WEBVTT

1

00:00:10.950 --> 00:00:11.340

Hillary Greenberg: Well,

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00:00:25.170 --> 00:00:33.360

Hillary Greenberg: And I want to be respectful of everyone's time that's joining us today. So, welcome. Thank you for meeting with us.

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00:00:34.020 --> 00:00:44.250

Hillary Greenberg: We have some exciting updates to provide that and we look forward to getting your feedback. And so I think we can jump right in.

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00:00:45.180 --> 00:00:57.600

Hillary Greenberg: I don't know if we want to do brief introductions, but perhaps that's a good way to start because it's a little bit awkward to be meeting this way. I'm Hillary Greenberg, the health and conservation agent for the town of well fleets.

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00:00:58.950 --> 00:01:00.960

Hillary Greenberg: And Scott, I'll go to you because you're talking

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00:01:01.230 --> 00:01:07.920

Scott Horsley: Where Scott Horsley working as a consultant to the talent well fleet developing a targeted watershed management plan.

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00:01:08.970 --> 00:01:10.650

Curt Felix: Or Felix Chair of the wastewater committee.

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00:01:13.350 --> 00:01:15.780

Curt Felix: Friends, not unmuted. But another great

9

00:01:17.340 --> 00:01:17.760

Fred Vanderschmidt : Advantage.

10

00:01:18.780 --> 00:01:19.170

Fred Vanderschmidt : To me.

11

00:01:25.740 --> 00:01:32.190

Barbara Kickham : Barbara kick them. I'm with nasty P and I'm the TMT section sheath. I'm located in Worcester office.

12

00:01:35.640 --> 00:01:37.920

Millie Garcia-Serrano: Brian STP se

13

00:01:40.830 --> 00:01:45.000

Millie Garcia-Serrano: Hi everybody. Millie Serrano regional director and the Southeast Regional Office of

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00:01:45.000 --> 00:01:46.590

Millie Garcia-Serrano: Mass DP. Good afternoon.

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00:01:52.980 --> 00:01:53.910

Bryan Dore: Sorry, go ahead.

16

00:01:58.800 --> 00:01:58.950

Patti Kellogg: With

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00:01:59.940 --> 00:02:03.000

Call-In User\_1: Your water resources and I've been working with that both

18

00:02:03.000 --> 00:02:04.590

Patti Kellogg: Brian, I mean,

19

00:02:07.200 --> 00:02:07.590

Patti Kellogg: We can

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00:02:12.720 --> 00:02:19.830

Bryan Dore: Hi this is Brian Dawn EPA Region one in the non point shed non point source watershed unit.

21

00:02:24.720 --> 00:02:31.950

Anastasia Rudenko: And I'm Anastasia Danko. I'm an engineer with ghd working on the hydraulic load testing for the transfer station site mostly

22

00:02:34.080 --> 00:02:39.540

Jeff Gregg: Jeff Greg from ghd senior project manager there and I'm working with Anastasia on that project.

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00:02:41.430 --> 00:02:54.180

Tim Pasakarnis: All right, I'm Tim pastor cartoonist with the Cape Cod Commission and the water resource analyst there. And we've been assisting the town and Scott with various aspects of development of the targeted watershed management plan.

24

00:02:56.970 --> 00:03:04.830

Hillary Greenberg: Right, and I think that's all of us. So with that, I'm gonna hand it over to Scott to kick us off here.

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00:03:06.990 --> 00:03:09.990

Scott Horsley: Okay, let me find my slideshow.

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00:03:17.640 --> 00:03:20.220

Scott Horsley: Have it all set to go here. How about that one.

27

00:03:26.040 --> 00:03:27.060

Yet on

28

00:03:29.910 --> 00:03:32.400

Millie Garcia-Serrano: It. I'm Scott This is Millie before you get going.

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00:03:32.490 --> 00:03:33.240

Scott Horsley: Is going

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00:03:33.600 --> 00:03:37.590

Millie Garcia-Serrano: All in user is Drew of, say, is that correct true

31

00:03:39.390 --> 00:03:41.850

Call-In User\_1: Yeah, I introduced myself. Yeah.

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00:03:44.160 --> 00:03:45.390

Millie Garcia-Serrano: Yeah, if you don't mind just introducing

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00:03:45.390 --> 00:03:46.710

Millie Garcia-Serrano: Yourself to the team to her.

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00:03:48.450 --> 00:03:50.580

Call-In User\_1: Jewels Southeast region office.

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00:03:53.190 --> 00:03:55.110

Scott Horsley: Cream. Thank you, Andrew.

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00:03:56.550 --> 00:04:07.140

Scott Horsley: Okay, well, I'll get started and I'll try to keep this brief Tim is going to assist me in the middle here as he indicated, the Commission is assisting in developing this plan.

37

00:04:07.860 --> 00:04:21.540

Scott Horsley: And I'm going to give my go quickly because I think most people here know a lot of this. So I don't want to repeat too much and I'm going to defer to Jeff and his team on the transfer station. But I think everybody knows that study is underway.

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00:04:22.590 --> 00:04:25.230

Scott Horsley: Looking at the transfer station site as a

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00:04:26.280 --> 00:04:35.880

Scott Horsley: As an option for a centralized solution. So we'll be looking won't say any more about that we provided some background information to Jeff and his team and they got going, been coordinating a little bit

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00:04:36.420 --> 00:04:41.460

Scott Horsley: I know they've been in the field, doing some testing and and again I'll let him address that.

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00:04:42.090 --> 00:04:47.730

Scott Horsley: So I'm, I'm not going to go through this in detail, but I just want to show you that we do, we have prepared a

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00:04:48.240 --> 00:04:55.770

Scott Horsley: Plan on how to get to the magic numbers using non traditional approaches as an alternative decentralized sewer.

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00:04:56.280 --> 00:05:06.930

Scott Horsley: We are using the build out loads, as opposed to the existing loads which makes our job a little bit harder, but you can see across the top here, we've got a each one of the sub and payments.

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00:05:07.650 --> 00:05:19.350

Scott Horsley: And the so called build out loads the threshold and the amount required to get there and then align here showing what percent reduction all these numbers come directly from the MEP report.

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00:05:20.280 --> 00:05:30.000

Scott Horsley: And then down here in the bottom. We've identified 123456789 strategies that we are currently evaluating we've had

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00:05:30.690 --> 00:05:35.610

Scott Horsley: A number of meetings with the wastewater Committee and Board health and the Housing Committee, etc.

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00:05:36.330 --> 00:05:45.420

Scott Horsley: And I'll just summarize here and say that at this current time we're really looking seriously at some of these so called enhanced ima systems as a measure

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00:05:46.290 --> 00:05:55.620

Scott Horsley: Aquaculture is still part of the program as a storm water and fertilizers. I mentioned the Mayo Creek restoration project here for. We're also looking at herring Creek.

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00:05:56.250 --> 00:06:01.980

Scott Horsley: Watershed as a tool to help us get there. And then we've got some PR bees were thinking about

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00:06:02.640 --> 00:06:12.210

Scott Horsley: For negation wells, the golf course. And then this housing project that want to spend a little bit on time, they called 95 Lawrence and we'll come back to that.

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00:06:13.050 --> 00:06:18.750

Scott Horsley: The most challenging part of the project as it is true in most estuaries is sort of the headwaters here.

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00:06:19.350 --> 00:06:25.530

Scott Horsley: Duck Creek, the so called cove area and this is a picture from the Commission's watershed MVP tool.

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00:06:26.100 --> 00:06:34.680

Scott Horsley: Which we're using the health plan this out. And these are four of the items that I just mentioned that I want. We want to focus on just briefly today.

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00:06:35.190 --> 00:06:40.950

Scott Horsley: In terms of critical projects that we think might help us get at least partway to the goals.

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00:06:41.760 --> 00:06:49.560

Scott Horsley: So I'm going to start with 95 Lawrence and I don't, I'm not sure if everybody is aware of this, but I'll just give it a two minute introduction, then I'll let

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00:06:50.400 --> 00:06:54.090

Scott Horsley: I'll record and others from the town if they want to expand on it, but

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00:06:54.600 --> 00:07:08.550

Scott Horsley: There's a affordable housing project planned on 95 warrants row, which is just northeast of this is routes sex trade here is the orientation and this is the blue. This is the road has done a commercial street towards the town center.

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00:07:09.600 --> 00:07:19.650

Scott Horsley: Good. The police and fire station the elementary school up front here and Cape Cod Commission has given a grant to the town, which I'll let him talk about in a minute.

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00:07:20.370 --> 00:07:32.520

Scott Horsley: To look at wastewater alternatives here. So, given the orientation of this project, which is outlined in this parcel here to these other municipal service again fire, police elementary

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00:07:33.180 --> 00:07:40.530

Scott Horsley: As well as a number of Title five projects Title Five properties up here to the north and northeast.

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00:07:41.700 --> 00:07:44.160

Scott Horsley: We thought it might be worth looking at some

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00:07:45.420 --> 00:07:59.730

Scott Horsley: Some neighborhood scale cluster systems. So as an alternative to simply building a system for the housing project, I should mention this isn't the duck Creek watershed, which is our most challenged watershed. So it's really provides a nice

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00:08:00.570 --> 00:08:04.290

Scott Horsley: Opportunity. So at this point I think I'm going to just flip your slides for you to him.

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00:08:04.920 --> 00:08:13.470

Scott Horsley: And let him take over here. Tim and I have been talking quite a bit about this project and I just go back and say, one of the things bowler engineering did provide

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00:08:14.100 --> 00:08:23.100

Scott Horsley: A report looking at a number of different potential technologies for the site and Tim and I and others have been looking at this assessing it sort of from a

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00:08:23.640 --> 00:08:30.150

Scott Horsley: Nitrogen reduction standpoint in a cost effectiveness standpoint. So I really will stop there. Tim, I'll let you take it from here. Go ahead.

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00:08:31.170 --> 00:08:43.350

Tim Pasakarnis: Sir. Thanks Scott and I think that's a, that's a very good way of characterizing this kind of brief analysis that I've done is that the all of the costs and sort of performance data that

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00:08:44.340 --> 00:09:02.670

Tim Pasakarnis: That went into these calculations came from that draft report that bowler has issued. And so certainly any any sort of questions about the technical details are probably answered in there. But this this is mainly to provide a little more context to to their report and

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00:09:04.080 --> 00:09:12.300

Tim Pasakarnis: Just how these different scenarios might fit into the town's overall plan for wealthy harbor so

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00:09:13.020 --> 00:09:23.190

Tim Pasakarnis: Just anticipating questions that might come up. So I am going to show some comparisons to a title, a comparable Title Five system.

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00:09:24.000 --> 00:09:36.840

Tim Pasakarnis: Those any numbers that are associated with that are based on this MEP 26 and a quarter milligrams per liter effluents 20 any title five numbers I show that's where they that's what they're based on

72

00:09:37.830 --> 00:09:50.340

Tim Pasakarnis: We use the AM for drum system for cost comparison purposes. I think it ended up as the lowest cost alternative and each of the three scenarios but also just, you know, so that we can kind of

73

00:09:50.790 --> 00:10:02.160

Tim Pasakarnis: Look at the three scales and keep the the moving parts in the comparison to a minimum or not, not necessarily making any sort of endorsement of one system or another, but this is for

74

00:10:02.760 --> 00:10:14.190

Tim Pasakarnis: What we used for this illustration all estimates are based on design flows. So actual flows will obviously be somewhat lower but for our purposes, that's

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00:10:14.670 --> 00:10:26.730

Tim Pasakarnis: That's how we calculated things and then just one. One thing that's kind of a little bit of a subtlety. But all these costs that are being presented are the, the actual costs are as

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00:10:27.420 --> 00:10:34.800

Tim Pasakarnis: Estimated in the report, so it's not sort of the cost above a installing a comparable Title Five system so

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00:10:35.820 --> 00:10:43.980

Tim Pasakarnis: Hopefully, that doesn't confuse things more but we get into some kind of funny lingo, and we're talking about how the nitrogen.

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00:10:45.090 --> 00:10:56.520

Tim Pasakarnis: Nitrogen discharges compared to Title five but then costs are sort of on their own. So just get that out there. Hopefully, that doesn't confuse things, then we can we can move on to the next slide.

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00:10:57.240 --> 00:11:08.880

Tim Pasakarnis: And it looks like looks like my titles somehow must be white text on white background, so I will, I will narrate them, but this is basically the first what I'm calling scenario one

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00:11:10.170 --> 00:11:21.840

Tim Pasakarnis: Which is just treating the wastewater from the affordable housing development using and i a septic system basically

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00:11:22.650 --> 00:11:44.010

Tim Pasakarnis: So this is the system design just under 10,000 gallons of design flow. And for each one of these scenarios, we've sort of presented a high and a low estimate of what the so a high higher nitrogen effluent level. So in this scenario, the high estimate is 25 the lowest

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00:11:45.300 --> 00:11:56.220

Tim Pasakarnis: So in each of these cases, the 25 is based on what was specified in the engineering report as kind of the minimum performance requirement for the technologies evaluated.

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00:11:57.150 --> 00:12:14.760

Tim Pasakarnis: The 19 is a typical effluent nitrogen level that I systems would be permitted for through Massey up. So that's kind of just to illustrate the, the extent of the range that might be expected for each of these systems.

84

00:12:15.870 --> 00:12:30.900

Tim Pasakarnis: And so basically with this first system, we are treating a new source of nitrogen to the watershed. So it has, you know, it has a capital cost of around $600,000 and then

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00:12:31.980 --> 00:12:41.310

Tim Pasakarnis: Annual operations around $20,000 a year, basically a 30 year costs of around $1.2 million and because all three.

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00:12:41.940 --> 00:12:53.790

Tim Pasakarnis: scenarios that we envision are similar cost structures so very large capital costs up front with smaller ongoing maintenance costs. These are, these are just sort of simple

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00:12:54.660 --> 00:13:12.660

Tim Pasakarnis: Simple total costs and then the total is just or the annual cost is the total divided by 30 years so no. No discount rates or anything like that because the cost structures are the same and and when, when I did do this analysis and came up with an equivalent annual cost.

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00:13:13.710 --> 00:13:19.590

Tim Pasakarnis: It didn't, it didn't change didn't change any of the sort of comparison between the three

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00:13:20.610 --> 00:13:30.840

Tim Pasakarnis: Alright, so that's all, that's all stuff that's laid out in the report, let's talk about the nitrogen impact. So this first scenario which is using an AI system to treat

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00:13:32.070 --> 00:13:44.340

Tim Pasakarnis: The wastewater from the affordable housing development would remove somewhere between 20 and 100 kilograms of nitrogen per year. That's compared to if it were just discharging to a title five but

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00:13:44.850 --> 00:13:56.580

Tim Pasakarnis: It's still going to add nitrogen to the duck Creek sub watershed because it's a new source of nitrogen from new development. And so the cost implications of this are

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00:13:57.960 --> 00:14:17.010

Tim Pasakarnis: You know, you'll see in a lot of the to a plan technologies matrix, there's sort of a basis for comparison among different technologies is what's the cost per kilogram nitrogen removed and so for each of these I'll present the cost per kilo per kilogram.

93

00:14:18.600 --> 00:14:26.040

Tim Pasakarnis: Nitrogen removed compared to a comparable Title Five systems. So that's sort of the

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00:14:27.930 --> 00:14:40.410

Tim Pasakarnis: I don't know the best way to describe it. But basically, basically, the cost of that enhanced treatment but independent of that you can also have a separate costs, which is the cost per

95

00:14:41.430 --> 00:14:55.260

Tim Pasakarnis: Kilogram of nitrogen removed from the watershed. And so what that takes into account is that you have to, you have to remove all of that new nitrogen that the new development has created and then

96

00:14:56.640 --> 00:15:15.690

Tim Pasakarnis: Anything beyond that counts as a reduction to the watershed. So first scenario one, the cost per kilogram nitrogen compared to Title Five is ranges between $402,000 but you can't calculate a cost per kilogram nitrogen.

97

00:15:16.770 --> 00:15:22.710

Tim Pasakarnis: Reduction from Creek, because it's not reducing the nitrogen load to duck Creek. It's actually adding to it.

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00:15:24.870 --> 00:15:27.960

Tim Pasakarnis: To just one using but yes if there's questions.

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00:15:27.990 --> 00:15:40.860

Curt Felix: Yeah. Just a really quick. When I'm the effluent. What is the infant Jerome, actually, what's the estimate for what the inventory system in particular will have for as long, because I know you're the 25 and the 19 are based on

100

00:15:43.020 --> 00:15:44.850

Curt Felix: Matrix numbers. But what's the actual

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00:15:44.850 --> 00:15:54.840

Tim Pasakarnis: System or the 20 the 25 is what's in the bowler report. So that was what they specified the system needed to be able to me it

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00:15:55.920 --> 00:16:02.010

Curt Felix: Right, don't. What is it, I think it was different. My recollection was. It was loud. It was a bit lower the actual system.

103

00:16:02.490 --> 00:16:04.350

Curt Felix: The specification was that, but that

104

00:16:04.800 --> 00:16:08.430

Curt Felix: It would perform better than that. Or maybe I haven't wrong sky, you

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00:16:09.030 --> 00:16:11.160

Scott Horsley: I think that's the 19 numbers that right, Tim.

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00:16:12.300 --> 00:16:13.770

Scott Horsley: Closer to actual performance.

107

00:16:13.800 --> 00:16:17.550

Tim Pasakarnis: Yeah, I mean, my, my assumption was the 19 is what

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00:16:17.550 --> 00:16:23.820

Tim Pasakarnis: The, the general use permits typically are seem to most frequently Beato

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00:16:24.960 --> 00:16:33.990

Tim Pasakarnis: Anyone from DP knows knows better but that seems to be at least what I associated with the highest nitrogen reducing is systems.

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00:16:34.650 --> 00:16:43.020

BDudley: It depends upon what the flow is generally for the most part the 19 is assigned to systems, less than 2000

111

00:16:43.200 --> 00:16:44.760

Tim Pasakarnis: Gotcha. Well,

112

00:16:44.820 --> 00:16:56.700

BDudley: 25 would be assigned to systems between two and 10,000 as a general rule of thumb, that's not true for every single system, but

113

00:16:57.720 --> 00:17:07.410

BDudley: That also is following along the sampling an operation and maintenance schedule.

114

00:17:08.640 --> 00:17:19.590

BDudley: Described in the title five approvals. So, which is considerably less stringent than if you were under

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00:17:20.730 --> 00:17:23.550

BDudley: A groundwater discharge permit where you would have

116

00:17:25.440 --> 00:17:26.010

BDudley: More

117

00:17:28.260 --> 00:17:36.900

BDudley: More professional and frequent management of the system, in which case you probably could get numbers significantly lower than the 19

118

00:17:38.520 --> 00:17:43.830

Jeff Gregg: But you'd have to anyways. Brian, right, because you have hit 10 at a minimum at that point. Soon as you go over

119

00:17:44.490 --> 00:17:46.020

BDudley: underground water discharge.

120

00:17:46.830 --> 00:17:47.910

Jeff Gregg: Say if but

121

00:17:48.210 --> 00:17:56.190

BDudley: Say if you were doing it 9900 and it was under Title Five. But you had management similar tool groundwater just charged

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00:17:56.220 --> 00:18:02.040

Curt Felix: Probably, probably get less than 19 great that I just wanted to clarify that. That's great. Thank you, Brian.

123

00:18:05.250 --> 00:18:17.490

Tim Pasakarnis: Alright so on to the next scenario. And so this envisions a having a will call it a centralized treatment system that's now going to incorporate not only the

124

00:18:18.000 --> 00:18:30.810

Tim Pasakarnis: Affordable housing development, but also several of the municipal properties that Scott pointed out on the, the figure earlier. So the, the police station the elementary school and

125

00:18:33.420 --> 00:18:52.560

Tim Pasakarnis: Basically collected, you know, collect a bunch of flow from nearby nearby town owned properties. It is much higher design flow. It also has a much lower effluent nitrogen. So a greater level of nitrogen removal

126

00:18:53.730 --> 00:18:54.660

Tim Pasakarnis: And

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00:18:56.010 --> 00:19:04.920

Tim Pasakarnis: Again, I mean, I'm not. I won't read through all the costs. But basically, if we look at the nitrogen impacts here. Here's where we actually get into

128

00:19:05.370 --> 00:19:20.790

Tim Pasakarnis: Some pretty significant reductions certainly compared to a Title Five system. But now, by adding these additional properties and starting to remove some nitrogen that was already a you know already being discharged prior to

129

00:19:21.450 --> 00:19:37.650

Tim Pasakarnis: The, you know, the impending development of the affordable housing project, we start to see some reductions on the the order of 200 to, you know, maybe 350 kilograms of nitrogen per year from the watershed.

130

00:19:38.820 --> 00:19:50.220

Tim Pasakarnis: And the cost per kilogram of nitrogen, you know, drop pretty significantly here and I think it is this scenario, certainly.

131

00:19:51.660 --> 00:19:56.610

Tim Pasakarnis: Represents the ability to take advantage of some

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00:19:57.420 --> 00:20:11.460

Tim Pasakarnis: You know economy of scale and also enhance treatment efficiency that comes with a larger scale treatment system with relatively minor investments in collection system being required because it is several

133

00:20:11.910 --> 00:20:20.280

Tim Pasakarnis: Fairly high flow properties that are quite close to where the proposed treatment system would be so you end up with

134

00:20:21.990 --> 00:20:25.680

Tim Pasakarnis: You know, cost per kilogram nitrogen much lower.

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00:20:26.850 --> 00:20:30.600

Tim Pasakarnis: Compared to Title five and now you're actually starting to get into

136

00:20:32.400 --> 00:20:45.930

Tim Pasakarnis: Get into removing nitrogen from the watershed. So you can jump ahead to the next slide, which is scenario three and this expands upon scenario to but also includes a collection system to

137

00:20:46.590 --> 00:21:02.430

Tim Pasakarnis: Reach out to some of the neighboring residential properties. So we've gone from 25,000 to 35,000 gallons per day of design flow basically the same same expected level of treatment as one might expect the

138

00:21:03.840 --> 00:21:13.110

Tim Pasakarnis: You know, both the capital cost has gone up to accommodate that additional design flow. The om costs have gone up slightly.

139

00:21:14.280 --> 00:21:36.120

Tim Pasakarnis: And again, as you add more existing properties to the treatment system you're now seeing even higher levels of nitrogen removal from the watershed. And what we see here, then if we look at the the cost per kilogram. Is it actually goes up a little bit when compared to Title five

140

00:21:38.130 --> 00:21:48.900

Tim Pasakarnis: When we compare it to that previous scenario. And it's because we're starting to add in some of those collection system costs and it drives the cost per kilogram up a bit.

141

00:21:50.400 --> 00:21:52.110

Tim Pasakarnis: And that shows up both in the

142

00:21:53.670 --> 00:22:06.690

Tim Pasakarnis: I believe in the title in the title five comparison and and the watershed removal as well. But we can go to the next slide and kind of look at things kind of look at them all together.

143

00:22:10.020 --> 00:22:21.840

Tim Pasakarnis: To see that, basically. So as as you increase in the design flow and sort of the reach of the collection system. The, the potential costs per kilogram.

144

00:22:22.410 --> 00:22:34.050

Tim Pasakarnis: removal from the watershed just goes down with scale and you know that that's typically what you might expect, as you know, as you get to these larger

145

00:22:34.500 --> 00:22:49.470

Tim Pasakarnis: Larger scale systems. The cost goes down as long as it is an offset by the size or by the cost of the associated collection system, but you can. And the comparison was Title Five see that that does that does start to show up.

146

00:22:50.760 --> 00:22:56.430

Tim Pasakarnis: The increased cost from collection extreme scenario two and scenario three but then I think

147

00:22:57.060 --> 00:23:06.030

Tim Pasakarnis: The really important take home from this as as Scott mentioned, this is one of the going to be one of the most challenging sub watersheds to remove nitrogen from

148

00:23:06.660 --> 00:23:19.770

Tim Pasakarnis: And either of the centralized scenarios have, you know, have the potential to take care of somewhere on the order of 15 to 30% of that overall reduction needed

149

00:23:22.020 --> 00:23:38.040

Tim Pasakarnis: You know, versus the first scenario which is only treating the the wastewater from the affordable housing development, which results in adding nitrogen to the watershed, which then at a later date would have to be

150

00:23:39.390 --> 00:23:56.760

Tim Pasakarnis: offset by some other reduction technology. So I think it's, it's fantastic that these options are being evaluated at this early planning stage so that decisions can be made kind of thinking about that that future watershed wide context.

151

00:24:00.120 --> 00:24:06.360

Scott Horsley: Him. I can't help but notice last cost here to Ole Miss any significance to that.

152

00:24:06.390 --> 00:24:10.800

Tim Pasakarnis: There's, there's got to be as complete happy accident.

153

00:24:12.150 --> 00:24:13.830

Scott Horsley: Sorry. Couldn't couldn't help myself there.

154

00:24:15.090 --> 00:24:22.560

Scott Horsley: Okay. Okay. Thank you, Tim. And maybe we'll just keep going here and hold questions and what St. Mary's got any burning ones I got another seven or eight slides here.

155

00:24:22.800 --> 00:24:32.340

Hillary Greenberg: Just want to make sure we did try and send out the report I know I tried to send the report to the folks at master up and it bounced back from each and every one of you.

156

00:24:32.580 --> 00:24:39.810

Hillary Greenberg: So I tried to share the link that Scott had put together. So I just want to make sure folks received a copy of the report, so they can peruse that

157

00:24:40.050 --> 00:24:41.130

Scott Horsley: Brian, I think I sent you a

158

00:24:41.130 --> 00:24:43.230

Scott Horsley: Copy. Did you get it. Yeah, yeah.

159

00:24:43.950 --> 00:24:46.950

BDudley: Yeah, so I've, I've already reviewed it.

160

00:24:47.370 --> 00:24:47.730

Scott Horsley: Okay.

161

00:24:48.360 --> 00:24:52.320

BDudley: You know, the only the only thing that I would say is that with the

162

00:24:53.850 --> 00:24:56.040

BDudley: You know, with most of the

163

00:24:57.990 --> 00:25:03.960

BDudley: Treatment alternatives identified, you know, for either scenario two or three

164

00:25:05.130 --> 00:25:06.870

BDudley: With proper operation.

165

00:25:08.190 --> 00:25:09.420

You probably could.

166

00:25:11.010 --> 00:25:15.750

BDudley: Get on on an annual average even below six. Yeah.

167

00:25:17.730 --> 00:25:21.270

BDudley: Which provides even even more benefit.

168

00:25:22.770 --> 00:25:42.810

Scott Horsley: Yeah. The other thing I'll note is of the total capital cost of scenario three, which was an, I think, a little over $4 million more than half of it. I think the number is 2.4 million is the collection system. So just an interesting thought to stash away and I think we all know this, that

169

00:25:44.070 --> 00:25:58.350

Scott Horsley: Many places the cape. That seems to be the a significant driver in some of these costs. I think Tim, you and I talked. That may be why some of these cost per unit costs actually go up and alternative three versus alternative to but

170

00:25:59.400 --> 00:26:00.360

Scott Horsley: Then come back to that.

171

00:26:01.290 --> 00:26:01.800

Fred Vanderschmidt : You guys are

172

00:26:02.010 --> 00:26:11.550

Fred Vanderschmidt : Society am area to for this for the system. So you go to scenario three. Do we have the space to put it in.

173

00:26:12.180 --> 00:26:23.970

Scott Horsley: There are bowler did do a series of I call conceptual level site plans, looking at where these facilities might go on the property. And I think it's a was a six acre site so I

174

00:26:24.360 --> 00:26:30.630

Scott Horsley: Think it's fair to say that probably is room for everything, but the that would need to be sort of

175

00:26:31.140 --> 00:26:36.840

Scott Horsley: You know, ground truth with a more detailed engineering plan, but they did in their report they do provide at least a conceptual

176

00:26:37.680 --> 00:26:51.090

Scott Horsley: Picture. And I think they probably sized it correctly. Her facility. So it looks like it'll work, Fred. But you're right. This is a question that we need to be evaluated in the more detailed plan for sure.

177

00:26:51.930 --> 00:26:53.220

Fred Vanderschmidt : Thanks. Yep.

178

00:26:53.670 --> 00:27:02.160

Scott Horsley: So let me move on the other side in this watershed. And it actually spills over to the other challenge watershed. The Cove down here is a

179

00:27:02.700 --> 00:27:14.850

Scott Horsley: Possible PR be installation here along commercial Street is it looks pretty probably pretty promising in that it is down gradient from some pretty high density areas.

180

00:27:15.360 --> 00:27:26.400

Scott Horsley: So we've been evaluating that and this is the location of the intersection between Bank Street and commercial where there is a town own parking lot.

181

00:27:27.420 --> 00:27:32.730

Scott Horsley: And it might be an opportunity we've been talking as part of the wastewater committee for a pilot project.

182

00:27:33.360 --> 00:27:45.570

Scott Horsley: To put in some multi level wells and start evaluating the possibility of a PR be installation might start here and then and then possibly expand both

183

00:27:46.530 --> 00:27:56.970

Scott Horsley: Both directions on commercial street and I just want to mention briefly that I was invited to and attended this past week of very good webinar by EPA Rd Brian. I'm not sure.

184

00:27:57.540 --> 00:28:09.360

Scott Horsley: You're familiar with Marcel actually invited me and as a group of people down in Long Island, who have built a PR be in a very near shore area. You can see it right here along the shoreline.

185

00:28:09.960 --> 00:28:20.580

Scott Horsley: Reason I was interested in this as as as you can note from this picture. To do this, we're pretty close to some title waters. So the issue of salt water intrusion or assault.

186

00:28:21.150 --> 00:28:31.980

Scott Horsley: Groundwater is a factor. So I was interested in this presentation, which I attended. And here's just some pictures of suck they calling these things bulkhead PRP is right along the

187

00:28:32.460 --> 00:28:50.280

Scott Horsley: Shoreline. This is a plan view picture and actually a photograph of the installation. And then the final product and they are finding that the getting really good removal rates and within this zone where they are getting some salinity and the groundwater. So I just present this as a

188

00:28:51.510 --> 00:29:02.550

Scott Horsley: As an interesting pilot project that might help us if we do decide to go down this road come up with some kind of a conceptual design to at least test this as a pilot, but it does look like a

189

00:29:03.570 --> 00:29:09.180

Scott Horsley: Good potential location. So that's one of the things that we've got in our plan at this point we're vetting this further, and

190

00:29:10.080 --> 00:29:25.830

Scott Horsley: I intend to talk further with these people in Long Island about some details and think the town might be interested in conducting at least a preliminary investigation of a multi level wells and and nitrogen along that area in groundwater to determine the potential for that PR be

191

00:29:27.030 --> 00:29:35.250

Scott Horsley: The other technology which is probably, you know, the one that we're really looking at a lot of detail is are these so called enhanced ins.

192

00:29:35.730 --> 00:29:47.760

Scott Horsley: Now, I admit I am showing one technology here the Mitchell and nightdress system john Smith technology. There are others, notably the night trek system. And I think the work that George boy folder has been doing that probably also

193

00:29:49.590 --> 00:30:00.630

Scott Horsley: fit into this category of what we're calling an advanced or enhanced ins systems as a potential and I'm working with Hillary has provided me some interesting data.

194

00:30:01.290 --> 00:30:12.510

Scott Horsley: On how many systems get repaired upgraded etc. And one of our thoughts here is trying to do this on an opportunistic basis, meaning when you're doing up a site for some other reason.

195

00:30:13.320 --> 00:30:25.380

Scott Horsley: That might be a time to go in and cost effectively bring in one of these technologies because when you start looking at the cost, which we've been doing in some detail. A lot of them have to do with excavation landscaping.

196

00:30:26.820 --> 00:30:32.310

Scott Horsley: Separate from the actual cost of the technology. So we're thinking that if we can tie this program.

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00:30:32.940 --> 00:30:43.680

Scott Horsley: To other improvements along the way. It could be pretty cost effective and if you just look at Hillary's numbers, the last three years and then project this out over a 30 year period.

198

00:30:44.310 --> 00:30:50.340

Scott Horsley: And assuming we get a 75% reduction, right, which is a number we're using our planning process right now.

199

00:30:51.270 --> 00:31:00.300

Scott Horsley: That could generate a reduction of about 7000 kilograms per year over that 30 year period towards the goal of the 20,000

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00:31:00.720 --> 00:31:08.160

Scott Horsley: Kilograms per year. And I should mention these are town wide numbers. The 20,000 is a town wide or I should say a watershed wide number

201

00:31:08.610 --> 00:31:14.130

Scott Horsley: So we're just trying to look at these these figures, just as a general comparison to see

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00:31:14.700 --> 00:31:22.950

Scott Horsley: Instead of knocking on people's doors and saying, you got to put in a system. Now if we tie it to a program where they're already doing work.

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00:31:23.610 --> 00:31:32.160

Scott Horsley: Perhaps we can get this implemented at a more cost effective manner. Similarly, we also looked at real estate transfers as a possible mechanism.

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00:31:32.640 --> 00:31:41.730

Scott Horsley: If we look at the numbers from well fleet over again a projected 30 year period, we might get as many as close to 2000 systems and

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00:31:42.420 --> 00:31:49.170

Scott Horsley: Reduction of about 10,000 kilograms. So just, just some numbers to think about how this might get implemented.

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00:31:50.070 --> 00:31:55.290

Scott Horsley: And then finally, we've been talking with the board, the health. We've had one meeting very good meeting.

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00:31:56.220 --> 00:32:07.350

Scott Horsley: At the possibility of drafting and implementing a regulation somewhat similar to other communities, I think, does it matter points that are married and that just implemented a regulation, like this.

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00:32:09.000 --> 00:32:17.070

Scott Horsley: And this nomenclature is per the wealthy regulations. But very briefly way the regular this regulation might work is that

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00:32:17.700 --> 00:32:23.490

Scott Horsley: Any, any repairs or new systems are going would have to add a minimum install a

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00:32:24.300 --> 00:32:33.510

Scott Horsley: DP approved nitrogen I in a system in the first first paragraph and talking about all of them that meet this 19 milligram

211

00:32:34.050 --> 00:32:40.080

Scott Horsley: Level and then in the next paragraph. We talked about the possibly the town, providing some sort of a financial incentive

212

00:32:40.830 --> 00:32:52.290

Scott Horsley: To upgrade that with the homeowner to go from what I call a base level I na up to these enhanced ins and as you can see in the in the draft regulation, we're actually calling out

213

00:32:52.680 --> 00:33:01.020

Scott Horsley: Some possible pre approved technologies and we indicate that others can certainly apply for approval. But the goal would be to get systems that have

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00:33:01.650 --> 00:33:11.580

Scott Horsley: Proven third party testing it gets down below 10. And then the third paragraph here we actually added after the first Board of Health hearing because people were asking

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00:33:12.150 --> 00:33:23.760

Scott Horsley: A question. What happens if people start putting this these in, and then later on the early part of the area gets Seward. So this language is directly from the town of Chatham where they were considering something. Similarly,

216

00:33:25.410 --> 00:33:39.210

Scott Horsley: Hillary and I have already talked about this and these, this may not be the actual language of the Board of Health considers but I wanted to put something in here as a placeholder. The idea would be to provide some relief, the property owners that made this kind of investment and then

217

00:33:40.290 --> 00:33:55.590

Scott Horsley: You know, they said if the town decides to go forward with a centralized sewer at some point we give that property owners some relief. So that is that's the regulation that's in front of the Board of Health, we, as I said, we've had one meeting. We're meeting. Again, I think, in October.

218

00:33:56.970 --> 00:33:58.260

Scott Horsley: To discuss this further.

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00:34:00.660 --> 00:34:10.560

Scott Horsley: And then related to that, of course, Brian and I and Tim and others are serving on this committee with the P to look at regulatory changes and Title five

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00:34:11.130 --> 00:34:16.200

Scott Horsley: That might be coincident to some degree with what we're talking about here.

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00:34:16.740 --> 00:34:23.310

Scott Horsley: Although we've only had one meeting of that advisory committee, but it's I think everybody knows there's some language in Title five that might provide

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00:34:23.940 --> 00:34:33.840

Scott Horsley: Some direction on this on a state level basis. So that's something that we're considering and also trying to be consistent with just, I'm not going to get into any details here, but just

223

00:34:34.830 --> 00:34:39.570

Scott Horsley: Call that out as something that is ongoing that we want to be cognizant of and be

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00:34:40.470 --> 00:34:47.730

Scott Horsley: Consistent with then the next to the last thing I want to mention is, as I think most people are aware. The town has been looking at

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00:34:48.300 --> 00:34:59.070

Scott Horsley: A couple of major restoration project one being male creepy other being herring river and we've been looking at this project in some detail and talking to the people that was whole group who actually did.

226

00:34:59.940 --> 00:35:09.660

Scott Horsley: Sorry, some of the studies on this project and we believe this does feed into the inner harbor area of the soul.

227

00:35:10.140 --> 00:35:14.880

Scott Horsley: Which where we need some benefits. So we think that will be some benefits. We've been trying to provide some

228

00:35:15.390 --> 00:35:25.140

Scott Horsley: Estimates of what we might get there through a conversion of fresh marsh salt marsh and that is that's ongoing. And the last item. I just want to hit is

229

00:35:25.710 --> 00:35:35.280

Scott Horsley: I'm not sure. Nancy has joined us here not working with Nancy said that the town shellfish Constable regarding the shellfish aquaculture program.

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00:35:36.390 --> 00:35:44.490

Scott Horsley: There is some data that suggests that oyster landings mature shown here in the right are increasing the clam landings have been going down.

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00:35:44.970 --> 00:35:55.650

Scott Horsley: We've been trying to translate this to nitrogen levels. On the left, we have a picture of some of the shellfish aquaculture grants that have been made in the in the harbor area.

232

00:35:56.130 --> 00:36:04.830

Scott Horsley: So the intent here is to work with the shellfish department and develop a plan a 20 to 30 year plan. Look at what sort of

233

00:36:06.870 --> 00:36:12.930

Scott Horsley: Enhancements might occur there and what sort of credits, we might be able to at least consider as part of the

234

00:36:13.860 --> 00:36:17.880

Scott Horsley: Targeted watershed plan. So that's pretty much it. That's where we're at.

235

00:36:18.750 --> 00:36:32.790

Scott Horsley: Thanks for listening and, you know, see, these are some of the next steps that we've outlined here. I've already touched on all of these. So I'll go over them again, but maybe I'll stop there, stop sharing my screen. So we can see people again and

236

00:36:34.560 --> 00:36:38.610

Scott Horsley: Maybe I'll ask first, if Kurt or Hillary want to add anything what said

237

00:36:42.420 --> 00:36:48.630

Curt Felix: No, I think the, the only thing I would add is I did just as a sidebar. I did talk with the

238

00:36:50.400 --> 00:37:07.680

Curt Felix: The assistant on administrator kind of taught to talk about some financing mechanisms and I just to talk about, for example, the enhanced a, you know, at a level of 60 systems, a year and that didn't include the real estate transfers, but I think real estate transfers plus

239

00:37:09.030 --> 00:37:09.960

Curt Felix: New builds

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00:37:11.070 --> 00:37:19.170

Curt Felix: Gets us to close to 50% or something like that for our, you know, overall reduction requirement.

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00:37:20.490 --> 00:37:32.160

Curt Felix: Which is pretty. To me, that's just amazing. But the other thing is that they were currently bringing in about 600,000 or 500 or 600,000 in the the town's portion of the Airbnb tax.

242

00:37:33.600 --> 00:37:45.630

Curt Felix: And that just about that's just about exactly what would be required for the incentive. The town incentive for those systems. So in terms of matching that up. That looks pretty promising.

243

00:37:46.890 --> 00:37:55.800

Curt Felix: And anyway, I just, we're working on some of those those things, including, you know, USDA financing.

244

00:37:56.910 --> 00:38:06.510

Curt Felix: The counties working on some some elements of financing, but I think the other major piece that would have to be part of our watershed plan obviously is where's the money going to come from for for

245

00:38:07.080 --> 00:38:17.220

Curt Felix: For this effort. And so I did want to say that we are making some progress on that there. And I think there's some things that line up nicely with what Scott. Scott for technical

246

00:38:18.270 --> 00:38:25.410

Curt Felix: Proposals here. And obviously if you know Millie I've reached out to you before and or

247

00:38:26.670 --> 00:38:34.110

Curt Felix: EPA if there are funds that they could be available for some of the elements of this because they're in Haiti, you know, innovative and alternative

[EPA says their office’s geographic area does not include Wellfleet later]

248

00:38:35.160 --> 00:38:39.870

Curt Felix: We'd like to try to start to include those either by by virtual meeting applications.

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00:38:40.980 --> 00:38:50.550

Curt Felix: You know, and, or, you know, working with the the either Grand Tours, or the agencies to try to line those things up with some of these elements.

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00:38:53.220 --> 00:39:07.560

Millie Garcia-Serrano: Absolutely. I'm glad we're having this conversation and I have a little bit more clarity as it pertains to some of the scenarios that you're running. And, um, you know, we'll definitely confer with EPA in our senior leadership in Boston to see what we have in the coffers.

251

00:39:08.610 --> 00:39:15.660

Curt Felix: But the you know the only other two things I would just mentioned is that, again, you know, enhanced is town line through regulation.

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00:39:16.200 --> 00:39:23.670

Curt Felix: produces an enormous, enormous benefit to the watershed in terms of our overall target. And the other thing was just these 95 Lauren's

253

00:39:24.510 --> 00:39:40.350

Curt Felix: Adding the municipal buildings in a portion of the residential area, you know, getting close to you know 2025 or 30% of the creek load big. These are really big things for us. So we were surprised by the analysis encouraged.

254

00:39:41.550 --> 00:39:44.520

Curt Felix: And anyway, that's just sort of, I think our reaction.

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00:39:46.230 --> 00:39:46.950

Millie Garcia-Serrano: Yeah, I guess.

256

00:39:48.990 --> 00:40:00.750

Millie Garcia-Serrano: I think this is great. We have nine potential strategies I think where I left off. And I really apologize because I've been a little bit out of the picture for the last couple months here, but kind of back in the fold.

257

00:40:01.800 --> 00:40:10.710

Millie Garcia-Serrano: Surprised that I didn't see any potential backup scenario with regards to any kind of active soaring in the downtown area that was an idea that we spoke about maybe a year ago.

258

00:40:11.820 --> 00:40:23.880

Millie Garcia-Serrano: So I just, you know, wanted to hear a little bit more about that. And my only other comment has to do with 95 Laurens road housing project. What's the timeline for that project.

259

00:40:27.780 --> 00:40:30.210

Curt Felix: Hillary new probably two years.

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00:40:30.900 --> 00:40:44.370

Hillary Greenberg: Okay, yeah, I think we're struggling a little bit thinking about putting large scale wastewater treatment there because it's going to be a public private partnership. So we have some legal

261

00:40:45.270 --> 00:40:52.500

Hillary Greenberg: Things that we need to work out. Make sure the Housing Authority is on board and that we can sustain something like this and

262

00:40:53.550 --> 00:41:02.130

Hillary Greenberg: Actually carry it out and find a developer to develop the site for housing, knowing that we also want to put wastewater on it, so there's there's several balls up in the air, but

263

00:41:03.090 --> 00:41:11.190

Hillary Greenberg: We think it's a good idea. And it's worth us pursuing so we are trying to move that forward so timeframe. I'd go two years, if not more.

264

00:41:12.840 --> 00:41:13.500

Scott Horsley: And the lily.

265

00:41:13.650 --> 00:41:24.510

Scott Horsley: Lily, I'll just respond to your, your point question on the centralized, sir, I did show a quick slide, but I didn't want to start at the beginning of my presentation. I don't want to spend a lot of time so I know Jeff Greg is going to speak here shortly.

266

00:41:25.020 --> 00:41:36.930

Scott Horsley: And they are evaluating the transfer station which is a site. The town had previously identified as a potential dispose lawyer for central system once we know the capacity of that site.

267

00:41:37.620 --> 00:41:52.050

Scott Horsley: And we can look back at I did show a slide that showed I think of some potential soaring areas identified by environmental partners, which was a previous consultant working for the town. So that will be. I certainly will be identified in the plan. I didn't mean to.

268

00:41:53.190 --> 00:42:02.310

Scott Horsley: Not spend more time on that. But again, knowing that Jeff was going to speak to that I wanted to defer to him. In fact, that may be a good segue here, Hillary. I'm not sure what's next on the agenda.

269

00:42:03.210 --> 00:42:04.860

BDudley: I, I had a quick question.

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00:42:05.430 --> 00:42:07.170

BDudley: Before um

271

00:42:08.220 --> 00:42:20.130

BDudley: You said that you were basing all your calculations on filled out. So I just wanted to make sure that when you're talking about percentages of

272

00:42:21.030 --> 00:42:36.330

BDudley: Target load removal that's including that's including build out because if like with the enhanced treatment systems. If you're talking about putting them in for new construction that's new low that's going in. So, correct.

273

00:42:36.780 --> 00:42:45.240

Scott Horsley: Yeah, the number again. I think that's correct. Brian off just a memory rounding up the numbers.

274

00:42:45.720 --> 00:42:54.540

Scott Horsley: The existing load according to me P reduction was about 10,000 kilograms per year with the build out it goes up almost double to about 20 okay

275

00:42:55.080 --> 00:43:03.420

Scott Horsley: And we're working with that 20,000 number. Alright, and the if you and I only spend a minute on the spreadsheet. But if you looked at that first line item.

276

00:43:03.960 --> 00:43:14.550

Scott Horsley: That deals with future growth and it makes that assumption that if the town adopts this health regulation, we're talking about that. All of that will be reduced by 75% loan, you know, going forward.

277

00:43:15.060 --> 00:43:18.060

BDudley: And then, and then the other thing, too, is that

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00:43:19.530 --> 00:43:24.270

BDudley: You know, for the systems that you would be offering the $10,000 incentive

279

00:43:26.520 --> 00:43:40.140

BDudley: You know none of those have general use approval. They're all provisional use correct so that there's an element of risk there. And in terms of whether or not they're going to be able to get to general to general

280

00:43:42.090 --> 00:43:43.080

Scott Horsley: Understood. Yeah.

281

00:43:43.110 --> 00:43:52.650

Curt Felix: Yeah, there's, there's no question about that. Brian, the other the other thought that we had was a, you know, in part, that if we if we did go forward with something like this.

282

00:43:53.850 --> 00:44:03.810

Curt Felix: It would, it would provide the opportunity to get an A number of a much larger number of systems installed, which could help accelerate general approval.

283

00:44:04.950 --> 00:44:14.370

Curt Felix: Obviously, the risk is on us. But, and you know until you get a certain number of systems out there and installed. We can't get to general use. So the thought there was to try to help out.

284

00:44:16.200 --> 00:44:16.530

Okay.

285

00:44:19.200 --> 00:44:21.330

BDudley: And and some of those

286

00:44:22.620 --> 00:44:25.890

Some of those alternatives with respect to financing.

287

00:44:27.120 --> 00:44:34.920

BDudley: Some of them either could be financed under the Community septic betterment program or some of them.

288

00:44:36.090 --> 00:44:39.990

BDudley: May be eligible for more traditional SRF

289

00:44:40.080 --> 00:44:40.980

Scott Horsley: Sri yeah

290

00:44:42.420 --> 00:44:49.620

Scott Horsley: Yeah, that's what I'm thinking. Either or. And we're just starting to look at financing. In fact, I've got a call tomorrow with

291

00:44:50.670 --> 00:44:53.340

Scott Horsley: Jackie units, who is very interested in

292

00:44:54.480 --> 00:44:57.900

Scott Horsley: Talking about the Barnstable county role in some of these

293

00:44:59.220 --> 00:45:00.030

Programs.

294

00:45:01.110 --> 00:45:05.670

Millie Garcia-Serrano: Right, and I think the fact that you. The town is working towards

295

00:45:07.410 --> 00:45:20.310

Millie Garcia-Serrano: Basically memorializing all these efforts by way of a watershed permit that it really bodes well with regards to SRF permitting excuse me for Sri financing, just give us a little bit more stature.

296

00:45:24.330 --> 00:45:25.920

Millie Garcia-Serrano: I have a question for Barbara

297

00:45:28.140 --> 00:45:44.490

Millie Garcia-Serrano: So the approvals of the DNA, the enhanced um can you speak to that, or is that a different sort of group in Boston. I know you're out of Worcester, and I'm just wondering what exactly is the TTP arm that would look

298

00:45:45.870 --> 00:45:52.200

Millie Garcia-Serrano: To these proposals and basically agree that they are a good idea, and they get the EPA approval.

299

00:45:53.520 --> 00:46:04.980

Barbara Kickham : I think Brian can answer that. I don't have anything to do with the AI systems, we're not, we don't do it out in worship planning to separate group wastewater and I think they hired someone, a few months ago.

300

00:46:05.040 --> 00:46:05.940

Barbara Kickham : Specifically,

301

00:46:06.450 --> 00:46:08.250

Barbara Kickham : To kind of move that faster.

302

00:46:08.790 --> 00:46:12.330

BDudley: You have to coach a coach se for that person.

303

00:46:16.710 --> 00:46:20.550

BDudley: Yeah, so I'm right now. I'm the three

304

00:46:23.250 --> 00:46:32.880

BDudley: Actually the layer cakes right now. I believe are under site specific piloting approval nitro and nitrox have provisional use approval.

305

00:46:34.290 --> 00:46:37.680

BDudley: And as Kurt said, you know, we need a certain number of them in

306

00:46:39.960 --> 00:46:45.630

BDudley: With nitro they just got their provisional use approval and they have

307

00:46:47.370 --> 00:46:50.160

BDudley: An agreement with the Barnstable clean water coalition

308

00:46:51.240 --> 00:46:54.420

BDudley: In hopes that they will be able to install

309

00:46:56.040 --> 00:47:00.060

BDudley: Several systems within a upon community that

310

00:47:01.140 --> 00:47:16.890

BDudley: Would get them up to if or or close to the systems that need to be tested over the next three years to gain general use approval if they operate as, as promised, so

311

00:47:18.420 --> 00:47:28.560

BDudley: And once we reach that 50 that would be the limit. So, um, so if the 50 is taken up, you know, as part of this program.

312

00:47:31.290 --> 00:47:36.660

BDudley: It may be, it may not be possible to to get, you know, additional ones elsewhere.

313

00:47:39.390 --> 00:47:46.230

BDudley: But, you know, we just have to wait, we have to wait for those installations to come in. We have to get the data and we have to analyze the data.

314

00:47:47.970 --> 00:47:49.980

BDudley: Before we can make a final decision on that.

315

00:47:51.360 --> 00:48:02.760

Scott Horsley: Brian I was speaking with john Smith. This morning he he claimed, he's got 18 systems currently installed and I believe those are all being monitored and you probably know better than I

316

00:48:04.860 --> 00:48:15.900

Scott Horsley: And he said, The Barnstable clean water coalition project will probably be installing another couple of dozen be my guests from recent conversations so we

[that would make 42]

317

00:48:16.350 --> 00:48:27.810

Scott Horsley: Were getting there. And I guess some maybe one, one question would be, in that we hope to submit this targeted watershed point on certainly within the year. We need to get a

318

00:48:28.500 --> 00:48:38.910

Scott Horsley: You know, the work done from ghd and incorporate the centralized alternative or backup plan or or that portion of it, but can you envision a

319

00:48:39.960 --> 00:48:58.080

Scott Horsley: proving a targeted watershed plan that would include a technology like these enhanced ins with the centralized sewer backup as a as a backup use that term again in case the general approval doesn't doesn't occur.

320

00:48:58.980 --> 00:49:04.350

BDudley: Yeah, I think the thing is is that, you know, the expectations of a targeted watershed management plan.

321

00:49:05.430 --> 00:49:06.360

Is that

322

00:49:07.710 --> 00:49:10.710

BDudley: You're going to be providing it in a phased manner.

323

00:49:10.860 --> 00:49:30.330

BDudley: Yes, so that you know the timing of your different alternatives would play into that kind of schedule mom now say if you did want to do this and rely on enhanced a systems in your first phase then

324

00:49:31.500 --> 00:49:42.090

BDudley: You know, it, the, the backup plan is certainly more critical. I think, then, if you would want to do it in, you know, phase three or four, you know,

325

00:49:44.190 --> 00:49:47.070

BDudley: So, I mean, we can just, you know, we can discuss

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00:49:48.240 --> 00:49:52.350

BDudley: You know those kinds of details as you're developing the plan, but

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00:49:54.150 --> 00:49:58.740

Scott Horsley: It's, it's certainly a plausible suggestion. Okay, good.

328

00:49:58.770 --> 00:50:14.880

Curt Felix: Yeah. Just one other observation there to Brian, I think the the the objective here would be to have a lot of eggs in the basket. So that's, you know, that's what we're talking about a demonstration potentially with a permeable reactive barrier, the mail Creek restoration

329

00:50:15.990 --> 00:50:18.690

Curt Felix: You know some of the the oyster activity.

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00:50:19.710 --> 00:50:32.130

Curt Felix: So having a variety of technologies and play the 95 Lawrence. So we've got a we've got a diversification of, you know, where our eggs are so that certainly you know what falls out or doesn't work.

331

00:50:33.270 --> 00:50:35.430

Curt Felix: You know, we're not just simply depending on one or two.

332

00:50:35.880 --> 00:50:45.780

Millie Garcia-Serrano: Mm hmm. Hey, Kurt. I do have a question on that PRP. Um, how much money are you looking for for that particular technology a test pilot

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00:50:46.560 --> 00:50:58.290

Curt Felix: School would have a better idea of costs. We did get some data on what the well costs would look like initially what we thought is just as you know as Scott had mentioned, you know, a demonstration.

334

00:50:58.320 --> 00:50:59.820

Curt Felix: Project to figure out

335

00:51:00.150 --> 00:51:08.130

Curt Felix: What we've got in the ground water for nitrogen to see what assist you know what a larger scale installation could potentially removed from that area.

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00:51:08.880 --> 00:51:14.160

Curt Felix: We focused on it as Scott mentioned because it's one of the denser areas and there's probably a lot of nitrogen in the groundwater.

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00:51:15.060 --> 00:51:21.480

Curt Felix: So we think that's one of the best places to focus, but do you have a you have a rough try and give you some time to think. Dr. Scott, for we

338

00:51:23.790 --> 00:51:24.240

Scott Horsley: Appreciate

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00:51:25.500 --> 00:51:27.390

Scott Horsley: We do. We did get a quote for some

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00:51:27.840 --> 00:51:30.810

Scott Horsley: Installation I think of nine multi level wells.

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00:51:30.840 --> 00:51:36.840

Scott Horsley: Which is going to be critical here to really design. I think, I think that was on the order for around $30,000

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00:51:37.410 --> 00:51:37.860

Scott Horsley: And then

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00:51:38.430 --> 00:51:51.990

Scott Horsley: You know, there would be some engineering design installation. I mean don't hold me to this, but I'm guessing we're in the one to $200,000 range to install a small scale pilot. We do have a good site there and it's town owned

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00:51:53.220 --> 00:52:01.470

Scott Horsley: And it looks like I looked at the infrastructure, I should mention nlcs did install a storm water infiltration system. There's a couple years ago.

345

00:52:02.160 --> 00:52:12.660

Scott Horsley: As part of a water resources projects will be kind of working around that. But I think something in that range million and I can certainly try to pull together some more make that a little bit tighter.

346

00:52:12.990 --> 00:52:18.330

Millie Garcia-Serrano: Yeah, I really want to see if I can follow this up. This is again maybe

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00:52:19.650 --> 00:52:21.660

Millie Garcia-Serrano: I don't know definitely pre coated

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00:52:23.490 --> 00:52:31.950

Millie Garcia-Serrano: There was a there was an incoming question to our region that came in, I want to say to remember this Brian from the Department of Revenue

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00:52:32.970 --> 00:52:42.480

Millie Garcia-Serrano: For the treasurer's office, but they were looking specifically on just if you had a project that dealt with PR be, do you have a side on the cape.

350

00:52:43.020 --> 00:52:50.700

Millie Garcia-Serrano: And at the time I know that there were some things that were cooking with EPA when PRP and so on and so forth. But we didn't really have a candidate.

351

00:52:50.700 --> 00:52:56.070

Millie Garcia-Serrano: Site now that I'm this is you know you're talking about this maybe

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00:52:57.360 --> 00:53:02.490

Millie Garcia-Serrano: I would have to go back and kind of see what my email and the request was. And if it's something that's still

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00:53:03.570 --> 00:53:11.730

Millie Garcia-Serrano: Available for, you know, exploring. So I'd like to see if I can catch up on this this week and kind of see if I can email.

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00:53:13.740 --> 00:53:24.150

Millie Garcia-Serrano: And then just basically say, hey, during the course of our discussion follow up with a ton of oil fleet. This is one of the nine things that they're looking to advance the conversation around nitrogen reduction.

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00:53:25.290 --> 00:53:41.130

Scott Horsley: Nobody. That would be great. I mentioned, I'm working with Marcel beliveau epi Brian knows as well on a project and Barnstable, we're actually beginning construction of a pilot different kind of a PR be as part of a cranberry bog restoration project, but

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00:53:43.560 --> 00:53:55.320

Scott Horsley: We'd love would be very interested in pursuing that with EPA either is fine, either with funding and or technical assistance. I know. Marcel has been a tremendous source for us on other projects on Cape Cod.

357

00:53:56.070 --> 00:54:02.040

Millie Garcia-Serrano: Okay, great. I'll definitely regroup with Brian again in droves say on this one. Thank you.

358

00:54:03.180 --> 00:54:04.080

Curt Felix: Fantastic. Thanks.

359

00:54:04.440 --> 00:54:08.280

Millie Garcia-Serrano: So you're saying 30 K for the initial just

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00:54:08.340 --> 00:54:09.900

Millie Garcia-Serrano: The drilling drilling.

361

00:54:09.960 --> 00:54:19.950

Scott Horsley: Yeah. And then we have sampling and site characterization and then they would have to be some engineering design and obviously construction and then and then more monitoring.

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00:54:20.940 --> 00:54:32.220

Scott Horsley: So again, just guessing. And we could we could. We can size, the project to fit a budget, but it would probably a threshold level would be in the hundred to $200,000 range, I would think.

363

00:54:32.610 --> 00:54:33.150

Okay.

364

00:54:34.590 --> 00:54:48.480

Tim Pasakarnis: If it helps provide any context, who he has a snap grant for a PR be demonstration down in Falmouth, and that was 250,000 or I want to say 120 foot long

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00:54:49.500 --> 00:54:53.520

Tim Pasakarnis: PR be with all the associated monitoring wells and

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00:54:55.260 --> 00:54:58.770

Tim Pasakarnis: Engineering Design for the carbon source and

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00:54:59.790 --> 00:55:11.100

Tim Pasakarnis: All those all those sorts of things. So it's just another data point for and that was just in that was installed several months ago. So, current dollars.

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00:55:12.030 --> 00:55:14.100

Millie Garcia-Serrano: Yeah. Okay. Perfect. Thank you.

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00:55:15.000 --> 00:55:28.560

Fred Vanderschmidt : Guys, I'm gonna have to jump to another meeting , but I truly appreciate all of you being on on this call and entertain me for the last hour definitely we keep on kicking the ball down the road. And I think we have a plan.

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00:55:30.030 --> 00:55:33.510

Fred Vanderschmidt : And we have some good we have some good outcomes identified

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00:55:34.770 --> 00:55:40.500

Fred Vanderschmidt : And and it definitely the town is committed so anyway.

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00:55:41.880 --> 00:55:45.060

Fred Vanderschmidt : I'll let you guys carry on without me. Take care. Thanks for

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00:55:45.450 --> 00:55:45.870

Thanks for

374

00:55:49.170 --> 00:56:01.500

Hillary Greenberg: Okay, so moving on in the interest of time, it's about two o'clock. We have one more hour, and we have ghd next up on the list. So Jeff for Anastasia which which one of you would like to go ahead

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00:56:02.130 --> 00:56:03.180

Anastasia Rudenko: I can take this one.

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00:56:04.410 --> 00:56:16.020

Anastasia Rudenko: So we're currently working on a hydra geologic evaluation at the transfer station site and the purpose of the evaluation is to characterize the site for potential treated us what we charge

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00:56:16.530 --> 00:56:23.580

Anastasia Rudenko: And the project consists of two main components. The first is a series of field investigations to characterize

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00:56:24.600 --> 00:56:33.750

Anastasia Rudenko: What the potential hydraulic loading rate of the site is and that's done through the installation of a monitoring. Well, so that we can monitor groundwater during our testing.

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00:56:34.230 --> 00:56:48.090

Anastasia Rudenko: To evaluate for potential localized groundwater mounting a percolation test a soil profile done through a test fit and a three day hydraulic load test. That's a series of constant and falling head test.

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00:56:48.990 --> 00:56:53.640

Anastasia Rudenko: And we did put together a draft for a plan that's been submitted to STP.

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00:56:54.120 --> 00:57:02.850

Anastasia Rudenko: And will continue to coordinate with Michelle and Bruce for the scheduling of the testing which is anticipated within the next two months, October, November.

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00:57:03.540 --> 00:57:20.100

Anastasia Rudenko: And then the data that's collected from the testing will be used in a groundwater model to characterize the potential for groundwater mounting and for particle tracking and analysis to track where the nitrogen from the potential site would ultimately be charged to the ecosystem.

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00:57:21.510 --> 00:57:28.770

Anastasia Rudenko: So it's just a very brief overview of the project and I wanted to see if anyone had any questions on our approach.

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00:57:37.110 --> 00:57:38.190

Anastasia Rudenko: keep marching forward and

385

00:57:46.500 --> 00:57:48.210

Anastasia Rudenko: So Emily, I see you're on mute.

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00:57:51.030 --> 00:57:57.480

Millie Garcia-Serrano: Thank you for that. You tell me. Out of all the scenarios that you've identified today the nine of them.

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00:57:58.800 --> 00:58:03.330

Millie Garcia-Serrano: Which one has a more direct nexus with disclose test planning.

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00:58:05.790 --> 00:58:19.200

Millie Garcia-Serrano: It's at the hospital one, excuse me, the housing one or the car was your effort going to tie in and help us decide, you know, contribute towards the selection of the correct technologies.

389

00:58:21.930 --> 00:58:23.070

Anastasia Rudenko: That did you address that.

390

00:58:23.850 --> 00:58:36.390

Scott Horsley: You are off of helps like a first cut at it. So I guess the nine technologies that I indicated Millie were in addition to the centralized sewer option.

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00:58:37.680 --> 00:58:41.310

Scott Horsley: And ultimately, it's likely ones up with some sort of a hybrid

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00:58:43.110 --> 00:58:50.400

Scott Horsley: Of those two until we get the results of ghd is analysis of the transfer site. We don't know what the capacity

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00:58:51.180 --> 00:59:08.010

Scott Horsley: Of that site is. And I also think that at some point the town's going to look at comparative cost estimates between that solution and enhanced I na. So I think Brian's comments earlier about a phased approach, you're going to make a lot of sense here because

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00:59:10.410 --> 00:59:13.800

Scott Horsley: I think it. I don't think anybody really knows. On the cost basis at this point.

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00:59:15.180 --> 00:59:22.290

Scott Horsley: What the comparison ultimate will look like for well fleet, there's numbers from other towns, we can use and are using to try to compare that, and it certainly looks like.

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00:59:22.980 --> 00:59:39.870

Scott Horsley: The IRA is worth considering on the cost basis, but Brian indicated are going to get that approved out. So I guess my, my response to your question would be, that we would include once we get the results of GH these analysis that as part of the plan.

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00:59:40.590 --> 00:59:41.670

Scott Horsley: But design it

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00:59:41.760 --> 00:59:44.490

Scott Horsley: In one of the phases and I'm not sure which one yet.

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00:59:45.840 --> 00:59:50.580

Scott Horsley: I recommend looking at the pleasant Bay permit. These are generally done in five year increments.

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00:59:51.450 --> 00:59:56.880

Scott Horsley: So we might look at say further design of the centralized solution during that first phase, while we're also

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00:59:57.270 --> 01:00:07.650

Scott Horsley: Maybe trying out some of these other solutions and then make a decision and commitment, one way or the other. At the end of that first phase, that's one way I'm thinking about it how that's how they might fit together.

402

01:00:08.040 --> 01:00:11.610

Millie Garcia-Serrano: Right. So this is a feeder document to the backup plan.

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01:00:12.780 --> 01:00:14.040

Scott Horsley: That's right. Like, that's right.

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01:00:15.210 --> 01:00:34.050

Jeff Gregg: thing to keep in mind too is that the although will be providing an estimate of what the hydraulic capacity is at the site and I presume Scott and others will be looking at what the nitrogen capacity is at that location if it has an impact on other watersheds so that

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01:00:35.280 --> 01:00:48.570

Jeff Gregg: It may be able to take more water physically but you either may have to balance that with other treatment or removals or you may downsize. What you want to actually recharge there so you can stay under some kind of cap or threshold.

406

01:00:49.980 --> 01:01:00.390

Scott Horsley: That's a really good point. Recognize this the transfer station is in the herring River watershed or the town is spending an enormous amount of time and ultimately probably money to restore that watershed.

407

01:01:01.110 --> 01:01:11.520

Scott Horsley: In part to hopefully get some nitrogen mitigation. So if we, whatever, if there is a system that's get built and treated disposed in that watershed. It will be a net addition and increase

408

01:01:12.180 --> 01:01:23.490

Scott Horsley: Of nitrogen to that. So it's just indicating would have to be some compensation mitigation for that part of the plan, but that's something we'll look at in the targeted plan. Some alternatives.

409

01:01:26.670 --> 01:01:40.620

Curt Felix: You think you might have to. There's the you know the herring river restoration project is one mitigation and the other is all the homes in that watershed already that are currently not Seward. So, you know, you do have some you know mitigation there as well.

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01:01:41.790 --> 01:01:42.660

Scott Horsley: I should mention

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01:01:42.690 --> 01:01:49.950

Scott Horsley: Tim Tim that you've done some preliminary work on this looking at potential flows and treatment based upon addition to that watershed.

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01:01:50.460 --> 01:02:03.990

Scott Horsley: I don't know. We don't need to go that through that now but commit crime Commission has been providing some really good support on some of these issues. So we can integrate that analysis as it's updated from the gap analysis into our plan.

413

01:02:06.300 --> 01:02:15.090

Hillary Greenberg: I'm just looking at our agenda and it seems like we are talking about herring River, do we want to go out of water and segue directly to the Heron River.

414

01:02:15.480 --> 01:02:28.560

Hillary Greenberg: And then we can jump back to the things that we're leaving behind because I think that's an important topic that we certainly want to cover today. Considering we are doing work looking at setting a sewer there potentially so

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01:02:30.570 --> 01:02:33.870

Hillary Greenberg: I don't know if Brian or Patty, you want to take this one.

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01:02:37.080 --> 01:02:40.410

BDudley: Well, Patty Patty and Barb have more direct

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01:02:42.750 --> 01:02:46.290

BDudley: More direct involvement than I do. So I would defer to them. Okay.

418

01:02:50.220 --> 01:03:03.870

Barbara Kickham : Okay. Um, I thought the agenda was EPA was there to talk about what they're doing at the herring River. I can tell you what we're my understanding of hearing river with respect to the TM dl is

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01:03:05.730 --> 01:03:13.470

Barbara Kickham : To put in perspective, but I don't have information on on the schedule or how the restoration project is going

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01:03:14.910 --> 01:03:19.440

Barbara Kickham : We would like to see some nitrogen monitoring.

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01:03:20.580 --> 01:03:25.950

Barbara Kickham : Added to the restoration project so that we could see how

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01:03:27.810 --> 01:03:33.900

Barbara Kickham : The restoration project helps the main harbor definitely feel like the

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01:03:35.250 --> 01:03:42.120

Barbara Kickham : Increased flushing title flushing is going to reduce the nitrogen load that gets into the wealthy harbor.

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01:03:43.380 --> 01:03:45.060

Barbara Kickham : There was

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01:03:46.230 --> 01:03:56.220

Barbara Kickham : An oversight whatever mistake in the in the MEP tech report in that they missed that there was some eel grass.

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01:03:57.450 --> 01:04:11.010

Barbara Kickham : Very small. But there was some patches of eel grass in the mouth of the hearing River in 1995 and 2001 so we definitely want restoration of some ill grass in that area.

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01:04:11.910 --> 01:04:21.930

Barbara Kickham : So I have more questions about what's how we can work with the restoration project to get some monitoring it wasn't specifically modeled

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01:04:22.380 --> 01:04:33.510

Barbara Kickham : On, but we know you know just seems logical that we're going to see some eventually maybe initially there'd be a higher nitrogen load as there's flushing behind the dike etc.

429

01:04:33.900 --> 01:04:44.490

Barbara Kickham : But we should see some improvement in that area. I'm in it may involve in Blakely involves additional modeling to specifically look at that.

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01:04:51.720 --> 01:04:55.410

Hillary Greenberg: What type. What type of modeling, who would undertake that

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01:04:56.340 --> 01:05:11.670

Barbara Kickham : Well, the modeling that me V. That s mass. Did we, you know, that would be ideally to continue what they what they started, but it would involve a great deal amount. I think it would involve a lot of work because they didn't work.

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01:05:13.410 --> 01:05:25.170

Barbara Kickham : Because of just adding additional data. They looked at the hearing river as a salt marsh static salt marsh because that's how it's acting currently without the restoration project.

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01:05:26.100 --> 01:05:37.290

Barbara Kickham : So, so that would be one direction, but the department would like to do a second phase of we're going to call it like nitrogen reduction.

434

01:05:38.070 --> 01:05:51.120

Barbara Kickham : In estuaries. I think we're going to change name from MVP, but we're going to be looking at additional estuaries that weren't done in their phase one. So that's it. We could possibly roll it into that phase two.

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01:05:52.560 --> 01:05:52.710

Barbara Kickham : But

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01:05:53.130 --> 01:06:02.340

Barbara Kickham : I haven't gotten that far to figure out who would do the modeling and, you know, hopefully that was kind of hoping it might be done through the restoration project, but

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01:06:02.940 --> 01:06:11.460

Hillary Greenberg: So you're looking at nitrogen modeling then specifically for a restored herring river not what's existing

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01:06:15.420 --> 01:06:16.020

Barbara Kickham : Um,

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01:06:17.340 --> 01:06:27.720

Barbara Kickham : So I'm not sure what the question is. I'm just saying, to be able to predict that the changes that they propose for the restoration project removal. A dikes

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01:06:29.100 --> 01:06:44.850

Barbara Kickham : That to be able to really predict the impact to the mouth and to the rest of the welfare at Harbor and people need to look at additional modeling scenarios to really be able to predict that we we haven't specifically looked at that.

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01:06:45.990 --> 01:07:05.820

BDudley: Because I think there are a couple things. Hillary is that, you know, when they did when they set up the hydrodynamic written on you know the the existing under the existing tech report they really only went up as far as the dike. It looks like um so

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01:07:07.260 --> 01:07:19.050

BDudley: You know, obviously that's a limiting factor even, you know, projecting out into the future. Um, but it represented existing conditions.

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01:07:21.420 --> 01:07:32.040

BDudley: So if part of the restoration is to remove the dike and let's say for the sake of argument that the deck is actually going to get removed then that

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01:07:33.060 --> 01:07:35.220

BDudley: Is a physical change to

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01:07:36.900 --> 01:07:42.900

BDudley: The system itself. And so it would have to kind of be remodeled because now you don't have that artificial boundary

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01:07:44.250 --> 01:07:50.190

BDudley: The influence is going to go farther up the river and therefore I think the hydrodynamic model would have to extend farther up

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01:07:51.960 --> 01:07:52.680

BDudley: So,

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01:07:53.880 --> 01:07:55.350

BDudley: You know, that would be

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01:07:56.610 --> 01:08:04.020

BDudley: You know, that would be one thing that you know depending upon the certainty of removing a date that would either be

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01:08:04.710 --> 01:08:13.290

BDudley: You know, an alternate scenario or it would just be a remodeling of the system similar to the way we're remodeling pleasant Bay.

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01:08:13.770 --> 01:08:31.200

BDudley: Because the original model was done with only one inlet down at the southern end near Chatham whereas now there were two inlets to southern one and then and the more northerly one from the break, and was a 2007

452

01:08:33.300 --> 01:08:34.830

BDudley: So, um,

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01:08:36.120 --> 01:08:39.870

BDudley: I think that's kind of you know that that's kind of what we're, what we're thinking about

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01:08:41.130 --> 01:08:46.590

Scott Horsley: And I'll just offer Barbara when you were talking, I think I heard you say both modeling and monitoring.

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01:08:47.460 --> 01:08:57.030

Scott Horsley: And I've talked to, I talked to john Portnoy about this project, who's, I think, as most people know is the local resident expert on the Heron River.

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01:08:58.260 --> 01:09:08.400

Scott Horsley: And, and I think it's fair to say that the likely nitrogen benefit outcomes from that project are going to be really hard to predict.

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01:09:09.900 --> 01:09:18.000

Scott Horsley: And I'm wondering if monitoring baseline monitoring coupled with again a phased

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01:09:19.080 --> 01:09:29.100

Scott Horsley: Post construction monitoring plan to evaluate the benefits might be as valuable perhaps more valuable than a modeling effort.

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01:09:29.700 --> 01:09:37.440

Scott Horsley: I think my mice my senses that this might be one of those projects that we may set ourselves up for some expectations that

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01:09:38.160 --> 01:09:48.870

Scott Horsley: Aren't really based if you were to run the statistics on the confidence limits on those models, you may not be getting nearly as definitive answer as you might think you met because

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01:09:50.070 --> 01:09:53.340

Scott Horsley: So that's my thoughts on on that.

462

01:09:55.740 --> 01:10:02.010

Curt Felix: I did have one other question, Barbara to it related to the the eel grass, because that's a, it's a title area right now.

463

01:10:02.880 --> 01:10:12.120

Curt Felix: Do you have data on on that eel grass and you know the other two thoughts that occurred to me when you know I saw that that item come by is

**464**

**01:10:12.960 --> 01:10:24.720**

**Curt Felix: I think if there was no grass, part of the problem in Wellfleet Harbor In general, which is, you know, something that we are trying to address is that, you know, between dragging and human.**

**465**

**01:10:25.830 --> 01:10:33.270**

**Curt Felix: You know, walking on these on the on the flats and so on a variety of, you know, a variety of impacts.**

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01:10:34.080 --> 01:10:43.050

Curt Felix: On eel grass that prevent it from growing back, you know, certainly, and also the with sea level rise and title changes we're getting much better title ranges.

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01:10:43.560 --> 01:10:52.950

Curt Felix: So the extent of your grass maybe changing as well. So, you know, I am not sure how we, you know, how we look at restoring your grass in the mouth.

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01:10:53.310 --> 01:10:59.970

Curt Felix: It is title. So I'm surprised that there you know that there may be some data showing that you typically you'll grasses subtitle

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01:11:00.780 --> 01:11:13.050

Curt Felix: So anyway, be interested to see that and obviously want to talk further about how we can. We obviously want to. We want to restore your grass and obviously that's part of the, the overall effort here. So just like to hear more.

470

01:11:15.480 --> 01:11:37.290

Barbara Kickham : Yeah, the there's no record eel grass napping on all of her we show some small amount of eel grass in 1995 and 2001 and then prior to 1995 we only have the aerial photographic record from 1951

471

01:11:38.610 --> 01:11:42.810

Barbara Kickham : Which we don't heavily rely on and it is there was no record.

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01:11:43.920 --> 01:11:45.990

Barbara Kickham : Report of it at that time.

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01:11:47.100 --> 01:11:54.960

Barbara Kickham : But it was, it is fairly small even on is shown in Oliver for 95 so I don't know, you know,

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01:11:56.400 --> 01:12:09.090

Barbara Kickham : What happened. Perfect. Prior to that, um, but we did talk about that internally about what other causes could be contributing to the grass loss, it may not just be nitrogen loading.

475

01:12:10.140 --> 01:12:11.610

Barbara Kickham : It's very true, but

**476**

**01:12:11.640 --> 01:12:13.560**

**Curt Felix: It's dragged and dredged and walked and**

**477**

**01:12:17.010 --> 01:12:18.360**

**Curt Felix: At that particular area.**

**478**

**01:12:19.590 --> 01:12:34.710**

**Curt Felix: It's, it's tough, we, you know, I'd like to see that we you know in the in the best of all possible worlds. I'd like to see more areas of the harbor restricted from dragging to help eelgrass recovery. But that's just, you know, obviously there's there's politics involved there too.**

479

01:12:35.610 --> 01:12:36.990

Barbara Kickham : I'll send you the link

480

01:12:38.040 --> 01:12:42.480

Barbara Kickham : And maybe we can talk about where you if you think this area.

**481**

**01:12:43.620 --> 01:12:47.790**

**Barbara Kickham : That there is walking and dredging and raking**

482

01:12:49.380 --> 01:13:06.330

Barbara Kickham : You know, you can see if you think it seems realistic that there was no grass there, but was recorded into different DPS you know your grass mapping project. So that means they go out and they actually field certified the location when they, when they record it. They take

483

01:13:06.600 --> 01:13:09.180

Curt Felix: It over to Brian I love to love to see that. That'd be great.

484

01:13:09.570 --> 01:13:15.990

BDudley: Okay and and given you know the way the the mapping program works. I mean attack.

485

01:13:16.200 --> 01:13:23.280

BDudley: actually physically go out there on a boat and take pictures and video it's unlikely that it would be in

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01:13:24.720 --> 01:13:32.700

BDudley: You know, an expose title area. So I mean there might be **dragging**, but I don't think there's any impact from

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01:13:34.440 --> 01:13:34.920

BDudley: Walking

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01:13:35.700 --> 01:13:39.780

Barbara Kickham : Yeah, it's a little further south, I think, then you might be thinking,

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01:13:41.400 --> 01:13:44.520

Curt Felix: Yeah, that might make sense in the outer part of the bay. Yeah.

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01:13:44.850 --> 01:13:47.220

BDudley: I think it's more like the Gut than it is at the at the moment.

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01:13:47.250 --> 01:13:48.720

Curt Felix: Yeah, that would make more sense that

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01:13:48.720 --> 01:13:48.930

Barbara Kickham : That would

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01:13:49.530 --> 01:13:50.370

Curt Felix: Make more sense.

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01:13:51.180 --> 01:14:07.230

Hillary Greenberg: Yeah, I just go back. I'm still trying to wrap my mind around the flushing of the system when it's restored. So is the concern from DTP that we're going to get an initial pulses of nitrogen as we begin to restore the hearing River.

495

01:14:11.040 --> 01:14:23.610

Barbara Kickham : No, not from my perspective, I just threw that out there as that is a possibility, but is even Scott said. He doesn't really know that that we're going to see Niger reduction. Overall, um, you know,

496

01:14:25.140 --> 01:14:40.050

Barbara Kickham : It seems logical that we would, if we're doing all that work in the upland and you get increased title flushing and you know that's one of the ways that we and other estuaries on the cape have met our

497

01:14:41.010 --> 01:14:54.120

Barbara Kickham : Nitrogen loading is to enhance title flushing particular on Martha's Vineyard right so so I but nowhere in any of the documents. So I'm I'm putting that out there as a possibility of

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01:14:54.720 --> 01:15:06.510

Barbara Kickham : You know what would help, but nothing in the restoration documents have looked at nitrogen have been speculated that it would be there'd be a reduction or what will happen when

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01:15:06.780 --> 01:15:16.800

Hillary Greenberg: I get asking because I want to be able to reach out to the seashore and ask them the right question, because they are the, you know, keepers and holders of all this modeling and they have

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01:15:17.430 --> 01:15:31.950

Hillary Greenberg: Tons of research and I can't imagine that somewhere along the line, they haven't looked at this, maybe it's not in these reports, but I feel like there must be information on this somewhere in their research. So it, I guess.

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01:15:32.040 --> 01:15:41.670

Hillary Greenberg: I want to ask them the right question. So if you could help me frame that of what you're looking for. I can work with them to find the information that you need. So

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01:15:41.940 --> 01:15:50.820

Hillary Greenberg: I don't know if Barbara, you can get that to me or Brian or Patty or whomever but just frame up the question for me so I can ask it properly to them.

503

01:15:51.330 --> 01:15:56.820

Barbara Kickham : Yeah, I can do that. I can send you an email. I did send a couple emails to Tim Smith.

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01:15:56.910 --> 01:15:57.990

Hillary Greenberg: And. Okay, perfect.

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01:15:58.560 --> 01:16:03.240

**Barbara Kickham : Okay, and he got back to me and said they arent doing any nitrogen monitoring that he's aware of**

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01:16:03.480 --> 01:16:04.470

Hillary Greenberg: OK. OK.

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01:16:04.890 --> 01:16:05.640

Barbara Kickham : I will warn

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01:16:05.730 --> 01:16:07.170

Barbara Kickham : You that email that I

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01:16:10.170 --> 01:16:21.480

Scott Horsley: Just if I may. Barbara, just to clarify what I was saying earlier, I didn't, I didn't mean to insinuate that I didn't think the project would help reduce nation loading, because I think it will. That's my my my

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01:16:22.290 --> 01:16:30.930

Scott Horsley: Belief. What I was trying to make a point is I think it's difficult to model accurately meaning predict the actual level of reduction.

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01:16:31.470 --> 01:16:38.250

Scott Horsley: Because of how complex the system is that was my point, not, not that. Not that it wouldn't help. I think I believe will help. I just not sure

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01:16:38.760 --> 01:16:49.080

Scott Horsley: How much we've been looking at the same issue and Mayo Creek. And again, it's really hard to predict. I think the actual levels, but I do believe that both projects will will help

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01:16:50.820 --> 01:17:03.780

Curt Felix: Though the literature that I've looked at the range is like 10 orders of magnitude. It's, you know, from one said from one system to another you're positive, it can be a little or can be a lot

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01:17:08.850 --> 01:17:19.290

Millie Garcia-Serrano: So somehow disappeared on the EPA under the EPA topic list. And I'm wondering if EPA has an opinion or, you know, also Patty and encouraged her to weigh in on this.

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01:17:23.310 --> 01:17:23.610

Patti Kellogg: Oh,

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01:17:23.970 --> 01:17:38.730

Patti Kellogg: I really wanted to hear what EPA has to say because we did have some questions when we do the draft TM dl and then they came back and said that completely lowering the threshold to meet your eelgrass restoration and

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**01:17:40.260 --> 01:17:53.760**

**Patti Kellogg: The study have not done it and they want to be doing an alternate to TMDL for the Herring river and which didn't really do monitoring on nitrogen. So I just had a lot of questions for EPA today.**

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01:17:54.780 --> 01:17:59.460

Patti Kellogg: Because they wanted us to go. I really don't happen. I just have questions.

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01:18:01.980 --> 01:18:03.420

Barbara Kickham : Put Brian on the spot because

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01:18:03.420 --> 01:18:03.960

Barbara Kickham : It was

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01:18:04.020 --> 01:18:09.720

Barbara Kickham : Someone else at EPA that I spoke to about who's more by needs to be in the gym. Yeah.

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01:18:11.130 --> 01:18:11.640

Bryan Dore: Yeah.

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01:18:13.410 --> 01:18:15.870

Bryan Dore: Yeah, nice or together an attendee

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01:18:17.190 --> 01:18:20.190

Bryan Dore: And I've been out of that group now for years.

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01:18:22.020 --> 01:18:28.500

Bryan Dore: I have not had my hands on hearing River and the last couple of years, I've really been focused on the tool awake program itself.

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01:18:29.670 --> 01:18:38.220

Bryan Dore: I'd be happy to circle back with that with that unit and post themselves if you if you'd like to have a further discussion about never

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01:18:39.210 --> 01:18:55.380

Bryan Dore: Kind of where that group is looking to go and what their opinion is unfortunately I you know with, especially with all of us being out of the office for the past like seven months now those was, why are the harder to cross.

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01:18:56.880 --> 01:19:00.300

Bryan Dore: From there, so I apologize for that.

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01:19:01.320 --> 01:19:04.740

Bryan Dore: But happy to happy to circle back in and get back to this group.

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01:19:05.940 --> 01:19:19.110

Bryan Dore: Is anything specific or just few looking for a general response from the team DL group on on this restoration effort and what they provide and insight, they'd like to share

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01:19:20.880 --> 01:19:21.870

Bryan Dore: I'd be happy to do that.

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01:19:26.520 --> 01:19:33.090

Millie Garcia-Serrano: I mean, is it possible that I mean I've heard someone say that it's a fairly small area. And of course, we love all our natural

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01:19:33.090 --> 01:19:34.200

Millie Garcia-Serrano: Resources and part

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01:19:34.200 --> 01:19:39.090

Millie Garcia-Serrano: Of the restoration plan is to ensure that all the resources as we stored, but um

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01:19:40.200 --> 01:19:48.360

Millie Garcia-Serrano: You know, the question for me is, is this a showstopper with regards to moving forward with any as part of the restoration

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01:19:53.010 --> 01:19:54.450

I don't think it should be.

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01:19:57.090 --> 01:19:58.050

BDudley: Because again,

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**01:20:00.000 --> 01:20:03.750**

**BDudley: I think, you know, Scott's point about monitoring.**

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01:20:04.860 --> 01:20:07.560

Curt Felix: Effectiveness of any activities is

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01:20:07.860 --> 01:20:10.560

BDudley: Is going to help guide us and

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01:20:11.970 --> 01:20:18.480

BDudley: It basically boils down to adaptive management, and this is something I think that we can defer to

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01:20:20.160 --> 01:20:21.540

BDudley: You know, to later phases.

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01:20:22.080 --> 01:20:23.370

Millie Garcia-Serrano: Right, because

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01:20:23.580 --> 01:20:26.100

BDudley: There's no question that we have to do something.

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01:20:26.670 --> 01:20:28.560

Barbara Kickham : To address issues in

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01:20:28.800 --> 01:20:34.590

BDudley: The main body of the harbor, so we can focus on on those activities and then

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01:20:35.460 --> 01:20:39.690

BDudley: Make whatever adjustments and corrections, we have to make as as we get more data.

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01:20:41.130 --> 01:20:51.030

Millie Garcia-Serrano: Right, so the watershed permit could acknowledge it and I'm incorporated into correct face. You know, it's premised on adaptive management. Yeah.

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01:20:52.320 --> 01:21:02.100

Scott Horsley: And I'll just, I'll just add briefly when I reviewed the E IR of the hearing over project, a few years ago as part of to away. I was very surprised that there was no

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01:21:02.850 --> 01:21:09.780

Scott Horsley: Baseline nitrogen monitoring or consideration of nitrogen in that project at that point. And I might add from

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01:21:10.200 --> 01:21:14.700

Scott Horsley: My reading of many restoration projects throughout the Commonwealth. This is something that has not been

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01:21:15.210 --> 01:21:20.790

Scott Horsley: Commonly part of them. And I've been a I have other people have been advocates of adding that

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01:21:21.450 --> 01:21:26.340

Scott Horsley: Analysis and I think we're starting to get it. So I think carrying over might be a good opportunity.

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01:21:26.970 --> 01:21:31.590

Scott Horsley: To do exactly what you're suggesting Millie and get some baseline monitoring going now.

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01:21:32.100 --> 01:21:44.340

Scott Horsley: And make it part of our targeted point on because clearly the town wants to move ahead with the project primarily for habitat restoration reasons, but I think we will get some measurable nitrogen benefits will only know that if we can measure

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01:21:45.840 --> 01:21:55.230

Curt Felix: If do grasses. Where is on the outer part of the outlet where I think it. Were you thinking might have been. Barbara, um, you know,

**557**

**01:21:55.770 --> 01:22:02.190**

**Curt Felix: I I've always felt that we should be talking about having a no drag line that would encompass that to allow it to come back so**

**558**

**01:22:02.550 --> 01:22:16.290**

**Curt Felix: You know, as part of again as part of the restoration that would that would be logical. And I don't think you know the amount of resource being taken there from draggers is relatively small compared to the benefits that would come from biodiversity and**

**559**

**01:22:17.340 --> 01:22:27.960**

**Curt Felix: And even Scallop reproduction and other species that depend I eelgrass. So, you know, I think there's room, that would be great to be able to do something like that.**

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01:22:43.620 --> 01:22:44.970

Curt Felix: Anything else on here. Remember to

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01:22:46.620 --> 01:22:51.240

Hillary Greenberg: Do we want to circle back in here from the Cape Cod Commission, it looked like Aaron had joined us for a

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01:22:51.240 --> 01:22:58.800

Hillary Greenberg: Little bit. I don't know if she's gone again and we have Tim here. I don't know if they have any more of an update to provide

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01:23:03.300 --> 01:23:16.620

Tim Pasakarnis: I don't have anything on top of the kind of cost stuff that I presented earlier, you know, other than simply that we're we're continuing to work pretty closely with Scott through the

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01:23:16.650 --> 01:23:18.270

Tim Pasakarnis: Development of this but

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01:23:20.400 --> 01:23:24.090

Tim Pasakarnis: That was all I had specific to to well fleet for right now.

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01:23:24.810 --> 01:23:29.310

Hillary Greenberg: Great. And then I think we can turn to DP.

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01:23:30.540 --> 01:23:40.260

Hillary Greenberg: To provide an update on the nitrogen sensitive areas that you're planning or working through some regulation because we would love to hear more about that. Well,

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01:23:40.290 --> 01:23:41.820

BDudley: You know as Scott said.

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01:23:44.070 --> 01:23:49.200

BDudley: There was a stakeholder meeting that was convened well two or three weeks ago.

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01:23:51.000 --> 01:23:58.560

BDudley: To talk about changes to those specific regulations and Title Five. Currently we designate

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01:24:00.330 --> 01:24:04.770

BDudley: Buying by category for nitrogen sensitive areas.

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01:24:07.620 --> 01:24:14.580

BDudley: Interim wellhead Protection Areas and zone tues for public drinking water supply wells.

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01:24:15.720 --> 01:24:16.200

BDudley: And

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01:24:17.520 --> 01:24:18.660

BDudley: That assigned

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01:24:19.980 --> 01:24:27.840

BDudley: A limit of 440 gallons per day per acre primarily for protection of drinking water supplies, it's not

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01:24:30.090 --> 01:24:36.180

BDudley: A limit that is necessarily adequately protective of nitrogen impaired in basements.

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01:24:37.080 --> 01:24:44.610

BDudley: There is a further provision in the current regulations that allows us to designate nitrogen sensitive payments, however.

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01:24:45.570 --> 01:25:03.150

BDudley: That requires a regulatory change for each individual environment, both in Title Five and in the surface water quality standards which, as you can imagine, is a rather cumbersome process. So we were soliciting

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01:25:04.170 --> 01:25:04.980

Questions.

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01:25:06.360 --> 01:25:07.950

BDudley: On how to address that.

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01:25:09.330 --> 01:25:13.980

BDudley: And among some of the suggestions that we heard were that

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01:25:15.150 --> 01:25:19.560

BDudley: Any environment that has a TMT L should be

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01:25:21.120 --> 01:25:31.620

BDudley: Automatically designated as nitrogen sensitive. It was suggested that embodiments on the integrated list, formerly known as the 303 D list should be

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01:25:33.420 --> 01:25:36.480

BDudley: incorporated as a category.

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01:25:37.830 --> 01:25:42.540

BDudley: And then still leaving the option open for

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01:25:45.930 --> 01:25:52.560

BDudley: For naming individual investments as as necessary sort of as a, you know, an elastic clause.

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01:25:53.700 --> 01:26:07.980

BDudley: And then whether or not there should be specific exemptions for any limitations such as if you have a CW MP or a targeted watershed management plan or a watershed permit.

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01:26:09.270 --> 01:26:13.830

BDudley: Again, these were suggestions that came out that did I cover them Scott

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01:26:14.730 --> 01:26:16.110

Scott Horsley: I think that's it. Yeah.

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01:26:16.590 --> 01:26:28.530

BDudley: So, um, so what we're in the process internally now of doing is, you know, regrouping and coming in and trying to draft regulations that

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01:26:30.390 --> 01:26:38.850

BDudley: You know, we think will appropriately address the comments that we've received and then once we've done that, we will

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01:26:39.570 --> 01:26:56.100

BDudley: Distribute that to the stakeholder group reconvene the stakeholder group and and try to come to a consensus and then move forward with the regulatory process, hopefully, being able to get something done sometime next year.

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01:27:02.730 --> 01:27:10.200

Millie Garcia-Serrano: Yeah. That is correct. I mean, it would go through the normal public hearing process, but I think there is a lot of appetite to get this done.

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01:27:12.420 --> 01:27:14.730

Millie Garcia-Serrano: Just so we can further the tool we

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01:27:16.470 --> 01:27:17.880

Millie Garcia-Serrano: Just mission and goals here.

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01:27:21.180 --> 01:27:26.910

Curt Felix: You see any, do you see any impacts on us specifically with regard to what we've presented today.

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01:27:29.490 --> 01:27:31.440

BDudley: On the regulations themselves.

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01:27:31.800 --> 01:27:41.160

Curt Felix: Yeah, if you, you know, assuming it goes forward. Do you see anything that we need to modify or change or or is it just consistent and supportive I

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01:27:41.790 --> 01:27:45.240

BDudley: I don't, I don't think that you would have to modify anything

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01:27:47.400 --> 01:27:55.860

BDudley: The, the only, you know, the only impact. I think that would have with that it would put, you know, would put you under

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01:27:58.200 --> 01:28:02.580

BDudley: You know the designate potentially put you under a designation of a nitrogen sensitive environment.

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01:28:05.340 --> 01:28:13.050

BDudley: And you know that may impact how you know you formulate your local bylaw

603

01:28:15.000 --> 01:28:21.720

BDudley: For enhanced nitrogen removal systems. But again, if you have a watershed permit.

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01:28:24.360 --> 01:28:34.980

BDudley: Based on some suggestions that we had. If we were to incorporate that in the regulations that also may offer an exemption from having to immediately.

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01:28:36.330 --> 01:28:52.650

BDudley: meet those requirements because ostensibly the watershed permit would would put you under an enforceable schedule an obligation to address nitrogen in a more comprehensive fashion than just relying on time.

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**01:28:54.990 --> 01:29:04.860**

**Millie Garcia-Serrano: Right again the watershed prep permit premise is that it provides you with enough time to to avail yourselves to a wide variety of**

**607**

**01:29:05.940 --> 01:29:16.080**

**Millie Garcia-Serrano: Scenarios and strategies to get to the finish line. And I think also the most powerful thing is that you have done enforcement for barons. So I think that's why we have really talked about**

**608**

**01:29:17.640 --> 01:29:33.330**

**Millie Garcia-Serrano: You know, currently, you are the only community on the cape right now that's after PVA is really pursuing this watershed permit and we're devoting staff and and senior leadership attention to making sure that you know you have a plan that that looks**

**609**

**01:29:34.500 --> 01:29:48.030**

**Millie Garcia-Serrano: Like it's technologically and regulatory feasible and we really want to put a lot of stock in your work. So, you know, you have us now and we're more than happy to carry on this journey, and I think**

**610**

**01:29:49.980 --> 01:29:55.320**

**Millie Garcia-Serrano: It would be really great if we could start thinking about how is this really going to flesh out and what is the permit going to look like.**

**611**

**01:29:56.520 --> 01:29:58.140**

**Millie Garcia-Serrano: You know, we've given you some examples.**

**612**

**01:29:58.170 --> 01:30:03.810**

**Millie Garcia-Serrano: Well, the one example. And, you know, with you desire to start thinking about**

**613**

**01:30:05.490 --> 01:30:09.450**

**Millie Garcia-Serrano: Accelerating a little bit the drafting of the permit. Just, just let us know.**

**614**

**01:30:09.540 --> 01:30:17.040**

**Millie Garcia-Serrano: Term. And clearly, you know, it's all about money, also for you to make sure that you don't commit yourself to something that you don't have**

**615**

**01:30:17.490 --> 01:30:35.310**

**Millie Garcia-Serrano: The money to do the work that you are setting out to do. So are you know we will actively pursue any avenue that we can pursue between the federal and state government in other and you know other other flows of cash need be to get you through this**

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01:30:36.750 --> 01:30:48.810

Curt Felix: Terrific. Well, I really appreciate that. I mean, the other thing that I'm really excited about is I think one of the elements of our plan that might get missed a little bit because we're we are a little bit smaller and less population dense.

**617**

**01:30:50.460 --> 01:30:57.780**

**Curt Felix: You know, we've got a lot of our nitrogen is natural in origin. And so we've got to be working about working on both are in estuary.**

**618**

**01:30:58.710 --> 01:31:05.370**

**Curt Felix: Restoration. So whether it's to eelgrass with Herring river, Mayo Creek, you know, the oyster stuff that's really, really important.**

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01:31:05.790 --> 01:31:11.670

Curt Felix: But we've also got a plan. I think with the PR be options and some others, you know, looking at interception.

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01:31:12.300 --> 01:31:19.770

Curt Felix: To help the estuary, but then also source reduction with regard to a 95 Lawrence the enhanced A's and our backup.

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01:31:20.610 --> 01:31:27.150

Curt Felix: You know, sewering plan for the town. So I think we're I'm hopeful that you're seeing that we're covering all the bases here.

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01:31:27.540 --> 01:31:33.270

Curt Felix: In a way that should make you feel really good about our plan. And so, I mean, we're obviously here to try to get your reaction and feedback and

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01:31:34.050 --> 01:31:42.690

Curt Felix: But from my perspective, I feel like we're we're covering a lot of the bases. So, you know, and hopefully, you know, my question is, are you seeing the same thing.

624

01:31:44.010 --> 01:31:55.440

Millie Garcia-Serrano: I'm actually pleasantly surprised. You know, really happy to see the wide variety of things. And I think you really have done a great job of trying to you know avail yourself to every single potential

625

01:31:56.070 --> 01:32:06.810

Millie Garcia-Serrano: Solution that there's to be had. I think having the adaptive management approach is we've got really going to help and again to solidify our position that we hope that all these alternative

626

01:32:08.220 --> 01:32:18.240

Millie Garcia-Serrano: non traditional alternatives to work and, you know, just being able to avail yourself to a traditional backup plan. I think that needs to be memorialized. And you're doing everything you can to incorporate that.

627

01:32:18.570 --> 01:32:19.680

As a backup plan.

628

01:32:22.020 --> 01:32:23.670

Curt Felix: To equal. Thank you. Thank you.

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01:32:27.780 --> 01:32:39.600

Hillary Greenberg: Hey So Brian door. I don't know if you have anything else you'd like to add from the EPA perspective, but your new your new to our group. So we'll hand the floor over to you.

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01:32:41.130 --> 01:32:47.220

Bryan Dore: much, appreciate it. Hey, you know, thanks for first of all just thanks for having

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01:32:48.300 --> 01:32:50.640

Bryan Dore: giving me the opportunity to join in.

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01:32:52.170 --> 01:32:57.600

Bryan Dore: You know, EPA has had a lot of discussions we try to have regular discussions with DP.

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01:32:58.440 --> 01:33:02.910

Bryan Dore: Things that are going on in the cape and in all of our partners and what people are doing and were happening.

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01:33:03.540 --> 01:33:09.600

Bryan Dore: And so we've heard a lot of, you know, secondhand information about what's going on and well fleet or some of the other communities.

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01:33:10.380 --> 01:33:22.740

Bryan Dore: So it's nice to be able to actually be at the table here today and hear the discussion and see some of the presentations to just, you know, bring us up a little bit more up to speed and help us engage a little bit more directly

636

01:33:24.570 --> 01:33:28.170

Bryan Dore: You know, I think most of our efforts over the past year have really been focused

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01:33:29.250 --> 01:33:39.930

Bryan Dore: In some of the efforts that Scott has talked about over in the upper Cape communities over three days we've spent a lot of time working on some of those pilot projects that have been

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01:33:40.830 --> 01:33:48.150

Bryan Dore: You know, kind of thrown around today about the Witch of bioreactor and some of those IDA systems EPA

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01:33:49.050 --> 01:34:01.680

Bryan Dore: Marcel and I last summer worked on using drones actually trying to find where some of these water. So the groundwater inputs might might be occurring in trying to find some different methods that

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01:34:02.490 --> 01:34:16.440

Bryan Dore: Could be the low cost of low effort to try and help towns identify where these were the nitrogen sinks might be coming from and so a lot of work over the last year has been working at those pilot pilot efforts and trying to provide that technical

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01:34:18.060 --> 01:34:19.710

Bryan Dore: Assistance wherever we can.

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01:34:20.910 --> 01:34:27.960

Bryan Dore: So, you know, I know that we were talking about PR GIS earlier here where they might fit in well fleet.

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01:34:29.130 --> 01:34:40.740

Bryan Dore: And so, hey, I don't want to throw Marcel's time out on this table, you know, for him, but, you know, having worked with myself and some of the prior PR efforts on the cake.

644

01:34:41.340 --> 01:34:53.430

Bryan Dore: You know that first go around. I think it was about four or five years ago now, when I first engaged on that. And I know that we would be interested in helping them in, especially those types of efforts, wherever that we can

645

01:34:55.350 --> 01:34:59.430

**Bryan Dore: Unfortunately, I think a lot of our funding for caper comes through snap.**

**646**

**01:35:00.660 --> 01:35:04.770**

**Bryan Dore: I think, as most of you are probably aware that their geographic area.**

**647**

**01:35:05.790 --> 01:35:20.730**

**Bryan Dore: The ends we before welcome welfare. So that has been kind of a, a space that we're trying to bridge and figure out how we can get some more of our funny then be able to provide that out to those communities.**

648

01:35:21.660 --> 01:35:30.390

Bryan Dore: So that's something that, you know, I've also been looking at internally and hopefully can have some good news in the next you know in the in our future discussions.

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01:35:31.650 --> 01:35:44.790

**Bryan Dore: Whether it's an actual financial commitment or something that we can provide you know technical assistance that would be helpful to this efforts. It's certainly something that we would like to do and are trying to find a way to do**

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01:35:46.020 --> 01:35:46.440

Bryan Dore: So,

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01:35:47.490 --> 01:35:50.850

Bryan Dore: That's just kind of a, you know, a background of what we've been involved in

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01:35:52.020 --> 01:36:00.660

Bryan Dore: You know, in the future, if I'd be happy to. To continue coming to these and bringing you know the the pertinent people to the table from the region.

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01:36:02.010 --> 01:36:16.770

Bryan Dore: That that might give us speak a little bit more specifically to things like that or if Marcel and I can engage on the tedium EMP effort again like we did with the puzzle Bay watershed, that that would be wonderful. Something that would like to do as well.

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01:36:17.790 --> 01:36:24.180

Bryan Dore: So, however, we can help happy to do so, you know, as, as much to our abilities. I can

655

01:36:25.710 --> 01:36:40.800

Bryan Dore: And looking forward to working with all of you. And then really, you know, to echo Millie pleasantly surprised to see the depths of this this work and the thoughts that you do and put into this so much appreciated. And I'm looking forward to being involved.

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01:36:42.000 --> 01:36:52.260

Scott Horsley: Right. Hey Brian, can I just quickly. We thank you for being here today and and respond to your. What I heard is a potential offer for some of Marcel's time

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01:36:53.550 --> 01:37:03.000

Scott Horsley: I say that partly jokingly but partly serious I've really enjoyed working with him on the Barnstable project, you mentioned, and we are at a really good point here and well fleet.

658

01:37:03.030 --> 01:37:03.540

Start

659

01:37:04.770 --> 01:37:18.780

Scott Horsley: Conceptually designing this thing. So the thinking about calling myself, but I didn't want to infringe on his time he's he's been helping us so much in Barnstable, but if you can help me open that door. I would love to at least have that conversation.

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01:37:19.500 --> 01:37:35.070

Bryan Dore: I'd be happy to do that. Um, I can share. I mean, this isn't. It's not going to be ever publicly announced anything. But the region is going to place you know that came back on one of its higher levels of focus for the next couple of years here.

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01:37:35.100 --> 01:37:35.370

Scott Horsley: Yeah.

662

01:37:36.000 --> 01:37:38.580

Bryan Dore: We're ramping that back up internally right now.

663

01:37:40.110 --> 01:37:44.160

Bryan Dore: That it hasn't been focused, but to really want to offer regional focus this

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01:37:45.240 --> 01:38:01.950

Bryan Dore: And so I think Marcel and I will have much more time to be involved in the support from our, our directors to do that. So I would very much look forward to that to doing that. And I don't want to be for me either, but I think he would personally be excited to do that as well.

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01:38:03.000 --> 01:38:03.420

Thanks.

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01:38:04.500 --> 01:38:05.340

Scott Horsley: We'll be in touch.

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01:38:06.540 --> 01:38:07.140

Bryan Dore: Absolutely.

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01:38:08.400 --> 01:38:09.360

Millie Garcia-Serrano: Thank you, Ryan.

669

01:38:13.740 --> 01:38:16.230

Scott Horsley: I will read, we still have route six on the agenda. Yeah.

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01:38:16.290 --> 01:38:19.440

Hillary Greenberg: That was the last thing that I move us to is

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01:38:19.860 --> 01:38:21.210

Hillary Greenberg: The route six and main

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01:38:21.210 --> 01:38:36.180

Hillary Greenberg: Street and willfully reconstruction project. Um, this is right when you turn left at the traffic lights heading into town. It's slated for reconstruction with nasty IoT and the town of well fleets and in reviewing

673

01:38:37.050 --> 01:38:54.090

Hillary Greenberg: The proposed plans for that location. We recognize that we need some serious storm water controls in the area and that we also have a covert that runs under Main Street and runs into house pond, which is a very small pond.

674

01:38:54.720 --> 01:39:04.500

Hillary Greenberg: In willfully right next to route six when they received a call. I guess this is nasty. It received a call several years back.

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01:39:05.190 --> 01:39:17.760

Hillary Greenberg: That property was flooding mass do T and mass DDP work together to replace the covert they're essentially cutting off all salt water flow and title flushing to house pond. So this has been

676

01:39:19.050 --> 01:39:31.050

Hillary Greenberg: Several years in the making a problem for the town of willfully the Conservation Commission has corresponded with mass, the EP and mass do T trying to get a remedy.

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01:39:31.650 --> 01:39:40.080

Hillary Greenberg: Most recently, mass T ot undertook a hydra logic study of the area to which we're still waiting to see the report.

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01:39:40.980 --> 01:39:49.770

Hillary Greenberg: To see if we can get some more title flushing there. So I think our hope here is that you folks may be able to help us.

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01:39:50.460 --> 01:40:02.820

Hillary Greenberg: Have a closer look at that area and restore some title flow because we know that's useful and beneficial not only to the environment, but to the nutrients that are accumulating in the pond.

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01:40:04.080 --> 01:40:06.750

Hillary Greenberg: And help us move that project forward as well.

681

01:40:08.160 --> 01:40:15.300

Scott Horsley: And I'll just add this project. If you're not familiar with it is also at the headwaters of Creek critical area and

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01:40:15.870 --> 01:40:22.020

Scott Horsley: Since we did the 208 plan and the public meetings and willfully remember people talking about stormwater food six

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01:40:22.620 --> 01:40:28.170

Scott Horsley: Trying to remediate. So now we have a project where the state's going to spend a lot of money working on a road.

684

01:40:28.770 --> 01:40:35.940

Scott Horsley: And using the complete streets approach. Well, we got it all dug up you really nice to add some nitrogen mitigation there. So we're looking for.

685

01:40:36.840 --> 01:40:50.340

Scott Horsley: Some help on making that happen. And also some technical assistance on the best way to do it, we've requested in writing some dialogue along those lines, but we're in I guess we're waiting at this point right Hillary to hear back from God.

686

01:40:51.330 --> 01:40:53.730

Millie Garcia-Serrano: It's outrageous. Out of Taunton

687

01:40:54.450 --> 01:40:55.200

Yes.

688

01:40:56.460 --> 01:41:00.360

Millie Garcia-Serrano: I mean I can call the director and see if we can set up a call. I mean,

689

01:41:00.750 --> 01:41:05.760

Millie Garcia-Serrano: Wonderful very responsive when we've had some issues with some similar projects.

690

01:41:09.540 --> 01:41:22.890

Hillary Greenberg: We'll take any help we can get. I think there's going to be probably a swift letter writing campaign from the town. Pretty soon on the situation. So I think the sooner we can sort of get it moving in the right direction, the better will all be

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01:41:24.930 --> 01:41:29.640

Millie Garcia-Serrano: I mean I can give her a call I just probably honestly. So I've been

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01:41:30.990 --> 01:41:37.500

Millie Garcia-Serrano: Out of DP for like two months and a half. I just, it's a long story, don't clean, I messed up my leg.

693

01:41:38.790 --> 01:41:47.400

Millie Garcia-Serrano: But the point is more than happy to pick up the ball. I just need a little bit of coaching and if you do have any kind of correspondence just shoot me whatever

694

01:41:48.180 --> 01:41:56.610

Millie Garcia-Serrano: The back and forth. And I can definitely coordinate with Brian and some other folks that can definitely also work with Gary Moran from our commissioner's office to kind of

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01:41:57.390 --> 01:41:59.100

Scott Horsley: Have some emails. Looking forward to

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01:41:59.370 --> 01:42:05.940

Millie Garcia-Serrano: Yeah, if you just give me to write off and then I just need to do a bit of homework and re engage so that

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01:42:06.480 --> 01:42:12.840

Hillary Greenberg: That's perfect. And I can send you the history as well because it's I have a whole folder on it. So I'll send you what I have

698

01:42:13.350 --> 01:42:16.260

Millie Garcia-Serrano: Okay, be my pleasure. Thank you, is

699

01:42:16.290 --> 01:42:17.670

BDudley: Is any of the work that's

700

01:42:17.760 --> 01:42:22.440

BDudley: proposed to be done. I'm going to include any sort of resurfacing that would

701

01:42:24.750 --> 01:42:27.540

BDudley: Have the five year moratorium on curb cuts.

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01:42:30.360 --> 01:42:32.640

Scott Horsley: That's a good question. Brian, I don't know offhand.

703

01:42:33.780 --> 01:42:48.570

BDudley: Because we may want to look into that. Because, you know, depending upon what your schedule would be for any collection system downtown whether or not you might want to consider coordinating laying some dry sewer.

704

01:42:50.250 --> 01:42:54.000

Millie Garcia-Serrano: Huh. Yes, I think. Wasn't that the issue in Yarmouth

705

01:42:54.810 --> 01:42:56.580

Scott Horsley: Um Orleans.

706

01:42:56.640 --> 01:42:58.980

BDudley: I don't, it was, it certainly wasn't Orleans.

707

01:42:59.250 --> 01:43:00.120

Millie Garcia-Serrano: Yeah yeah

708

01:43:01.830 --> 01:43:08.580

Millie Garcia-Serrano: That's right. So I think we need to understand the schedule so that if they are doing some curve cuts.

709

01:43:09.600 --> 01:43:15.360

Millie Garcia-Serrano: You know, any kind of work can take place because otherwise we're stuck with that five year moratorium deal

**710**

**01:43:16.770 --> 01:43:23.220**

**Curt Felix: Good point. Yeah, I'm not sure it'd be a big deal there as an intersection reconstruction. So it's not really a lot of**

**711**

**01:43:24.030 --> 01:43:33.300**

**Curt Felix: If we put something in the ground. You know, I'm not sure what you know what the real benefit would be longer term especially we do the 95 Lawrence 95 Lawrence's is**

**712**

**01:43:33.840 --> 01:43:45.360**

**Curt Felix: Almost contiguous to that area, but it would probably connected different way that whole that whole area of town. So the only thing that's coming down the road six would be. There's some businesses South**

**713**

**01:43:46.380 --> 01:43:48.270**

**Curt Felix: There's just not a lot of density in that area.**

714

01:43:49.830 --> 01:43:50.490

Scott Horsley: Thank think the project.

715

01:43:50.940 --> 01:43:54.450

Scott Horsley: Down commercial street somewhat, but not too, too far.

**716**

**01:43:55.020 --> 01:43:57.180**

**Curt Felix: Yes, basically just the intersection, so**

**717**

**01:43:58.470 --> 01:44:00.510**

**Curt Felix: Just, just happens to be where this covert is**

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01:44:05.640 --> 01:44:10.770

Millie Garcia-Serrano: Okay, sounds like we need to get on in front of this very quickly.

**719**

**01:44:11.790 --> 01:44:23.670**

**Hillary Greenberg: I ask another question, this may not be the appropriate venue, but it just came to mind any large pots of money to purchase property because that whole property is for sale.**

720

01:44:24.720 --> 01:44:29.310

Hillary Greenberg: Or a strategy to kind of look at that, um, which graffiti.

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01:44:30.360 --> 01:44:33.180

Hillary Greenberg: And the Wagner and the tavern.

722

01:44:34.470 --> 01:44:35.370

Scott Horsley: Right, right, right.

723

01:44:35.460 --> 01:44:38.220

Hillary Greenberg: And we know that that building has flooded.

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01:44:39.570 --> 01:44:44.550

Hillary Greenberg: With some large storms. So I don't know.

725

01:44:47.910 --> 01:45:00.840

Millie Garcia-Serrano: Like the types of things that, for example, or render Land Trust. They do. They kind of purchase property like um you know he he may actually have the secretariat may have a robust sort of land acquisition program.

726

01:45:01.560 --> 01:45:03.240

Hillary Greenberg: Yeah, just a thought it just

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**01:45:04.140 --> 01:45:06.060**

**Hillary Greenberg: Find that if that's for sale. Maybe the township.**

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01:45:06.060 --> 01:45:06.750

Curt Felix: Looking at

729

01:45:06.780 --> 01:45:08.880

Hillary Greenberg: That I don't. I mean,

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01:45:10.440 --> 01:45:12.180

Hillary Greenberg: Sort of pie in the sky, but

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01:45:12.900 --> 01:45:17.130

Millie Garcia-Serrano: So basically an area where you can have some some loading. Is that what you're looking at. I'm

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01:45:17.130 --> 01:45:24.060

Hillary Greenberg: Not thinking for loading. I'm thinking we could have more of a restoration project to house pond and allow greater title flow to that pond.

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01:45:24.570 --> 01:45:25.050

Millie Garcia-Serrano: Mm hmm.

734

01:45:26.730 --> 01:45:29.160

Millie Garcia-Serrano: I mean, CPA money has been. Yes. Yeah.

735

01:45:29.550 --> 01:45:30.210

Um,

736

01:45:31.230 --> 01:45:35.340

BDudley: There's a possibility that you might be able to get, um,

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01:45:37.200 --> 01:45:39.180

BDudley: You might be able to get some SRS.

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01:45:40.200 --> 01:45:40.770

BDudley: Money.

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01:45:42.060 --> 01:45:53.820

BDudley: They have in the past, considered funding land acquisition. If it particularly if it can be related to nitrogen mitigation mom.

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01:45:54.870 --> 01:45:55.440

BDudley: So,

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01:45:56.040 --> 01:45:58.170

Hillary Greenberg: Sorry. It just came to mind. I just

742

01:45:58.380 --> 01:46:09.090

Millie Garcia-Serrano: So you know what along those lines of begs the question as to whether that should be even considered as a potential strategy and, you know, turning the nine into a 10

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01:46:11.550 --> 01:46:13.410

Hillary Greenberg: It may be out of range for us. I

744

01:46:13.410 --> 01:46:20.820

Hillary Greenberg: Just, I don't know, just it just popped into my mind at that moment. So I had to spit it out there just to get it out there. Sorry.

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01:46:21.450 --> 01:46:23.430

Curt Felix: Well, I was also it's a highly productive.

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01:46:24.450 --> 01:46:26.910

Curt Felix: He'll isn't any highly productive he'll ground.

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01:46:27.120 --> 01:46:27.600

Yeah.

**748**

**01:46:28.890 --> 01:46:34.020**

**Curt Felix: And turtles and I mean it's a it's an important is believe it's just crazy. But it is a pretty important.**

749

01:46:34.140 --> 01:46:34.680

Habitat

750

01:46:35.970 --> 01:46:38.640

Millie Garcia-Serrano: So what's the property for sale or is this something that

751

01:46:39.210 --> 01:46:41.340

Hillary Greenberg: It actually, it actually is for sale.

**752**

**01:46:42.840 --> 01:46:50.970**

**Hillary Greenberg: It's on the market right now. So my guess is we can't get our wheels turning that fast, but maybe Kurt and Scott, we can have that discussion offline from these**

753

01:46:51.000 --> 01:46:51.300

Guys.

754

01:46:53.730 --> 01:47:09.780

Millie Garcia-Serrano: Well, let us maybe we can take that as an action item to see if there are any active programs you know grant programs or any kind of program doles out money for the purposes of, you know, to await or

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01:47:11.430 --> 01:47:14.430

Millie Garcia-Serrano: Just a Nexus back to what we're trying to do here.

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01:47:16.020 --> 01:47:20.040

**Curt Felix: That's great. I'd be like a $2 million acquisition for how a towel restoration**

**757**

**01:47:23.760 --> 01:47:28.500**

**Hillary Greenberg: 2 million just for the tavern piece. I have no idea. I can ask**

758

01:47:28.590 --> 01:47:29.940

Curt Felix: Yeah, just round numbers, you know,

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01:47:35.310 --> 01:47:35.640

Hillary Greenberg: Well,

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01:47:37.050 --> 01:47:37.320

Hillary Greenberg: Just

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01:47:38.940 --> 01:47:39.390

Millie Garcia-Serrano: Hey,

762

01:47:42.780 --> 01:47:43.530

Millie Garcia-Serrano: Good to know.

763

01:47:45.330 --> 01:47:58.200

Hillary Greenberg: And with that, it's 252 I think we've covered everything on the agenda. So if there are any closing remarks statements anyone has anything else to say.

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01:48:00.060 --> 01:48:04.140

Millie Garcia-Serrano: Question and a remark. So my question is,

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01:48:07.890 --> 01:48:15.330

Millie Garcia-Serrano: Basically, is there anything that we've talked about that might be up for discussion during any kind of

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01:48:16.500 --> 01:48:23.550

Millie Garcia-Serrano: Upcoming public meetings or there's nothing for town vote right in November. There's nothing like that in front of us here.

767

01:48:24.030 --> 01:48:34.860

Curt Felix: What my goal is to try to get our, our watershed permit formulated in you know at enough of a level of detail that we could consider a warrant item either this coming spring.

**768**

**01:48:35.940 --> 01:48:42.240**

**Curt Felix: Or the fall. So, you know, there's active engagement on the part of the board of selectmen**

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01:48:43.860 --> 01:48:51.510

Curt Felix: You know, they're looking for a recommendation from us on the 95 Lawrence road to, you know, to include residential, as well as the municipal component

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01:48:52.590 --> 01:48:59.490

Curt Felix: So there's a lot of activity. There's a lot of momentum that I think we need to jump on and I think there's a lot of support in town. So

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01:49:00.090 --> 01:49:07.530

Curt Felix: You know, ideally, you know, in the back of my mind, we're looking at, you know, I don't know exactly what the numbers are. But it's something between maybe six and

772

01:49:07.950 --> 01:49:17.340

Curt Felix: $12 million for, you know, a comprehensive wastewater plan that would be built around the watershed permit and probably include

**773**

**01:49:18.210 --> 01:49:31.140**

**Curt Felix: The water system, you know, in terms of staffing to support implementation, monitoring, etc. So that's kind of that's kind of where the the thinking is, and you know, so where is anxious to move on this. I think as you are.**

774

01:49:31.620 --> 01:49:32.070

Millie Garcia-Serrano: Mm hmm.

775

01:49:33.210 --> 01:49:39.120

Millie Garcia-Serrano: Yeah, I mean, I think I guess my my remark would be that twofold. The first is

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01:49:40.140 --> 01:49:51.510

Millie Garcia-Serrano: At least I came out with a few action items to go back to the team and discuss with regards to whether it's the PRP and funding or, you know, again, that was an idea that came to us.

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01:49:53.280 --> 01:50:00.090

Millie Garcia-Serrano: From you know COPS Office asking, you know, what about mom if there's a candidate site out there and again I'm I

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01:50:00.750 --> 01:50:17.730

Millie Garcia-Serrano: Need to go back to my emails. It's been a long time but I mean if there's something that we can assist with to basically just move us in the right direction for sure. The one thing we can do is assist you with having the monthly or maybe every other month meetings as we did with PVA

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01:50:18.900 --> 01:50:29.400

Millie Garcia-Serrano: To start drafting the pieces of what this watershed permit what look like. So we can then start getting folks in Boston moving in legal review that took a little bit

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01:50:31.050 --> 01:50:36.450

Millie Garcia-Serrano: But, you know, now that we've done it and it's working very well for PDA community.

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01:50:37.470 --> 01:50:43.800

Millie Garcia-Serrano: We can definitely just, you know, we have that footprint. So we can definitely start moving it working also clearly with conservation.

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01:50:45.240 --> 01:50:48.780

Millie Garcia-Serrano: With a cape cod Commission, which were instrumental so

783

01:50:51.420 --> 01:50:59.940

Millie Garcia-Serrano: You know, easier said than done, but we really need to start that if we're really serious. Let's really jumpstart this process of the writing and getting everything in order and

784

01:51:01.980 --> 01:51:15.180

Millie Garcia-Serrano: I think working with EPA to see, even if they can assist with technical assistance on PR BS on any other thing if they don't have the ability to assist with financial because Snap is the only Avenue and it kind of stops right at the upper cape.

785

01:51:16.410 --> 01:51:22.320

Millie Garcia-Serrano: But you know well fleet is very important. We need to get this done. And I think we'd have a really good opportunity here.

786

01:51:25.770 --> 01:51:28.410

Curt Felix: Great. Well, thank you. Thank you very much.

787

01:51:32.190 --> 01:51:42.210

Hillary Greenberg: I'd say we have some work to do on our end to begin drafting and once we get some more things together will reach out and call another meeting.

788

01:51:43.560 --> 01:51:45.090

Millie Garcia-Serrano: Fair. Great.

789

01:51:46.350 --> 01:51:52.200

Hillary Greenberg: And we'll send you what we said we send you and we'll wait to hear back from you guys on whatever you're going to get back to us on

790

01:51:54.390 --> 01:51:56.580

Hillary Greenberg: We can exchange information in the meantime.

791

01:51:58.080 --> 01:51:58.470

Millie Garcia-Serrano: Got it.

792

01:51:58.890 --> 01:52:03.030

Hillary Greenberg: Right, thank you all so much for coming and participating. We really appreciate it.

793

01:52:03.270 --> 01:52:04.230

Tim Pasakarnis: Thanks, everyone.

794

01:52:04.260 --> 01:52:04.890

Curt Felix: Thanks Hilary

795

01:52:05.730 --> 01:52:06.000

Alright.

796

01:52:07.800 --> 01:52:08.310

Call-In User\_1: Have a good one.