:6, 125:14,
331:18
testifying
54:2, 95:2,
127:10,

129:15,
135:22,
153:1,
181:21,
293:18
texture 302:10
Thanks 44:13,
245:1, 277:25
themselves
20:6, 20:10,
315:1
theoretical
305:1, 350:14
thereby 63:16, 66:9, 187:11, 298:25
therein 118:6
therewith 50:11
thermal 265:25
they'll 121:17, 147:25,
187:24,
232:7, 327:5
they've 138:23, 196:11
Thicket 301:11
thinking 103:7, 143:9
Third 24:19,
127:24,
129:4, 321:3, 321: 8
third-party 230:20
thorough 68:11
though 121:23, 309:17, 351:23, 358:21
thoughtful 333: 2
thoughtfully 21:21, 63:2, 136:12, 136:13
Thousand 106:5, 249:9, 288:20, 289:13
thousands 53:14
threat 267:5, 267:9,
267:11,
267:23, 268:6
threatened
24:22, 25:5, 25:14, 34:19, 61:12, 69:22, 106:12, 161:25
three-and-a-hal
f 319:4,
319:23, 321:5
three-poled 330:10
thrive 190:6
Throughout
18:14, 28:7, 137:20, 156:15, 174:11, 184:17, 256:15, 295:23, 297:7, 299:23, 300:14
throw 93:6, 127:16, 169:23
throwing
146:24, 242:4
thumb 334:18
Thursday 19:5, 19:10, 359:16 tie 249:24
timber 40:25,
72:21, 77:13, 109:23, 170:20,
171:21,
171:24,
171:25,
173:19, 174:1
timberland 174:21
timing 133:17
tip 308:1
tips 319:17
Title 16:6,

337:17
TMC 238:22
TNC 239:11
Together 37:6,
124:10,
283:15,
332:3,
339:15,
339:16, 357:9
Tom 46:25
Tomorrow 14:8,
19:8, 299:12, 359:16,
362:5, 362:10
Tony 7:11,
17:25, 35:21,
126:15,
146:13,
149:18
took 240:10,
317:8,
323:24,
324:15, 330:1
tool 305:3,
350:13,
351:3, 351:4,
352:8, 354:15
top 115:14,
139:18,
235:6, 241:6,
242:1,
246:14,
266:6,
287:25,
288:18,
289:2,
302:22,
304:5,
311:19,
325:13
topic 24:20,
26:17, 42:23,
60:9, 60:13,
88:22,
122:23,
166:5, 274:13
topics 19:7,
19:11, 21:20, 22:16, 35:13, 43:4, 55:1,
$60: 6, \quad 98: 3$,
152:15,
257:5,
268:14,
274:3, 274:5
topographic
187:10
topography
22:23, 23:10, 157:5, 157:7, 301:20, 333:6
topped 232:14
tops 109:18,
109:20, 308:2
total 26:23,
26:24, 26:25,
27:1, 78:16,
79:1, 80:24,
84:15, 86:2,
92:9, 92:22,
92:23,
149:22,
181:5, 193:7,
193:9, 207:9,
220:14,
231:18,
234:18,
234:23,
234:24,
238:5, 247:1,
250:12,
251:24,
251:25,
289:1,
327:11,
329:11
totaled 327:10
totaling 75:24
totally 261:19
totals 85:10
tourism 33:3,
33:21, 38:10, 39:15, 45:1, 53:22
Tourists 31:6, 32:19
toward 310:4
towards 12:24, 58:23, 302:16,

308:12,
308:14,
309:6, 309:8,
310:7,
311:15,
311:23,
311:24,
312:2, 313:6,
313:8, 313:9,
313:11,
314:2,
314:18,
315:19,
318:20,
319:10,
320:2,
321:11,
322:5,
328:14,
339:6, 355:17
tower 311:20
towers 51:4,
109:18,
140:12,
142:19,
148:7, 349:4
Towle 45:21
Town 3:7,
17:10, 32:12,
32:13, 32:17,
47:9, 113:18,
263:10,
324:21
towns 31:1,
33:7, 34:4, 168:8
Township 11:6, 11:7, 11:8,
11:9, 11:10, 60:23, 60:24, $70: 16,70: 17$, 108:1, 108:4,
150:18,
157:19,
260:20,
260:21,
307:4, 311:3,
313:1,
324:10,
325:23
townships 11:5
track 28:12,
361:5
tract 56:20, 216:8,
216:15,
216:19,
216:20,
216:24,
217:4,
217:17,
218:1,
218:21,
218:22
tracts 67:13,
$76: 6,80: 24$,
82:16, 84:14, 219:23
trade-offs 339:2
traditional
31:23, 112:6
traffic 107:16
Trafton 47:3
tragic 53:3
Trail 31:4, 32:14, 33:19, 38:1, 40:10, 46:21, 294:2, 294:15, 302:23, 303:21, 303:23, 306:16, 318:7, 318:10, 318:13, 320:6, 333:22, 354:19, 355:4, 355:5
Trails 32:21, 47:12, 73:24, 115:25, 182:20, 261:3, 262:9, 303:20, 333:18, 349:7
training 280:11
transcribed

14:18
TRANSCRIPT
10:1, 14:18,
14:19,
131:14,
131:19,
131:25,
132:11, 363:5
transcriptionis
t 28:23,
60:1, 87:1
transition
76:13,
163:22,
177:14,
293:6,
318:16,
327:20
transitional 162:23
transitions 290:18, 290:21, 290:24
transmit 51:21
transmitting 51:17
transport 37:1
Transportation
30:18, 31:3
traveler 324:12
travelers
30:23, 112:5,
322:13,
345:22, $346: 1$
traveling
325:15,
325:21
travels 309:17, 325:18
traversable 63:12, 75:6
traverse 11:5, 43:22
traverses 94:12, 158:21
traversing 356:8
treasures 32:24
treatment 229:1
treatments 230:3
Tree 51:6, 62:10, 63:16, 71:20, 205:17, 214:7, 214:17, 231:16, 291:7, 291:8, 307:21, 308:2
trench 266:6, 291:5
trenched 290:19, 291:11
tried 94:6, 96:12, 102:23, 148:11
trip 331:22, 360:20
trips 331:22
Troutdale
316:24, 318:17, 319:1, 320:5, 320: 6, 320:12, 320:24, 355:6, 356:7
true 41:6, 94:23,
107:23, 112:9, 137:11, 149:16, 166:16, 166:22, 228:4, 346:12, 348:1, 363:4
truth 20:2, 20:3
try 39:6, 48:12, 54:9, 90:5, 92:10, 92:22, 93:23, 96:14, 116:2, 116:4,


147:19, 156:3,

$$
226: 23 \text {, }
$$

$$
249: 25 \text {, }
$$

$$
280: 4
$$

$$
285: 23,341: 1
$$

trying 98:18,

$$
98: 19,99: 17 \text {, }
$$

$$
100: 22,
$$

102:25,
103:18,

$$
116: 1,125: 1,
$$

129:8, 129:9,
132:9,

$$
147: 20 \text {, }
$$

$$
180: 21 \text {, }
$$

$$
201: 24 \text {, }
$$

$$
222: 13 \text {, }
$$

$$
222: 25 \text {, }
$$

226:24,
229:19,
230:4, 239:7,
249:14,

$$
252: 14 \text {, }
$$

$$
255: 14,
$$

$$
288: 5,340: 18
$$

tuck 333:5

Tuesday 11:24, 19:3
Tumbledown
112:7,
308:15,
331:2, 339:7
347:16,
347:21
turn 15:6,
15:17,
160:17,
175:22,
179:19,
304:14
Turning 210:20,
326:10,
326:11,
354:17
74:16
turtles 191:20
twice 279:25
two. 262:3,
346:16
type 41:19,
48:15, 74:13,
99:25,
101:20,
102:21,
103:1, 104:2,
116:8,
162:14,
162:15,
162:21,
226:14,
255: 6,
288:13,
288:21,
288:24,
292:8,
305:16,
349:18,
350:23
types 68:19,
68:20, 83:21, 158:7,
160:17,
160:19,
161:5, 172:8,
172:18,
182:21,
305:23,
339:18
typical 184:13,
184:16,
242:7, 242:8,
264:15,
279:12,
288:10, 290:7
Typically
115:12,
137:6, 137:8,
148:3,
186:21,
225:18,
229:4, 229:7, 265:23,
288:15
< U >
U.s./canada

73:20
ultimate 13:17, 116:1
ultimately
137:3,
151:22, 256:1, 282:18, 292:20, 292:22
Umbrella 159:5, 159:6, 159:12, 159:18, 159:25
UMF 15:16
unable 20:9, 156:10
unauthorized 267:12, 268:7
Unavoidable
21:23, 21:24, 26:4, 26:12, 26:20, 26:21, 27:19, 65:20, 67:3, 67:10, 67:19, 69:12, 81:16, 83:9, 83:20, 85:15, 109:5, 109:9, 109:11, 150:20, 256:14
uncertain
134:9, 134:11
unchanged
333:14
unclear 39:5, 221:5, 221:19 uncommon 193:2
underground
37:23, 41:25, 48:8, 51:20, 52:5, 128:4, 128:22, 129:7, 131:3, 133:1, 133:2, 133:7,
$133: 18$,
$247: 1$,
$248: 13$,
$266: 14$,
$287: 21$,
$287: 24$,
$289: 21$,
$290: 3$,
$290: 14$,
$290: 18$
Undergrounding
$50: 7,50: 10$,
$133: 9$,
$152: 20$,
$246: 23$,
$249: 4$,
$250: 19$,
$252: 24$,
$253: 3$,
$264: 17$,
$264: 20$,
$265: 12$,
$265: 17$,
$270: 18$,
$271: 22$,
$273: 4,276: 9$,
$276: 13$,
$276: 17$,
$276: 18$,
$277: 5$,
$277: 18$,
$280: 12$,
$280: 17$,
$287: 14$,
$288: 1$,
$335: 12$,
$335: 16$,
$336: 12$
$u$,

247:1,
248:13,
266:14,
287:21,
287:24,
289:21,
290:3,
290:14, 290:18
Undergrounding
50:7, 50:10,
133: 9,
152:20,
246:23,
49:4
52. 24

253:3,
264:17,
264:20,
265:12,
265:17,
270:18,
271:22,
273:4, 276:9,
276:13,
276:17,
27:18,
277:18
280:12
280:17,
287:14,
288:1,
335:12,
335:16,
336:12
underneath
133: 8,
177:16,
320:13,
320:11
undersized
240:20
understanding
68:12, 125:7,
129:20,

153:7, 253:9,
257:3,
265:17,
266:23,
290:6, 316:16
understates 353:16
Understood
98:18,
148:20, 250:6
undertake 81:11
undeveloped
40:5, 51:10,
166:17,
166:23,
348:19,
361:11
Undisturbed
65:25, 291:7, 291:8
undone 52:16
unfair 222:11
Unfortunately 47:24
unfounded 45:15
unfragmented 29:24, 33:24, 42:2, 73:16, 167:21
unified 30:7
uniform 197:3
unique 33:11, 43:12, 51:5, 150:14, 150:15, 156:1
United 31:10, 36:9, 41:7,
43:12, 94:23, 146:16, 164:25
University 1:22, 15:13, 16:2
unknown 45:9
unless 62:8, 156:14, 351:15, 352:14
Unlike 43:20, 332:16

Unlimited 4:8, 4:33, 17:17, $37: 14,190: 23$
unorganized 308:20
unreasonable 34:5, 35:3, 40:20, 48:24, 49:5, 61:2, 62:19, 67:18, 68:15, 72:9, 75:8, 77:19, 79:25, 89:11, 90:10, 296:24, 298:2, 298:13, 298:15, 299:5, 333:13, 343:19, 358:8, 359:24, 361:8 unreasonably 22:19, 24:21, 34:11, 34:17, 49:17, 64:1, 64:25, 69:1, 69:6, 70:4, 71:9, 72:15, 76:16, 81:18, 83:2, 108:14, 190:11, 295:4, 296:19, 297:25, 298:16, 298:21, 298:24, 331:16, 332:11, 334:2, $343: 4$, 357:19
until 18:19,
52:5, 86:8, 147:21, 155:5, 255:4, 320:25
up-to-date 353:3,

| $\begin{aligned} & 353: 24, \\ & 354: 10 \end{aligned}$ |  |
| :---: | :---: |
| updated 3 352:14, |  |
| $\begin{aligned} & \text { upgrades } 58: 9, \\ & 141: 23 \end{aligned}$ |  |
| Upper 24:8, |  |
| 25:24, | 27:7 |
| 27:11, 31:6, |  |
| 31:16, |  |
| 63:17, |  |
| 76:7, 81:23, |  |
|  |  |
| 82:4, 236:19, |  |
| 237:12, |  |
| 277:21, |  |
| 292:7, 311:2, |  |
| 332:15, |  |
| 333:8, |  |
| 343:13, |  |
| 346:17, 350:7 |  |
| upstream 64:11, |  |
| 203:10, |  |
| 205:21, |  |
| 206:11, |  |
| 207: 6, |  |
| 314:7 |  |
| upswing 53:9 |  |
| $53: 8$ |  |
| urges 35:16 |  |
| useful 137:7, |  |
| 138:12, 340:2 |  |
| user 254:25, |  |
| 343:11, |  |
| 349:18, |  |
| 358:21 |  |
| Users 7:8, |  |
| 24:4, 40:6, |  |
| 40:10, 51:2, |  |
| 333:10, |  |
| 342:15, 350:4 |  |
| using 23:23, |  |
| 82:5, 85:4, |  |
| 85:5, 92:24, |  |
| 105:11, |  |
| 125:3, |  |
| 142:11, |  |
| 147:22 |  |

354:24
updated 351:15, 352:14, 352:17 upgrades 58:9, 141:23
Upper 24:8,
25:24, 27:7,
27:11, 31:6,
31:16, 50:8,
63:17, 66:16,
73:12, 76:2,
76:7, 81:23,
82:4, 236:19,
237:12,
277:21,
292:7, 311:2,
332:15,
333:8,
343:13,
346:17, 350:7
upstream 64:11,
203:10,
205:21,
206:11,
314:7
upswing 53:9
urban 32:25, 53:8
urges 35:16 useful 137:7, 138:12, 340:2 ser 254:25, 343:11, 349:18, 358:21
Users 7:8,
24:4, 40:6,
40:10, 51:2,
333:10,
342:15, 350:4
using 23:23,
82:5, 85:4,
85:5, 92:24,
105:11,
125:3,
147:22,

148:5, 157:6,
157:10,
166:12,
181:15,
182:5, 249:5,
251:22,
297:16,
305:3,
349:12,
350:20,
350:23,
351: 6,
351:18,
352:8,
352:19, 353:1
Utilities 38:5, 38:12
Utility 53:19,
99:2, 137:6,
141:4,
142:13,
270:10,
295:16
utilization 115:1
utilize 116:2
utilized 61:21, 313:15, 333:20
utilizes 37:24, 225:7
utilizing 24:8, 92:14
< V >
vacation 32:19, 345:25, 346:1
valid 146:10
validate 143:1
Valley 31:6, 31:16, 47:9,
311:16,
322:15,
322:22
valuable 81:10, 342:15
valuation
121:17
valuator 128:11
value 36:8,
75:15, 82:7,
121:18,
130:15,
137:17,
137:22,
138:20,
139:21,
139:24,
156:18,
157:11,
158:2, 201:8,
201:11,
208:4,
208:16,
212:2,
212:17,
213:9, 217:8, 224:3, 338:3
values 22:12,
24:12, 30:24, 38:9, 39:14, 53:21, 78:7, 83:14, 212:1, 212:10, 215:11, 215:16,
216:2, 216:5, 216:11, 217:3 variables 206:19
variety 63:12, 166:9, 225:7
various 59:17, 88:13, 115:2, 115:6, 120:4, 152:2, 182:15, 182:17, 206:16, 215:12, 258:15, 264:9, 339:18, 356:22
vary 199:22, 288:21
varying 180:24
vast 94:1
vector 41:11
veg 226:7
vegetated
71:21, 74:13,
91:13,
110:17,
118:5,
172:16,
190:12,
261:20
vegetative
44:7, 100:18,
105:15,
110:25,
186:6,
236:15,
238:19,
339:25,
340:11
vehemently 38:6
vehicle 62:8
velocity 207:15
verbatim 218:22
verification
234:13
verify 149:17,
151:7, 234:6
Vermont 51:21,
52:3, 120:13,
129:12,
129:23,
174:16,
174:23,
175:1, 175:4
vernal 41:14,
41:17, 42:2,
42:8, 63:6,
73:1, 74:19,
74:22, 75:1,
75:7, 85:2,
85:9, 292:3, 339:17
versa 110:11
versus 54:25,
168:21,
203:10,
206:4,
229:18,
239:3,
240:11,
253:19,

261:11,
261:12,
261:22,
263:15,
338:8, $349: 19$
VIA 295:14,
296:14,
297:3,
297:15,
299:18,
302:5,
304:12,
357:17
Viable 63:12,
63:16, 65:9,
105:1, 105:2,
234:1, 241:2
Vias 295:22
Vice 46:6,
56:4, 110:10
vicinity 170:1,
173:7
VIDEOGRAPHER
86:24
viewable 107:21
viewed 297:1,
309:19,
330:25,
331:1, 331:2
viewer 310:22,
315:3,
322:24, 323:8
viewers 314:1
viewing 82:21,
303:3,
305:21,
312:7,
349:13, 350:5
viewpoint
305:16,
305:22,
307:12,
311:13,
313:5,
313:14,
315:18,
315:20,
334:12,
340:21, 352:1
viewpoints

112:12
views 32:24, 43:2, 53:17, 82:6, 107:24, 112:8, 316:5, 342:1, 342:22, 345:23, 346:2, 346:8, 355:23
viewscape 315:5
viewshed 296:2,
299:24,
301:17,
304:21,
305:2,
308:10,
333:5,
347:12, 350:22, 351:19, 351:24, 352:8, 353:7, 353:19, 354:15
village 326:8, 327:15
virtue 359:9
virtues 98:25, 100:3
visibility
22:24, 23:11, 23:20, 23:23, 24:4, 24:7, 107:19, 300:4, 300:10, 302: 4, 305:1, 307:15, 307:24, 308: 9, 312:22, 320:11, 324:2,
325:12, 326:23, 347:2, 350:10, 350:14, 351:5,
$351: 25$,
$352: 2$,
$353: 15$,
$353: 16$,
$353: 22$
visit $34: 7$,
$350: 6$
visited $303: 7$,
$304: 2$
visiting $33: 17$
visitor $30: 22$,
$346: 14$
visitors $31: 9$,
$348: 18,350: 1$
visually $298: 8$
vitally $39: 22$
voice $30: 7$
voltage $10: 13$,
$268: 17$
Volume $86: 22$,
$107: 4$
volumes $300: 11$
voluntarily
$231: 1$
vulnerable
l96:24
< W >
W. $3: 29$

Wade 4:13, 4:20
wading 38:2,
85:2, 85:9
Wagner 5:7,
7:10, 17:18,
17:24, 42:15
waiting 151:19
waiving 122:20, 122:22
walk 249:19
Walker 7:11, 17:24
walking 320:10, 360:9
walls 334:19
Walters 46:23
wanted 47:22,
57:7, 176:16, 221:4, 224:2, 251:16
warning 342:23
Warren 47:8, 48:21
Washington 344:2
watching 259:6
waterbodies
70:15, 70:19, 70:25
waterbody 307:5, 316:20, 333:4 Waterfall 82:23, 82:24
waterfowl 38:2, 85:3, 85:10
waters 30:10, 332:5
wave 279:12
waves 279:16
ways 37:1, 47:19, 65:7, 71:21, 71:25, 74:24, 99:3, 105:11, 165:1, 172:7, 177:4, 186:4, 203:23, 204:1, 204:5, 205:23, 206:3, 206:4, 206:5, 206:7, 206:8, 221:16, 290:16, 333:7, 336:7
wealth 82:19
weathering 143: 4
website 15:15, 142:4,
142:12, 164:3, 164:16, 166:5, 166:6, 166:12, 196:11
week 12:3, 14:14, 15:12, 21:18, 22:13,

35:22, 35:24,
37:7, 39:21,
257:3, 332:16
weekly 47:15
weigh 238:25,
239:15
weight 127:11
welcome 36:14, 200:14, 289:18, 337:1
well-accustomed 332:5
well-acquainted 145:3
well-defined
83:10
well-known
345:17
West 3:6,
11:11, 17:9, 23:19, 24:6,
33:6, 33:20, 46:13, 46:25, 47:3, 47:5, 66:1, 66:6, 81:24, 82:1, 112:3,
113:17, 235:3,
284:23,
291:8, 313:3,
313:7
315:19,
323: 6,
328:14, 329:22, 332:2
Western 5:33,
17:20, 28:18, 29:12, 40:14, 43:9, 43:14, 44:16, 44:21, 47:3, 51:4, 73:15, 73:16, 87:8, 169:18, 171:4, 245:13, 245:14, 259:16, 316:23, 316:24,

317:4, 318:24
wetlands 12:23,
35:9, 38:1,
60:16, 63:5,
67:5, 67:7,
67:13, 78:14,
79:15, 83:8,
83:9, 196:19,
239:25,
289:15,
339:18
Weyerhaeuser
151:10,
151:11,
151:15
Wharf 2:8, 2:16
whatever 37:4,
48:12, 174:3,
242:15,
266:21, 285:6
whatsoever
92:16, 333:9
whenever 21:22
whereas 84:8,
294:2, 294:4,
294:6, 294:15
wherever 62:2,
67:1
white 314:11,
318:19,
328:25,
331:21
Whitefield 11:2
whitewater
46:9, 53:5,
82:21
whole 20:2,
21:1, 92:20,
93:4, 111:16,
130:8,
145:19,
145:24,
148:1, 282:6,
283:8,
285:25,
302:20,
321:1,
323:19,
338:13,
339:13,

339:21,
351:3,
351:11,
352:6, 353:4
wholesale 56:24
whom 33:9
wide 25:12,
61:9, 63:12,
110:24,
190:11,
192:13,
193:25,
194:10,
225:7,
227:25,
228:4,
289:23,
312:13,
322:24,
340:19
widely 159:24, 333:20
widen 317:4
widened 192:7, 194:10, 197:3
wider 43:23,
189:25,
196:22
widespread
169:11,
230:23
width 49:21,
177:20,
189:5,
189:15,
207:21,
243:5,
265:18,
266:2,
300:22,
301:7, 301:8,
334:17
widths 189:6,
189:19, 190:8
wild 31:14,
33:13, 51:8, 218:8, 219:5
Wilderness
2:28, 17:8,
29:6, 29:20,

29:23, 30:5, 30:7, 53:7,
94:23, $94: 24$, 94:25,
170:15,
331:21
Wildlands 308:21
wildlife-friend ly 73:5
Willyard 172:6, 177:2
Wilton 11:2
win 248:11
wind 152:3,
152:6, 231:4,
244:20,
245:10,
245:15,
246:10,
268:21,
269:1, 269:6, 295:24,
344:4, 345:14
wind-throw 196:22
Windsor 11:2, 58:1, 58:3, 58:9, 59:3, 82:2, 301:14, 328:16
Winter 26:1,
27:6, 56:21, 63:19, 63:20,
75:21, 192:2,
237:11,
238:3,
313:11,
320:15,
321:17,
324:3, 324:5
wintering 27:7,
27:11, 38:3,
41:19, 42:3,
42:9, 63:18,
73:13, 75:10, 75:14, 75:17,
75:20, 76:2,
76:3, 76:7, 231:15,

233:2, 235:1,
236:19,
237:12,
253:12,
292:6, 292:7,
292:14
winters 41:20, 53:2
wintertime
355:22,
355:24
wire 62:15,
97:25,
177:15,
184:24,
185:10,
185:19,
192:19,
192:21,
193:2,
193:11,
193:13,
193:15,
193:20,
193:22,
193:23,
193:24
wires 177:17,
222:24,
231:16,
231:17,
316:12
Wiscasset 11:2,
58:2, 58:3,
58:10, 59:3, 330:12
wish 19:18,
153:2
wished 129:25
wishes 19:15
withdrew 148:12
Without 42:25,
49:17, 55:6,
126:21,
133:20,
227:14,
232:8,
266:16,
288:5, 295:4
Witness 14:24,

18:13, 29:10,
98:6, 123:9,
129:16,
156:9,
222:11,
267:17,
293:4,
293:10,
293:12,
293:13,
344:12, 359:6
Witnesses 15:3,
15:4, 18:15,
19:12, 20:4,
22:13, 48:19,
123:12,
126:19,
127:10,
146:7,
146:11,
147:4, 153:6,
156:8, 195:3,
274:16,
333:12,
361:20
WKR 11:11,
11:13, 218:1
WMRC 44:17,
44:19, 44:20,
45:3, 45:8,
45:16, 47:18,
47:21, 48:6,
48:11
women 53:14
won 155:1,
246:4
wonder 225:8, 225:22,
227:11,
228:11,
231:20
wonderful 275:5
wondering 89:5, 326:15
WOOD 5:24, 8:9, 9:17, 43:6,
200:24,
337:7,
337:16,
337:25,

338:5, 338:7,
338:12,
339:23,
340:15,
340:24
wooded 232:1, 232:2,
310:14, 327:25
wooden 330:10
woods 30:10,
31:9, 31:24, 37:15, 42:7, 87:8, 89:20, 108:11,
112:9, 242:8, 332:5, 332:17
Woodsum 6:10, 6:18
woody 188:13, 188:17, 188:20, 192:19, 192:22, 198:16, 198:18, 198:23, 199:1, 199:2, 199:6, 199:8, 199:20, 200:4, 200:8, 200:16, 201:6, 201:15
Woolwich 11:3
word 146:11, 160:4, 160:8, 160:11
words 74:11, 89:25, 100:6, 108:15, 111:15, 112:21, 218:16, 226:22, 230:22, 237:18, 263:1, 265:21
workable 339:21
worked 46:1, 60:18, 87:18,

| $\begin{aligned} & 88: 10, \quad 88: 14, \\ & 142: 24, \end{aligned}$ |
| :---: |
| 223:1, |
| 295:12, |
| 295:22, |
| 296:5, |
| 299:18, |
| 300:13, |
| 307:25, |
| 317:22, |
| 332:13 |
| Workers 3:24, |
| 17:14, 36:4 |
| working 31:1, |
| 45:11, 59:12, |
| 59:14, 63:7, |
| 81:8, 87:12, |
| 109:3, |
| 114:25, |
| 224:20, |
| 224:22, |
| 239:2, |
| 240:10, |
| 297:7, |
| 297:12, |
| 307:23, |
| 309:10, |
| 312:16, |
| 330:18, |
| 337:20, |
| 338:23, |
| 356:20 |
| works 46:5, |
| 87:1, 153:8, |
| 242:15, |
| 295:15, |
| 340:16 |
| world 31:10, |
| 139:11, |
| 261:22, |
| 263:14, |
| 263:15 |
| worst 317:15 |
| worthless |
| 126:21 |
| wound 266:10 |
| Wow 334:7 |
| wrap 41:2, |
| 48:18, 55:13, |
| 76:20, 113:1, |

147:12,
341:1, 341:3, 361:23
wrap-up 331:14
wrapping 172:22
writing 13:8, 18: 6
wrote 300:10
Wyman 66:6, 81:25, 301:6, 304:1, 326:6
< Y >
Yankee 301:14
yards 38:3, 253:12
Yarmouth 295:11
year-and-a-half 297:12
year-round 33:1, 33:6, 56:20
yellow 58:18
yes. 289:24
York 207:2
yourself 126:11, 296:4
Yup 86:24, 173:4, 180:4, 184:21, 202:15, 202:19, 207:14, 208:21, 229:23, 238:6, 279:13, 283:2, 290:15, 335:6, 336:6, 336:23, 348:11, 349:10, 349:11, 350:18, $\begin{array}{lll}355: 6, & 355: 7, \\ 355: 8, & 355: 13\end{array}$
< Z >
zones 70:24, 200:9, 302:1, 302:21, 339:18
zoomed 319:19

