ENVIRONMENTAL IMPACT

REVIEW BOARD

FOR THE REVIEW OF THE PROPOSED

INUVIK TO TUKTOYAKTUK HIGHWAY PROJECT

TECHNICAL SESSIONS

Facilitator John Donihee

HELD AT:

Friendship Centre, Ingamo Hall

Inuvik, NT

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Day 1 of 2

APPEARANCES

John Donihee	)EIRB
Gordon Stewart	)
Petr Komers	)
Troy Whidden	)
Abbie Stewart	)
Eli Nasogaluak	)
Meghan Birnie	)
Walter Orr	)Kavik-Stantec
Erica Bonhomme	)
Marcel Gahbauer	)
Doug Chiperzak	)
Michael Fabijan	)
Richard Hoos	)Kiggiak-EBA
Robyn McGregor	)
Tara Schmidt	)
Amanda Joynt	)Department of Fisheries
Sarah Olivier	)and Oceans
Doug Soloway	)Transport Canada

APPEARANCES (Con't)

Kate Witherly	)Northern Projects
	)Management Office
Derek Parks	)Fisheries Joint
Brian Zytaruk	)Management Committee
Kayla Hansen-Craik	)
Rod Smith	)Natural Resources Canada
Gavin More	)GNWT
Jim Stevens	)Department of
Gurdev Jagpal	)Transportation
James Hodson	)Environment Canada-
	)Canadian Wildlife Service
Julie-Anne Marcoux	)Infrastructure Canada
Conrad Baetz	)AANDC
Bob Gowan	)

APPEARANCES (Con't)

Frank Pokiak	)Inuvialuit Game Council
Jen Lam	)
Steven Baryluk	)
Lisa Rogers	)Inuvik Hunters and
	)Trappers Committee
Richard Binder	)Community Support Unit-
	)Joint Secretariat
Russell Newmark	)E. Gruben's Transport
Nelson Perry	)Parks Canada
Merven Gruben	)Mayor of Tuktoyaktuk

TABLE OF CONTENTS

--- Upon commencing at 9:05 a.m.

THE FACILITATOR: Good morning. I think maybe we should get started if -- those of you who don't have your coffee cups filled up just yet can do so at your leisure. There's no reason why you can't step away from the table if you need to.

First of all, I'd like to thank you all for coming. My name is John Donihee. I'm counsel to the Environmental Impact Review Board. And I'd like to thank those of you who are from Inuvik for welcoming us here and hosting us. And we're looking forward to two (2) -- two (2) very productive days at this technical session.

As you're probably aware, this -- this technical session is organized on behalf of the Environmental Impact Review Board in order to advance the review of the Inuvik Tuktoyaktuk Highway Project.

It's scheduled for two (2) days, 9:00 to 5:00, today and tomorrow. And we'll break for lunch at noon. We'll -- we'll probably take a slightly longer break. We'll have some logistic things to take care of, so we'll break from -- from 12:00 until 1:30. That'll give you time to get in and out of restaurants if -- if you have to do that.

We'll take some -- we'll take a break at a convenient time in the morning and afternoon as well so that human needs can be seen to.

Agendas were distributed to the parties. And there are more copies available here at the front. If you don't have one (1), please feel free to pick one (1) up. And if you're going to need any assistance with getting something copied or something of a logistic no -- nature, we have Eli Nasogaluak, the resource person for the EIRB, is here to help us. He's actually getting -- I think getting something copied right now.

As you've noticed, all of the front tables are mic'd. And we are making a transcript. Sean is our court reporter at the back and transcriber. We will have transcripts up within a day of completion of the sessions, if -- if not each evening, depending on how the internet performs from Inuvik.

If you want to make arrangements to get a copy sent to you, you can speak to Sean directly. But as I ma -- I mentioned, it'll -- it'll go up on the registry anyways and you'll be able to download it from there if you want to -- to get access to a copy.

You have to speak into a mic and you

have to identify yourself when we speak so that we can keep this -- this record straight. All of you, I'm sure, have done this before, so there shouldn't be any surprises there. If any of the folks sitting at chairs at the back want to interject or ask a question, we -- we can -- we have roaming mic here, and we can either make arrangements to get that to you, or if you want to come and park at the front and -- and use the mic for a while, we'll -- we'll arrange to have somebody move over for you.

This -- the panel is not here, and this is not a hearing. So what this is, is it's the only time before the hearings that representatives of the parties will meet and will have the opportunity to explore the evidence that's on the record already, to ask questions, to clarify, to seek explanations, hopefully to seek some comfort with the materials that are already on the record in front of the panel, and -- and perhaps to seek for some additional material if -- if that's available and forthcoming.

So I -- I think that our intention is to ensure that the discussion today and tomorrow is as open and informal as possible. I -- I realize in this kind of a se -- a setup, that's probably overstating what we can really do.

But -- but the point is to encourage a dialogue and -- and to encourage everybody to go away understanding the evidence, understanding the task that's in front of the panel, and understanding their roles a little better.

So I hope you'll keep that in mind. We indicated in the materials that were circulated in advance that it was our intention that we'd have a thorough and respectful exchange, and certainly our -- our role on behalf of the Board is to try to see to -- to the achieving of that goal.

To put it another way, if you'll excuse the legal jargon, you know, this is what I would -- what I would call as a lawyer, a without-prejudice meeting. So, you know, just because you said something here doesn't mean that someone's going to take an excerpt from the transcript and cross-examine you until you cry at the hearing.

Okay. It's just not the way it works and it's not the way it -- it's meant to work. So -- I -- I'm -- I say this simply to re-emphasize that, you know, what we're looking for here is to try to make sure that, you know, we -- we get it right and everybody understands other people's positions, or other party's positions, and to the extent that we

can, your evidence before we -- we head for the hearing room.

Our -- our focus really is to try to take issues off the list, not to add issues to the list. Un -- unless for some reason there's something that really warrants attention that -- that's -- that's not been given proper attention up to this point.

Our goal, as I indicated, really is to try to help the panel, you know, to get a -- a clean transcript, a clean record, and a -- and a better opportunity to understand the evidence before they go into hearings in -- in mid-September.

The agenda was based on the list of submitted issues that came from the parties, as well as input from the tan -- the panel's technical experts. It's long. It looks rather daunting, but those of you that have done this before will realize that sometimes the list of issues is longer than the rist -- the list of problems.

But we wanted to be comprehensive and systematic. So if you put your issue on a piece of paper and sent it to us, somewhere or other it's on this list or it can be addressed by one (1) of the topics or headings that's on this list. And that was

the purpose of that agenda.

We don't necessarily have to speak to every issue at -- at great length and we probably won't. But again, if -- if it's on one (1) of the party's lists or it's something that we feel that we can clarify and -- and deal with then that's -- that's what we want to do.

That said, you know, if at -- at some point during the process you feel that there is something important that's been missed that isn't on the agenda, it's open. So I don't want anybody to feel that they missed their chance because they didn't get their favourite issue on the -- on the agenda.

I think what we will do is just work through the agenda. It -- it's really there to shape and focus the discussion. And, you know, if there's anybody with particular expertise, we've already heard about the proponent's geo -- geotechnical engineer, we'll -- we'll see what we can do about getting a phone line in here for him tomorrow.

But if there's anybody else here who -- who, you know, has another commitment that simply can't be managed, let us know at the -- at the break at 10:30 and we'll juggle the agenda to fit your schedule to the best that we can so that we can take

advantage of your presence and your expertise.

Dr. Burn will only be here tomorrow, so the gravel and ground ice and geotechnical kinds of things are necessarily going to have to be discussed tomorrow anyway.

Where there's more than one (1) party that's addressed a -- a topic -- if you look at the agenda you can look at number 8 on the agenda. I think the heading is "Hydrology". And you'll see that NRCan and DFO and -- and others, you know, they all -- we have issues from several different parties wrapped up in that one (1) heading.

And so I think what we want to do is we'll -- we'll open up with the heading, we'll let, you know, the lead party get started, but I'd -- I'd prefer to see a discussion rather than, you know, some kind of a -- a step-by-step, rote, sort of, run through, you know, the issues.

So I really want to encourage a dialogue and -- and we will do that, subject, of course, to the ultimate rule that Sean will start screaming if people don't identify themselves and, you know, we -- we don't want the record to end up in a muddle.

So we're -- but I'm certainly open to

the idea that NRCan, DFO, and the proponents, and anybody else with -- with that kind of expertise can have an open discussion about matters related to hydrology and water and fish and that sort of thing.

And I think that, that way, we'll get the best advantage of the people who are here. And I'd -- I'd very much prefer to do it that way. Where there are Board questions on this list, we will -- we'll deal with them expeditiously as well.

Our intention -- and I think Gordon rearranged the agenda that way -- is that Board questions will always be last. And that means that if matters have been dealt with before we get to the Board folks, or else we'll -- they'll strike questions. Or else, if there's a sort of roundtable discussion going on, the Board people will -- will jump in, and we'll try to do it all at once. So hopefully that'll allow us to be efficient with the -- the agenda as well.

We are, as -- as always, going to keep a list of any commitments and undertakings that are made. Eli will be taking care of that for us. I will alternate in the Chair off and on with Gordon Stewart. So I'll take the first spell and see how we can get this thing moving. But I guess if I start to get

cranky, I'll let Gordon take over to get a rest.

So I think that's it about process. The other point I would make, I guess, is that, you know, we don't anticipate that everybody will agree about everything. Sometimes that's the way life is.

We'll let -- let a discussion go on to the point where we're really not making any new ground. And if we get to that point, we'll -- we'll have to move on. And the Chair will have the prerogative to make the call on that, subject to any whimpering that may -- may occur when we -- we decide that we want to move it.

But -- but we do need to try to make sure that, you know, all of the items on the agenda get at least some airtime, because they all legitimately came from -- from parties that have a right to -- to hear what -- what they want to hear.

Are there any -- any questions about the way the process will work? I don't think it's much different than technical sessions that you've participated in elsewhere. But if there are any burning issues about the way we're hoping to do this, I'd like to know before I end up with some kind of a procedural argument later on. Silence is consent. Good. Thank you.

Well, I think the next step then is we'd go around the table -- we can start with Conrad -- and just get the names and affiliations of the people who are here. We'd like to know which departments and organiza -- or organizations you represent.

And for parties with more than one (1) person here, it would be ideal if you identified the primary spokesperson. And then feel free to introduce the rest of your team. If they're going to be at the table at some point, it would be nice to know who they are, to have the list.

But let's go around and do that. And for -- well, we'll -- we'll deal with -- we can go take the ba -- the mic over there if we need the folks at the back. But let -- let's start with Conrad. And we'll just -- we'll just get names and -- names and numbers.

MR. CONRAD BAETZ: Conrad -- Conrad Baetz, with Aboriginal Affairs and Northern Development Canada here in Inuvik, also with my colleague, Bob Gowan, with -- from Ottawa. I guess neither of us will be the primary spokespeople, but between the two (2) of us, I'm sure we'll manage.

MR. DOUG SOLOWAY: Good morning. I'm

-- I'm Doug Soloway, with Transport Canada. I'm here to represent our -- basically, our NWP organization. I manage the Environmental Impact Assessment Program for Transport Canada in the North.

MS. JULIE-ANNE MARCOUX: Good morning. I'm Julie-Anne Marcoux, from Infrastructure Canada. My group is responsible for the environmental assessment review that's being done for this project.

MR. JAMES HODSON: Hi. James Hodson, with the Canadian Wildlife Service of Environment Canada. I'm the only one (1) from Environment Canada here today.

MR. GAVIN MORE: Gavin More, Government of Northwest Territories from Yellowknife.

MR. ROD SMITH: Rod Smith, Natural Resources Canada, the GSC Calgary office. I'm here representing both myself and Sharon Smith.

MR. BRUCE HANBIDGE: Bruce Hanbidge, and I'm here representing Wildlife Management Advisory Council.

MS. KATE WITHERLY: Kate Witherly. I'm with the Northern Projects Management Office of the Federal Government.

MR. DEREK PARKS: My name's Derek Parks. I'm with the FJMC. I'm an independent

fisheries consultant to the FJMC.

MS. SARAH OLIVIER: Hello. My name's Sarah Olivier. I'm an environmental assessment analyst with the Department of Fisheries and Oceans.

MS. AMANDA JOYNT: My name's Amanda Joynt. I'm a habitat biologist with the Inuvik office here for Fisheries and Oceans.

MR. BRIAN ZYTARUK: I'm Brian Zytaruk. I'm a board member of the FJMC and representing Inuvialuit here.

MR. RICK HOOS: Good morning. I'm Rick Hoos with Kiggiak-EBA, one of many people to the left of me here that are part of the developer group, the developer group being GNWT Transportation, the Hamlet of Tuktoyaktuk, and the Town of Inuvik. I drew the short straw and will be the spokesperson, at least for the morning part of the session.

Beyond that, I would like to point out that we do actually have a representative of DOT with us who I know will introduce himself again, but it's Gurdev Jagpal. He's sitting directly behind me.

MS. TARA SCHMIDT: Good morning. I'm Tara Schmidt with Kiggiak-EBA, part of the developer team.

MR. WALTER ORR: I'm Walter Orr. I'm

with Kavik-Stantec, and I'm with the developer team here.

MS. ROBYN MCGREGOR: Good morning. I'm Robyn McGregor. I'm transportation engineer with Kiggiak-EBA as part of the developers' team.

MS. ERICA BONHOMME: Erica Bonhomme. I'm with Kavik-Stantec. I'm a -- a senior environmental scientist. To my left is Dr. Marcel Gahbauer, who's a senior wildlife biologist. Behind me is Michael Fabijan. He's our Kavik-Stantec representative here in Inuvik and works on community consultation. Attending later this afternoon will be Doug Chiperzak. Doug Chiperzak is a senior fisheries biologist, and tomorrow, we hope to have available Sean McArthur (phonetic), who's a geotechnical engineer.

DR. PETR KOMERS: Good morning. I'm Petr Komers with MSES, technical advisor to the Environmental Impact Review Board.

DR. TROY WHIDDEN: Good morning. My name's Troy Whidden. I'm with Petr Komers and MSES as a technical advisor to the Review Board.

MS. ABBIE STEWART: Hello. I'm Abbie Stewart with MSES, here on the team of technical advisors to the Board.

MS. MEGHAN BIRNIE: And I'm Meghan Birnie, also on the technical team, looking after the socioeconomic components.

MR. GORDON STEWART: I'm Gordon Stewart. I'm a consultant working for the Environmental Impact Review Board with Eli on the logistics and administrative side of things.

MS. LISA ROGERS: Lisa Rogers with the Inuvik Hunters and Trappers Committee, resource person.

MS. KAYLA HANSEN-CRAIK: My name is Kayla Hansen-Craik. I'm the resource person for the Fisheries Joint Management Committee here in Inuvik.

MS. JEN LAM: Good morning. I'm Jen Lam. I'm the resource person for the Inuvialuit Game Council.

MR. RICHARD BINDER: Richard Binder with the Community Support Unit at the Joint Secretariat.

MR. RUSSELL NEWMARK: Russell Newmark. I'm with the GT and part of the developer team and, most specifically, we were the contractor who did the geotechnical study.

MR. NELSON PERRY: Nelson Perry with Parks Canada. I'm the environmental assessment

coordinator for the western area field unit.

MR. GURDEV JAGPAL: Gurdev Jagpal, Department of Transportation, Inuvik Region.

MR. STEVEN BARYLUK: I'm Steve Baryluk. I'm the other resource staff person with the Inuvialuit Game Council.

MR. MERVEN GRUBEN: Morning. Merven Gruben, Mayor of Tuk, one of the proponents on the highway.

THE FACILITATOR: Thank you all once again for coming, and I think we'll move on into the agenda. And the first issue then that we'll give some -- I was going to say we'll give some airtime to, but anyways, we're -- we're -- first issue is -- relates to air quality, and I think that perhaps we can start off. I think that issue came from the Board, so that -- let's start off with -- with some comments or discussion question from one (1) of the MSA -- MSES folks.

AIR QUALITY DISCUSSION:

DR. PETR KOMERS: Good morning. I should preface -- oh, sorry. Petr Komers. I should preface several of our questions with the -- pointing out that a lot of those issues that are highlighted as

coming from the Board are actually, we can say, a joint question.

The question for dust has been raised by AANDC, for one (1). And -- and we would like to hear from AANDC if they are satisfied with the information that they got so far. I believe DFO also raised the question of dust in regarding of water quality and fish habitat potentially.

Could you perhaps start there and explore the issue of how dust relates to the concerns raised by AANDC?

MR. CONRAD BAETZ: It's Conrad Baetz with Aboriginal Affairs here in Inuvik. That -- that concern was raised by one (1) of our folks in -- in Yellowknife. And I haven't spoken specifically in terms of -- with that individual in terms of whether or not the response that they received from the proponents is something that's -- that's adequate. So I'll have to report back.

THE FACILITATOR: John Donihee. Then, per -- perhaps what we can do is, ask D -- move on to -- DFO has raised there as well, and see if there's any further issues or any further concern based on what we have on the record from DFO.

MS. AMANDA JOYNT: It's Amanda Joynt

from DFO. I don't recall, actually, bringing it up in a written form. It might have been mentioned in verbal form a -- a while ago. I'm not sure where that came from.

DR. PETR KOMERS: That's fine. Thanks for the clarification. If there is no -- no questions from the other parties, I would like to, on behalf of the Board, to ask -- this is Petr Komers. I would like to ask the developer how dust will be integrated into the wildlife management program.

It is stated that somehow it will become part of the wildlife management program. And I -- we are not totally clear on how that will look like. Will dust be monitored as part of, let's say habitat quality, for example? As effects on vegetation and so on?

Could you elaborate on the relationship between dust and the wildlife management program?

MR. RICK HOOS: Rick Hoos here, on behalf of the developer group. Our -- our view on dust in relation -- dust generation in relation to both construction and operation of the highway is that it will be a relatively minor issue, for -- for a variety of reasons.

Most of the active construction of the

road activities, most of them will take place in the wintertime when dust -- dust is not expected to be an issue, by and large.

And during the operational period, as we've indicated in the EIS and subsequent documentation, we are -- we are anticipating that the use of this highway will be in the order of a hundred and fifty (150) to two hundred (200) vehicles a day. I -- I guess that may be a running average. There will be some days when it'll be a little bit more. But there will probably be many days when it'll be quite a bit less.

In any event, we call -- we -- we consider this to be a low-traffic highway. The sources of dust will be from, of course, moving vehicles. They will be intermittent, perhaps one (1) or two (2) an hour, on average. We don't see that creating a significant dust issue. And as we've said, we -- we basically feel that these kinds of emissions are expected to be localized, transient, and of short-term duration.

We do recognize that there will be some dusting of local vegetation, typically in the order of about a hundred metres from the road, perhaps as far as three (3) or 400 metres, but probably not beyond

that point.

We do know that the summer period is also the wetter period of the year where there's more rainfall and more precipitation.

So, in general, we do not see dust being an issue, and certainly not one (1) that warrants substantive monitoring on the part of the developer over time.

DR. PETR KOMERS: Petr Komers. So when you say it's not going to be a substantive part of the monitoring, it's not going to be integrated in the wildlife management program?

MR. RICK HOOS: Rick Hoos, Developer group. I think what we're saying is that -- that we -- we have committed to following the GNWT Dust Suppression Guidelines as may be needed.

We've identified water as one (1) possible way of dealing with the dust issues. There are other ways that are accepted under the GNWT Dust Suppression Guidelines and, for instance, in the -- in the event that DFO or someone else has a concern about dust in the vicinity of a significant water body, other options are available for ensuring that dust generation is minimized in -- in -- can be minimized in those sorts of areas if that is deemed to be an

appropriate thing to do.

And one (1) thing we will be -- be harping on, I would say almost continuously throughout these two (2) days, is that although this is a public infrastructure project, we are very aware that in the Inuvialuit Settlement Region, there are many other organizations that have an interest in environmental issues, whether they be the local HTCs, the game councils, the joint management boards, et cetera, et cetera, et cetera.

And we anticipate that whether it's dust or some other issue, if someone has a problem or a concern related to the way the highway is -- is operated, I'm sure there will be ample opportunity for those concerns to be aired and -- and addressed cooperatively with -- with all interested parties at any time. Thank you.

DR. PETR KOMERS: Petr Komers. Does DFO have any questions in that regard?

MS. AMANDA JOYNT: Yes. Thanks. It's Amanda Joynt with DFO. Rick, you were mentioning that to follow the GNWT Dust Suppression Guidelines, you would need to use water.

So can you clarify how you would be withdrawing the water and what commitments you could

make to -- for that?

MR. RICK HOOS: Okay. Rick Hoos, Developer group. As far as withdrawing water, water would be withdrawn from local water sources, in the summertime particularly, using water trucks that are -- - that -- that do that all the time.

In terms of -- of where water might be withdrawn from, I would suggest that it could be withdrawn from local streams with appropriate screen, of course, attached to the intake pipe, or local water bodies.

I don't be -- you know, we certainly haven't, at this point in time, identified each and every water body that water could be withdrawn from for the purpose of -- of watering or -- or, watering of the road, but...

Yeah, but -- but we certainly will be following the winter water withdrawal guidelines of DFO, which are probably more related to winter water use for ice road construction that will support the con -- the main road construction program.

And in that regard, I know we've done bathymetric work on some of the -- the lakes that might be considered for that purpose. But for ordinary dewatering in the summertime, I would think

that with the appropriate screening device on the system, particularly if we go to a small stream to fill up a truck, that's the way it'll probably be done. Thank you.

MS. AMANDA JOYNT: Okay. And it's Amanda Joynt from DFO. If those -- if the DOT or the proponent could make the best effort to identify those water bodies and -- and inform DFO, that would be much appreciated.

MR. DOUG SOLOWAY: Doug Soloway, Transport Canada. So I'm assuming that you would not have any permanent installations for water withdrawals?

(BRIEF PAUSE)

MR. DOUG SOLOWAY: Doug Soloway.

MR. RICK HOOS: Rick Hoos, Developer group. Yeah, that's correct, Doug.

DR. PETR KOMERS: Petr Komers. Just one (1) more question regarding dust. It -- dust relates to the dust suppression program, and there has been questions raised also regarding the relationship between the dust suppression programs with water quality in surrounding bodies.

Will you be investigating, monitoring the water quality regarding to the dust suppression? What are the exact plans for the dust suppression program? I know you -- you briefly mentioned that, Rick, but can you elaborate on how that dust suppression relates to water quality. And perhaps DFO has some questions about that as well.

MR. RICK HOOS: Rick Hoos, Developer group. As I've indicated before, we don't see the need to do much monitoring in relation to actual dust monitoring, other than to try and keep the dust down to the extent it seems reasonable and possible.

Where we're more concerned, and I think where DFO would be more concerned about sediments entering, let's say, a water body, a stream, a lake, would be through -- through things like erosion and drainage off the roadway, or near a bridge or a culvert location.

And in that context, we do anticipate and have committed to -- to do upstream and downstream monitoring in the spring in relation to some of the more significant fish-bearing streams and crossings that would be built from year to year.

We don't anticipate that sedimentation will be a continuing problem at any stream crossing

beyond, perhaps, the first construction season and -- and during the course of the first spring.

We've had lots of experience in -- in monitoring suspended solids or particulates in streams in relation to new construction activities in streams, such as diversion channels and what not, and which are much larger, of course, than a stream crossing for -- for a two (2) lane road.

And it's -- it's -- in all cases, if there was sedimentation in relation to the construction, it was manifested primarily in the -- in the first month or so, after which things tended to settle down. And, in subsequent years, unless there was a significant problem at a stream crossing there's no -- we don't anticipate the need to continue to monitor for water quality at stream crossings.

DR. PETR KOMERS: Thanks for that clarification. Just -- I just want to verify quickly because there's was a spe -- a specific question regarding the dust suppression chemicals from AANDC. And I wonder if you have something? I know you were saying that the people weren't -- aren't here now, but.

Petr Komers. AANDC asked about the dust suppression chemicals, specifically, and how that

might affect water bodies and, yeah, you -- you probably don't have the people here that you were saying that -- that asked those questions?

MR. CONRAD BAETZ: Yeah, that -- that's correct. I -- like I said, I will go back and -- and I'll have a look at the original Information Request and see if I can come up with some kind of a response.

MS. AMANDA JOYNT: It's Amanda Joynt with DFO. Just to clarify a couple of things. So, with regards to dust and water quality, DFO doesn't usually comment. We'd rely on the proponent, as Rick was saying, to mitigate at the source. And then we also rely on our other federal departments, such as AANDC and Environment Canada to -- who have more mandate with regards to air quality.

The other thing I wanted to clarify, and maybe this could be an action item, is that with regards to water withdrawal we would be looking for things like the quantities that you would want to take out for dust suppression. Specifically, the locations that you are going to take them out. And if you are going to use those small streams, what the instantaneous flow of those small streams are.

MR. RICK HOOS: Rick Hoos, on behalf

of the developer group. I am assuming, Amanda, that you might be talking primarily during the operations phase when -- when the road is actively being used by -- by people?

So that's, like, three (3), four (4), maybe five (5) years down the road before it gets going. And certainly there will be lots of dialogue between the developer group and DFO on -- on many aspects of -- of activities that we would be reporting to you on, including where we might be withdrawing water from for -- for watering to -- for dust control. Thank you.

MS. AMANDA JOYNT: Right. But for me to assess impacts of the entire project, this is a part of that project. So I would need to know -- it doesn't have to be, certainly, very specific. But I would need to know estimates.

MR. RICK HOOS: Sorry. Rick Hoos, just a moment please. I'd just like to ask Russell a question here.

(BRIEF PAUSE)

MR. GORDON STEWART: Gordon Stewart, with the EIRB. I'd just like to remind people to

state their name before they start speaking again, please. Thank you.

MR. RICK HOOS: Okay, Rick Hoos, Developer group. I -- I know Amanda is aware -- DFO is aware because they were involved with the work, I think. But there has been quite a bit of hydrological work done in the last year by the Kavik-Stantec folks.

And that's all going to be incorporated into a report, which will provide a lot of the flow information, at least for the more significant, if that's the right word, streams that -- that will be crossed by the road. And, undoubtedly, some of those streams might well be used for the withdrawal of water. And as we get closer to their construction pha -- or to the operations phase we'll certainly be able to clarify what streams might be used for water withdrawal.

The one (1) point I do want to perhaps make, if I didn't make it before, was because this is such a low-traffic road, some people would suggest that there isn't even a need to employ dust suppression because there isn't going to be much dust generated. It's going to be sporadic. It's going to be localized. It's going to be whatever, whatever,

whatever.

We have indicated that water would be used as appropriate. But it's also well-known that on the Dempster and -- and other northern roads there are areas where calcium chloride or mag chloride or something like that is used. And if it seems appropriate, that would also be considered for use, particularly in the vicinity of say significant water bodies that DFO may have a concern about in relation to dust.

But -- but none of those decisions would be made without consultation with DFO to ensure that they would be satisfied with the methods being employed to control dust in a particular area.

THE FACILITATOR: John Donihee. I'd just like to ask our friends from DFO, is this an issue that simply can be managed, or is it a hearing issue for you? So, you know, the -- the question really is -- it sounded to me as though you were asking for something from the developer. And I think what I'm hearing the developer saying is that they don't think this is a significant concern.

So, you know, are -- are you going to try and go any further with it or what shall we do?

MS. AMANDA JOYNT: Okay, Amanda Joynt,

with DFO. So my issue is not with the dust itself. My issue is with the water withdrawal. So my question was -- I just -- to assess the impacts, which is what I'm trying to do right now, which is what we're all trying to do right now, this is the first I've heard of any type of water withdrawal for any type of dust suppression.

So I'm asking what is the estimate of the quantities of water you would take, where approximately would you take them from, what types of water bodies, how would you ensure that impacts to downstream water bodies are mitigated. And then I can assess the impacts.

MR. RICK HOOS: Rick Hoos, with the developer group. Amanda, we -- we believe we may have made mention of how much water we think we might to withdraw for water withdrawal for -- for dust control. And we're just trying to look it up now and provide that to you.

It still won't tell us exactly where we're getting it from though. It seems like between 500 and a thousand cubic metres a day, but that would be very widespread across 140 kilometres and select water bodies that have yet to be determined.

MS. AMANDA JOYNT: Amanda Joynt, with

DFO. As long as that commitment to what I asked for can be brought to me within a reasonable amount of time, it doesn't have to be answered right now.

THE FACILITATOR: John Donihee. Rick, are you able to identify where that information is and assist DFO with it? You know, it -- it seem -- it seems to me that to blow a hundred cubic metres a day you don't even need a 'B' water license, you know, so we're really not talking large volumes spread over that distance, but.

MR. RICK HOOS: No, you're -- you're right. Sorry, Rick Hoos. I didn't --

THE FACILITATOR: Yeah.

MR. RICK HOOS: Okay, never mind. Yeah, it's on page 91 is where we refer to the anticipated volumes of water, of about 500 to a thousand cubic metres a day. A typical water truck holds about 10,000 litres. And there may be three (3) or four (4) trucks dumping a few loads of water a day over the course of 140 kilomet -- or whatever.

But, in reality, I don't think it's going to be that much, because, really, we don't think dust is a significant problem in relation to this road because of the intermittent use of it and so on.

THE FACILITATOR: I think we've come

to closure on that point. Thank you. And I believe -- and does anybody else have anything further then, about air quality and dust? We seem to have drifted into water, but that's what dust does, doesn't it? Any other -- any other questions? Oh.

All right, then let's -- let's move on to noise. And, again, we'll see if Dr. Komers can stimulate that issue. I think the issue came from -- from the Board staff or Board consultants. And we do point out that there are linkages among some of these issues on the agenda. So, Petr...?

NOISE DISCUSSION:

DR. PETR KOMERS: Petr Komers. Yes, we do have some of -- or, one (1) specific questions. But this question has also been raised by at least one (1) or two (2) other parties -- in particular, Environment Canada -- regarding the noise effects and the responses of wildlife, particularly species at risk, to the road.

Does Environment Canada have any particular questions on that?

MR. JAMES HODSON: James Hodson with Environment Canada. I don't think I have any questions at the moment about that. We had a response

to that question in one (1) of the -- one (1) of our IRs, and I think the developer's conclusion was that noise levels would return to ambient levels within 400 metres to 1.5 kilometres of the highway. So that's probably what we'll be using in our assessment.

DR. PETR KOMERS: Petr Komers. Thank you. That's useful. I know the WMAC had a number of questions regarding zones of influence. The -- the WMAC had a number of questions regarding the zone of influence. And we just heard from Environment Canada that some of the developer's responses were that noise may be heard until, what was that 500 to about 1,000 metres?

Anyway, do you -- do you have any questions regarding the relationship of noise and zones of influence as potentially affecting wildlife?

MR. BRUCE HANBIDGE: Bruce Hanbidge, WMAC. We have a question we've asked several times. When the proponent determined what their zone of influence was, we're still looking for the specifics or references. How did you determine the zone of influence on the highway? And that -- that applies to noise; that applies to monitoring mitigation for a number of different wildlife issues.

But from the beginning, we've always

asked: Could you please define the spatial and temporal boundaries for your zones of influence. How did you determine them and what are the references?

Bruce Hanbidge, as well. That -- that thread goes all the way through other questions. They're based essentially on the zone of impact, and it -- it applies to many different questions.

DR. PETR KOMERS: Petr Komers. Does the developer have any responses to WMAC?

MR. RICK HOOS: Rick -- Rick Hoos, Developer group. I was just reviewing what we said in the EIS about noise in relation to what -- what noises were generated, how loud they were, how far they go, and also the -- the literature that we reviewed on the effects of wildlife related to noise.

And -- and I guess I might just read some of the information that we provided in the EIS, if that's okay with everyone here. Trucks are the noisier vehicles on the road. And the literature on truck noise, typical dump trucks, haul trucks and whatnot, noise levels associated with such trucks are typically within the range of 84 to 86 decibels at about 15 metres from the truck.

These are considered to be fairly high levels of magnitude, but we point out that they are of

short-term duration, intermittent in nature, and are not expected to contribute excessive noise at distances outside the immediate work area.

For regular vehicles, we identify passenger vehicles travelling at the speed limit are typically within -- the sound levels are about 72 to 74 decibels at 15 metres from the vehicle. Again -- so that's lower, of course, than trucks.

We also then recorded information on how wildlife react to noise. A paper by Hansen indic -- suggesting that barren carb -- ground caribou were not greatly affected by diesel generators and vehicle traffic at Prudhoe Bay.

Russell, 1977, noted that caribou have shown either no response or is short run resu -- short run prior to resuming feeding response to dynamite blasts. He also observed that caribou located 1.2 kilometres from a series of seismic detonations looked up after one (1) or eleven (11) -- after one (1) of eleven (11) detonations, but otherwise continued to feed or bed.

We've noted that grizzly bears have been -- have shown avoidance on occasion and altered behaviour response to road presence, seismic blasting, and other industrial activities. We've noticed that

grizzlies typically select den sights about -- greater than a kilometre from human activities, and presumably that might be in relation to noise or other kinds of activities that bother them.

But in general it doesn't seem like noise, according to the literature that we've reviewed and presented -- and we do feel that way as well because we've actually seen personally, many of us -- all of us probably have seen how wildlife react to roads and noise generated by vehicles. And we just have not seen that it has caused a significant problem anywhere that we know of.

DR. PETR KOMERS: Petr Komers. Thanks for this clarification. Just one (1) last follow-up on this. So given that the developer believes those are relatively minor impacts, considerations to think about, is there any planned mitigation for the wildlife monitoring programs regarding noise suppression and noise mitigation of any kind?

MR. RICK HOOS: Rick Hoos, Developer group. We have indicated that during construction -- during the construction activities, most of which will take place during the winter -- when fortunately a lot of the wildlife species aren't present, but some are still there -- that we will -- we will -- we've

committed to ensuring that the equipment that is used is -- is well maintained and equipped with appropriate mufflers -- with mufflers that -- that are in good working order.

Yes. Okay. In terms of the vehicles that are used during the construction operations, Tara just pointed out that -- that there is a -- an aspect related to blasting, which is another form of noise, which is actually the loudest noise of them all, although very short-term in nature.

And in the context of blasting -- I know we discussed this extensively yesterday in preparation for today's meeting -- one (1) should recognize that blasting in a borrow site, for instance, which is where blasting would take place, is -- is only going to be done when needed.

And there may be a number of -- of borrow sites we anticipate may not require any blasting at all, but simply ripping of the -- of the aggregate material in the borrow pit using bulldozers.

But where blasting might be done on occasion, that would be done to avoid periods of sensitive -- when -- when wildlife species may be present, you know, sensitive periods of time.

In other words, in the wintertime, that

basically means in relation to perhaps a bear den that could conceivable in -- be in the vicinity. But in that context, the work that we've done to date suggests that there's not very many bear dens in the vicinity of the -- of the proposed alignment or -- or the borrow sites that we've currently investigated. But that kind of work will be done for any borrow site that might be used for the road construction project.

MR. BRUCE HANBIDGE: Bruce Hanbidge again. We're -- we're drifting into some of the WMAC questions for later on. But since you're speaking of borrow pits and grizzly bears and noise, we've reviewed your granular reports and the habitat assessment around them. And I'm curious, the -- the grizzly bear habitat assessment in particular, you have seven (7) borrow pit sites, and you've only assessed the habitat in your report on one (1) of them.

So I'm just wondering if there's going to be any further assessment of denning areas for grizzly bears. And why I ask about borrow pits is your report specifically identifies that form of habitat as the optimum for denning. And there's -- sorry, I'll throw out the other questions; you can answer them in whatever order you want.

Concerning noise mitigation, you've spoken a lot about surface noise. There's nothing in your reports to do with conduction of noise through the ground. And I believe in the Screening Committee's submission you made for doing the explore -- exploration of the borrow pits, the WMAC did send in a letter. And they provided some references on transmission of sound through the ground out of Alaska. And it transmits far further than you can imagine on the surface. And you can't detect it by surface methods.

So have you looked at anything with respect to transmission of noise, distances, in relation to bear dens around borrow pits?

MS. ERICA BONHOMME: Erica Bonhomme. There's a lot of questions in there. Forgive me if I miss any pieces of it. I think I will answer the pieces to which I can respond. Some of those may be dir -- best directed to the developer.

With respect to the assessment of grizzly bear den potential at the seven (7) borrow sources, yes, we've not finished complete -- we've not completed the processing the LiDAR imagery to address all the borrow sources that are being considered for -- as primary sources for development.

So we are working on that right now. We hope to have some addendums to the maps to provide to you as well as some numbers for potential bear den habitat. So if all goes well, I can have that submitted to the Board by this Friday. That should -- should help with providing a visual depiction of the bear den potential at the borrow sources.

With respect to the investigative drilling program that was conducted this winter in relation to seven (7) borrow sources consider -- being considered for development, the assessment was based on noise at the -- that we would expect to be transmitted through the air at the surface. And it did not include what we would expect to be as ground assessment -- or, ground transmission.

However, we should keep in mind that that was for an exploratory drilling program. And the technique that would be used in that program, which was an exploratory drilling program, would be different from what might be used to actually extract gravel from borrow sources.

So I -- I -- there may be a need to look at transmission through ground that would be specific to the type of techniques that would be used to extract gravel here. So it's kind of two (2)

different things that you'd be looking at.

Just for everyone's edification, the investigative dri -- dao -- geotechnical investigative drilling program used 6-inch augers and a larger-diameter auger that was used for bulk sampling. And that was a winter program.

That's -- as far as the noise assessment that's been done for the -- in relation to the project, I would transfer that over to Rick. But before I do, anything else on the information I've provided to you in -- for those first two (2) questions?

MR. BRUCE HANBIDGE: Just -- Bruce Hanbidge. Just going back to the issue of noise, the references that we did find were specific to drilling. We were looking for references to respond to your submission to the Screening Committee. And, yeah, I guess if -- if you don't look for it, you're not going to find it.

So my question is: Is there any intent to determine transmission of noise through ground as it affects wildlife?

MS. ERICA BONHOMME: I would direct that question to Rick.

MR. RICK HOOS: Rick Hoos, dev --

Developer group. We haven't ever tried to look at any literature related to noise travelling through the ground or under the ground from -- from, let's say, a blasting activity.

However, we have made -- we -- we have recognized that blasting could conceivably impact active bear dens and -- and bears -- like -- and similar issues like that. And therefore, in -- in the EIS we have made a -- a commitment to not carry out any blasting within 500 metres of an active bear den.

Beyond that, if it -- if it does seem absolutely necessary for whatever reason, that's why we have both environmental and wildlife monitors associated with these kinds of operations. And we would consult with them and other interested parties if, in fact, we -- we knew that there was a bear den perhaps closer than 500 metres away, although we don't anticipate that would occur.

But if there was an absolute need to do some blasting, we would consult with, and seek advice from, agencies and -- and the -- the monitors at that time. Where we have, though, also -- what -- what we were more concerned with, with blasting, and I know it's of great concern to DFO, is blasting in and near waters frequented by fish.

And in that regard, and -- and I know Erica didn't mention it, but even in their drilling program, where they were trying to evaluate the aggregate resource, they made a point of -- of staying more than 50 metres away from a water body for their drilling program. In fact, it was more like about 100 metres away.

What we have committed to do in the EIS and -- and committed to do for the ope -- for the construction operation, first of all, we would not be ex -- doing any blasting in or near fish habitat that produces or is likely to produce an instantaneous pressure change greater than 100 kPa, which is 14.5 PSI, in the swim bladder of a fish.

This is in relation to the DFO guidelines for the use of explosives in or near Can -- Canadian fisheries/waters. We have -- there are other criteria in those guidelines that we would intend to comply with, and I -- I -- we do even understand that DFO may want us to -- to follow some even more stringent guidelines and requirements than -- than what is in the current explosives guidelines.

And if DFO would like to bring that to everyone's attention here, I guess we could discuss that also. Thanks.

MS. AMANDA JOYNT: Amanda Joynt with DFO. I think that issue can be brought up when we hit it in the agenda, but just to clarify that DFO doesn't use those guidelines in the NWT. We have different guidelines.

MR. BRUCE HANBIDGE: Sorry, Bruce Han -- just one (1) last request concerning this issue on subterranean noise. Okay, you've acknowledged you don't have any guidelines or references for the distance it travels.

Your submissions have also said that borrow pit sites are optimum habitat for denning bears. And I believe your submission to the Screening Committee also was very specific. It said that a bear pushed out of a den in the winter time is a dead bear. That was pretty much what your report said to the Screening Committee. So I'd like to request some form of undertaking, any information to determine boundaries.

Do you have any references or can you produce any references for what is a safe distance to a bear den?

MS. ERICA BONHOMME: Erica Bonhomme. I just want to provide a point of clarification that we did not, in the Kavik-Stantec wildlife report --

and I -- that was filed -- that was filed before the Board here.

And we are referring now to -- if I can find the exhibit number. Here it is. So the two (2) reports that were filed, the wildlife report and the maps, which are Exhibit 224-1 and 225-1, did not say that borrow sources were optimal denning habitat. We said that high qua -- that higher-quality habitat is scattered throughout the study area. That does not mean it's optimal bear denning habitat.

At the time that the borrow sources investigations program was undertaken, which was a program screened by the Environmental Impact Screening Committee, which is separate to these proceedings here, that was a winter program. It was not based on field-verified evidence, which -- of bear -- field-verified observation of bear denning habitat, which we now have. And I would defer to the statements we've made in the Kavik-Stantec wildlife report, which does not say that there's optimal bear denning habitat at the borrow sources.

THE FACILITATOR: It's John Donihee. I think, rather than argue the whole -- I'll -- just a sec and I'll let Gavin speak. But we really are just talking about noise, and I want to get through that

topic. We've got half a day tomorrow to talk about wildlife, so I guess you've sharpened your sabres. We'll -- we'll see what comes up tomorrow. But, you know, I -- at this point, I don't see a lot of benefit in arguing about whether "optimal" means good, bad, or indifferent, that -- that sort of thing.

So let's -- let's hear from Gavin, and then we'll take a fifteen (15) minute break.

MR. GAVIN MORE: Okay. We'll get to it later when we talk to wildlife more, but as part of our GNWT technical report, we're actually going through the literature more, because there actually is more literature. The polar bear transmissions are about one (1) of the few species where people have done kind of acoustic- tests.

The -- the key for -- for the bear dens -- it's been a very serious issue for ENR, so we're going back through the literature. But there's a couple of points I would want to make, because that -- it actual fact, up here, they're -- and -- and studies in Sweden, the -- when bears are disturbed during the winter, it's the females with cubs of the year that might be affected, in terms of the cubs dying.

The incidents that have happened here in the NWT in the '70s, the bears actually were

disturbed in January and were killed, but not till April. So the key is bears can live through the winter.

The other one is that the studies done up here to tend show that the bears also will use snow dens in a emergency basis. The issue we've been working through -- we'll talk about it a little later -- we're not talking in our wildlife monitoring plan about the sort of acoustic testing. We're trying to look for more practical ways to look at particular gravel pits, because the -- the key issue is you're looking at very limited pieces of land each year, and the -- the probability of coming across a bear in a den is -- is reasonably low in any particular area.

So part of our report, we're actually going to show all of the den locations that we've had since the 1970s in the NWT. And basically, the pattern is reflected in and supported by the work that Stantec did that -- that the area of the road is actually fairly low probability.

The key is there -- there was always a -- there is a -- a level of risk, and the whole point of the process of putting together the predictive work, the surveys, and then the role of the wildlife monitor as part of the -- the activities when they

take place, is the way our focus is.

We've been desperately thinking it would be so nice to do what the -- the real answer is, is to be able to scare the den -- the bear early enough in September/October to have them go elsewhere to set up, because that's basically another option for a bear.

The other thing that we have been doing is taking a look and actually trying to find any records of bears out of dens over the winter months, and try to determine -- because there are so few reports. Despite the level of industrial activity, there are so few reports of bears that have actually been moved out of dens by industrial activity. And that seems to relate to -- to the fact that one has to think of the sensitivity of the bear during the winter months and what they're -- they're up to.

So the whole idea of noise equating to bears popping out of the dens at the wrong times does not appear to be justified, but that's part of why we're going to go through an awful lot of the data and discussion of it in our technical report.

THE FACILITATOR: Thanks very much. I -- I -- let's take the fifteen (15) minute break, and I -- we'll come back and we'll move on to the next

topic, please.

--- Upon recessing at 10:13 a.m.

--- Upon resuming at 10:30 a.m.

WATER QUALITY DISCUSSION:

THE FACILITATOR: It's John Donihee. Thank you. We're going to reconvene and we're going to move on. I think the next topic is number 7 and that's water quality.

(BRIEF PAUSE)

THE FACILITATOR: Sorry, just a housekeeping matter. We had passed out at the break a series of twelve (12) questions that were brought to us this morning from the Inuvik HTC and I've spoken with them.

They're -- we're going to actually address -- because it's your first chance to see them, so we're going to address them during the -- the wildlife discussion tomorrow morning.

So -- and I think that the other thing I'm going to do -- I -- I've just spoken with my friend from CWS here and we seem to have birds and

bird habitat separated from wildlife and wildlife habitat.

I'm sure there's no hidden message there, but we'll -- we'll put -- we'll -- we'll talk about birds and bird habitat in with the -- the wildlife session tomorrow and -- and try to get everything -- compress it down a little bit.

And there'll -- there'll be synergies, I'm sure, between the -- those discussions, so -- so we'll -- we'll adjust the agenda that way. But in any event, we're still going to address water quality right now.

So, Petr, I don't know, do you have anything to start us with that?

DR. PETR KOMERS: Petr Komers. Regarding water quality, we have touched on some issues. We don't particularly have anything now that probably wouldn't be dealt with under fish and fish habitat in DFO.

I do have one (1) question for our own clarification, and I'm referring to a -- an IR response from DFO that basically refers the responsibility of the deposit of deleterious substance -- substances into waters to Environment Canada.

And I wonder if you guys have talked,

if DFO and Environment Canada are okay with each other, who's taking care of what. Just curious about that. Thanks.

MS. SARAH OLIVIER: Sarah Olivier, with Fisheries and Oceans. Maybe I can clarify a little bit. DFO does look at impacts of sediment, so, physical impacts of sediment on fish and fish habitat.

But when it comes to specifically section 36 of the Fisheries Act, which deals with the deposit of a deleterious substance, there is an MOU between the Minister of Fisheries and Oceans and Environment Canada that delegates the administrative authority to Environment Canada.

So they deal with, again, determining what is deleterious and then dealing with that -- that section of the Act.

MR. JAMES HODSON: James Hodson, of the Canadian Wildlife Service. That's my understanding as well. I wasn't provided with any questions specifically dealing with the positive deleterious substances for today, so I won't be able to speak to that subject.

WATER HYDROLOGY DISCUSSION:

THE FACILITATOR: Thank you then. I

think that -- let's move on to issue number 8. We'll talk about hydrology. The first issues there I think were raised by DFO and we'll give you the opportunity, I guess, to speak to your issues and explore them with the developer.

MS. AMANDA JOYNT: Just to clarify -- oh, it's Amanda Joynt with DFO. To clarify, DFO and DOT and Associated Consultants had a meeting two (2) weeks ago, I believe, in Yellowknife and we went over a lot of these issues, so you'll find that, I think, a lot of these issues have been clarified or -- or solved.

I just want to reiterate. So with regards to the crossings, we were requesting a final list of all the crossings. A lot of the information is -- is found in -- in different locations right now, so we are requesting a final list of all of the crossings; the type of the crossings that were going to be used at those crossings; and inclusion of all the latest Fisheries' information and -- that are associated with those crossings as -- including the latest freshette survey which occurred in June.

So if the -- if you guys can respond to that.

MR. WALTER ORR: Walter Orr from

Kavik-Stantec. Yes, we've -- we have committed to -- as the developer to provide a compiled list fully integrating the hydrotechnical surveys that have don - - been done recently, the earlier work from -- from the -- in the EIS and the -- the current and -- and previous Fisheries work that will integrate all of those into a master list of crossing names, location, stationing, and Fisheries potentials.

MS. AMANDA JOYNT: And -- and that's great. Thank you very much. It's Amanda Joynt with DFO. And the other issue we wanted was a development of -- of scenarios for each of the types of the crossing that were going to be used.

So if it was a bridge, we were asking for the type of -- how many of that type of bridge would exist and the scenarios in terms of what mitigations would be used for those bridges, what impacts would be mitigated because of those mitigations, and what are the remaining impacts.

MR. WALTER ORR: Walter Orr here. Yeah, as -- as of the -- the present status of the work -- and -- and I will say that the -- the hydro technical work is currently ongoing. There's a field program as we speak. Right now, we have a team in the field doing some evaluation of the crossings. They

will be doing a survey and -- and gradients and things on all the crossings in this -- in this area.

But as a current status of the -- the process, there are twenty-five (25) minor crossings, there are twenty-seven (27) medium crossings, and ten (10) major crossings with bridges.

The -- actually, to -- just to gi -- give a little bit of background on those categories, those are based on width of the -- the stream, the amount of flow. And certainly the major crossings are all crossings at -- the combination of the width and the amount of hydraulic flow in those crossing requires a bridge structure.

The -- the minor crossings are all crossings where the -- the width and the -- the low amount of flow makes them suitable for using a closed bottom culvert. And the inter -- the medium are intermediate. Some of those may in fact be crossed by short span bridges, some with larger, say, multi-plate culverts which -- with possible different bottom -- bottom treatments.

But it's -- it's, I guess, categories are for convenience to -- to, you know, split the -- the crossings. Just there are sixty-two (62) crossings that we identify currently, and they're

obviously different sizes and different re -- different requirements. So it's more a convenience than -- than other things to split it -- break it into these categories.

MS. AMANDA JOYNT: Okay. Amanda Joynt with DFO. So I guess what DFO is asking as an action item to be provided after the technical session is for those scenarios, as -- as you were describing, so the closed bottom culverts, the multi-plates, short span bridge, and the larger types of crossings, for those scenarios to -- to be -- to -- to be developed and to provide DFO with the mitigations that would be used for each of those scenarios, and then assess the impacts that remain.

MR. WALTER ORR: The -- the outcome of the current hydro technical work will be a final report to be issued in September which will address all of these. There is -- as a technical team, we have provided to -- to DOT for review an interim submission which is not currently -- Walter Orr, pardon me, with Kavik.

And -- and that will incorporate the -- the findings of the freshette trip, the -- the hydro technical desktop study, and the studies that have been in place, and will incorporate your -- your

requests and concerns from DFO.

THE FACILITATOR: It's John Donihee. I'm just curious, will these -- this additional information be in the Intervenor's hands in advance of the hearing?

MR. WALTER ORR: The -- at least the interim support -- report will be -- will be submitted. The final report will probably not be complete prior to the hearing.

THE FACILITATOR: Excuse me. John Donihee. So I take it there are a number of federal agencies that get involved in this one (1) way or another. Transport Canada -- this meeting that you mentioned, did that -- I mean, are you speaking for the -- the three (3) agencies then that -- no, just for DFO?

MS. AMANDA JOYNT: It was just with DFO, yeah.

THE FACILITATOR: Okay. So any -- any issues then related to the water crossings from Transport Canada?

MR. DOUG SOLOWAY: No, we're -- it's Doug Soloway, Transport Canada. I'm sure GNWT is aware of our -- our requirements. And we -- we do require similar information that DFO does. In

addition, basically, that encompasses water course with depth grade pictures upstream and downstream. And that'll probably come with their application at the regulatory phase. We understand that.

Considering we're at the preliminary stage, we -- we do need to know the types of structures. The -- the water course navigability would have -- obviously have to be assessed by our NWP offices in -- in due course.

So we would be willing to -- to participate with DFO and the proponent in those activities so we can get a clear idea of what they intend to do as well as the types, length of crossings, et cetera.

And to complement that, we would also be interested in hearing the type of fish compensation, obviously, as that would have an implication on navigability as well.

MR. WALTER ORR: Walter Orr, Kavik-Stantec. Yeah, the -- the report that I'm speaking about is -- will include a -- a section on each of the crossings in terms of widths, in terms of structures proposed, in terms of size clar -- particularly with the bridges over potentially navigable waters. They will have clearances and -- and spans and -- and all

that necessary information for -- to make that evaluation.

MR. DOUG SOLOWAY: Doug Soloway, Transport Canada. We -- we would also need to know within that, the -- the water body usage, the types of vessels -- traditional, recreational, et cetera -- would -- would be required so that -- that can be taken into account in the navigability assessment.

We would also, I -- I guess, promote that the proponent, as early as possible, try and do an application to NWP to engage them, as that is a requirement under the NWPA.

MR. WALTER ORR: Yes, some of the things that you're talking about are -- are -- I would consider later in the process as we move further into design. Certainly, we're -- what we're preparing I would call a -- a schematic level approach for these crossings to inform the next step of the work.

Some of it would be suitable to the -- for your considerations, that you need. And some of it will, in fact, be at the next step of design.

MR. DOUG SOLOWAY: Understood. Appreciate that, and we would just like to be privy to what consultations go on and the outcomes with regards to the DFO, et cetera. So thanks for that.

THE FACILITATOR: It's John Donihee. We -- we had issues raised by NRCan as well, I guess. Can we -- have they been addressed?

MR. ROD SMITH: Rod Smith, NRCan. I raise these in response to questions posed by Sharon. So I'll try and interpret through on her behalf.

The questions raised by her specifically were concerns about design values that were going to be used in the study. So are we -- is -- is there a clarification of what actually is going to be employed there?

Are we looking at a hundred (100) year flood, two hundred (200) year flood? And then specifically, what data that is actually going to be based off of. There is -- there is very little data within the actual development area itself.

Is this based off of Inuvik records, Tuk records, and how applicable are those going to be?

MR. WALTER ORR: Walter Orr, Kavik-Stantec. We've -- we have five (5) different hy -- hydrometric records that we are using for this data including one (1) in the study area, the Trail Valley Creek, north of Inuvik.

We're using Havikpak Creek, Boot Creek, Trail Valley Creek, Rengleng River, and Caribou Creek

as our hydromet re -- record stations. Based on those, we feel we have good coverage in the -- in the study area. And, in fact, the Trail Valley Creek is one (1) of the crossing creeks. It's the, I believe, designated crossing 18, is on that particular creek upstream of the -- the wa -- the station.

So we do have -- we consider we've got reasonably good coverage in the area or -- or in the -- in the region for -- in terms of rainfall analysis and other things, flow analysis.

We are evaluating -- actually, our report has a flood discharge analysis on two (2) year, ten (10) year, twenty (20) year, fifty (50) year, and a hundred (100) year out -- outfa -- outcomes. And we are basing our crossing design on, I would say, appropriate to highway design standards for -- for culverts, in terms of typically the ten (10) year analysis for -- for the top of the culvert flow, a hundred (100) year for overtopping. And -- and certainly also DFO requirements for fish -- fish passage velocity which often -- I'd say in this area, with the fish -- designed fish fisheries, in -- information was -- is often the constraining factor for this.

Obvi -- and so we will -- we will meet

all requirements for DFO fish pass -- fis -- fish passage for all of the crossings on fisheries, designated crossings.

MR. ROD SMITH: Rod Smith, NRCan. I guess the question then becomes the length of these records and the reliability of those within contextual parameters of assessing what the extreme events are likely to be and what con -- consideration you've had to modelling changes in extreme events over time.

MR. WALTER ORR: Walter Orr here. See, I'm just looking at -- see our report says most -- most of the stations do not necessarily have long-term records, greater than ten (10) years. However, I believe the -- as I recall, I don't have the information right in front of me, the -- the stations that we have designated and the -- the ones that I've mentioned have, I believe, in the order of fifty (50) years of records.

So I will -- I will get -- let me respond. I will get -- we will get that information to you in the -- the duration. It will be included in the hydrotechnical report and addressed in that. That's probably the most straightforward answer, okay.

MR. ROD SMITH: Okay. Thank you. And -- and the issue of extremes, is that being considered

within your modelling parameters?

MR. WALTER ORR: Walter Orr. Can you clarify that?

MR. ROD SMITH: Sorry. Rod Smith, NRCan. In your modelling, the present con -- understanding about extreme events, so extreme hydrological events, rain events, rain on snow events, is there any consideration for changes in those over a period of time, and is that factored into the development?

MR. WALTER ORR: Walter Orr. Well, as -- as you're aware, of course, the -- the modelling a hundred (100) year flood is, by definition, an extreme event. And -- and that is our design criteria for the -- the larger structures.

So I would say yes. But if there's any other particular extreme event analysis that you would like to see, if you could let us know what that is, then we would -- I'll be able to address it more fully.

MR. ROD SMITH: Rod Smith, NRCan. Certainly appreciate it. And I'll certainly talk to Sharon about that. I guess the other consideration, the extreme events, is the frequency of these and whether there's changes in frequency, not simply just

a magnitude, but actually an occurrence frequency and how that plays in.

The other question in regards to the stream crossing is has any consideration been made in regards -- you have LiDAR survey. You now know potentially where diversions are going to occur.

Have you actually assessed what the potential magnitude of diversion volumetrically is going to be in relation to some of your culvert systems for crossings?

MR. WALTER ORR: Walter Orr here. Okay, the -- we do have the LiDAR data, and that is certainly being incorporated into the hydrology -- hydrotechnical and the -- the flow breakdowns for our crossings. And, in fact, it -- it will, of course, be utilized to -- to finalize where these crossing locations are.

In terms of diversions, could you clarify what exactly you're meaning so we're talk -- I'm speaking the same thing you're questioning?

MR. ROD SMITH: Diversions not in the sense of actually diverting a steam from -- from its original course, but lateral diversions off slopes towards a catchment; so creating accentuated catchments, delivery of water along the linear path

along the edge of the highway. That would be that consideration.

Sorry, Rod Smith, NRCan. When you're -- - when I'm speaking diversions, you're -- you're shortening the flow route, potentially, so you're -- you're increasing the speed with which water -- mill waters largely may be delivered to a collection point, in this case, as I say, a culvert or a bridge.

MR. WALTER ORR: One (1) of the things about this particular -- particular roadway is that it is a fill-only structure. There is no ditching being associated with it. So in terms of diversions of -- of flow from the natural drainage path, you know, that largely, to me, is associated with where you have side road ditching and -- and moving water from where it's going now to someplace else.

The nature of this design means that if we have a -- as we're filling through an area, if we have a low point in that, we have a culvert right there, and that addresses -- we're -- we're not ever taking water from where it is right now to someplace else. So we have to accommodate the specific existing drainage patterns on the -- on the alignment, whether it's at a crossing, per se, or whether it's at a -- just a drainage location at that location. So I don't

-- I can't think of anywhere in the alignment where we would actually be diverting water from its existing course.

MR. ROD SMITH: Rod Smith, NRCan. Thank you. That makes certainly all the sense that you're going. I guess the question then becomes in -- in these is that that information, in terms of where you're predicting where your crossings -- particularly the smaller, say, the culverts -- this is going to be instructed through your LiDAR survey as well, so you're also looking at issues of ponding. Is that part of the report?

MR. WALTER ORR: In this case, the -- the report is dealing with specifically identified crossings, and they're -- we have -- actually, in the EIFs, we -- we anticipate approximately three (3) crossings, three (3) other non-specified culvert installations per kilometre, so some four hundred (400) installations.

And those will be as -- as you say, defined through the survey, the LiDAR survey, and -- and established at the detail design stage. It's certainly not something we are doing at this level of -- of effort, but it will be done as we move on through the -- the -- the remainder of the design

phase of this project.

MR. ROD SMITH: Sorry. So that's clearly still in the design phase, so that's not in -- in the post-development phase, identifying existing problems and redressing them through drainage. So this is --

MR. WALTER ORR: Walter Orr here again. Yeah. No, this -- the -- we will certainly identify every place where we have -- have a potential ponding issue as with existing ground at the design phase and mitigate it at the design phase. If -- if they're -- anything happens subsequent to that, that's a maintenance, which is a different issue entirely.

MR. ROD SMITH: Rod Smith, NRCan. Thank you. Can you clarify what components are going to be released in your interim publication before the hearings, as opposed to what you would anticipate in the final, if you've just got a sense?

MR. WALTER ORR: Walter Orr here. Yeah, we've -- the interim report includes the full desktop study, hydrotechnical study, of each of the crossings, the sixty-two (62) crossings identified. It includes flow volumes for those crossings, it includes specific bridge designs for a number of representative crossings in terms of sizing, and I

will -- for instance, it includes a specific schematic design for -- for bridge alternatives for Hans Creek and for Zed Creek and -- and a number of others.

The final will include all of the designated major crossings, the -- the -- their recommended bridge designs and things for those, but at the interim is a -- is not a draft report. A draft report is complete but needing review. This is an interim. It's an incomplete version of the final report, and the intention was -- in submitting it was to have it available for this group to be able to -- to see where -- what the status of the work is.

It will include the freshette survey report, which DFO has -- has been provided, I guess, and it also includes -- so three (3) -- three (3) basic components: hydrotechnical desktop study, interim bridge study, and the freshette trip report. And those will all be combined into a single report for the final.

MR. ROB SMITH: Rob Smith, NRCan. Thanks. That's great.

MR. DOUG SOLOWAY: Doug Soloway, Transport Canada. We -- for your temporary crossings as well as your crossings for the borrow area, we would like to, I guess, remind you that you may be

able to apply the NWP mine and works order, which would be applicable in those situations, which is sort of a self-assessment.

MR. WALTER ORR: Walter Orr. One (1) of the things, and this is -- actually, I could probably let Robyn address this as well -- is that the -- the winter construction bases mean that we -- we will probably not -- we intend to not use any temporary crossings.

However, the construction methodology some -- there may be some temporary crossings on the -- on the route, the alignment itself, as we build through places where -- where we need to leave them to summer. But on the access to borrow sources, the -- because of the choice to use winter access, winter road access, there may be no temporary crossings on those accesses.

MS. AMANDA JOYNT: Amanda -- oh, sorry.

MR. WALTER ORR: That's fine. We're just giving you that for your information should there be something that also -- even for minor works, where you're going to have a permanent crossing. That can be applied as well.

MS. AMANDA JOYNT: Amanda Joynt with

DFO. This is a nice segue into our second point, if I can move on to that, with regards to the timing for the construction of the crossings.

So we had asked that the proponent provide clarification on -- within the scenarios, I guess, is the best place to do so, of when the crossings would be created. I'm assuming mostly in winter, but as we've just heard, there is potential for summer crossing construction as well.

So I would expect that that outline and the mitigations for such would be outlined in the scenarios that DFO will -- will receive?

MR. WALTER ORR: Walter Orr here. Yeah, the -- in general, most of these crossings will be largely placed in winter. Now that -- that has some challenges, as -- as we're -- I think everyone who is involved in the process is aware.

And the -- the challenges are to things like ensure that we are placing the -- the culverts at the appropriate elevation to avoid -- and avoid problems with perched culverts for instance. There is a -- it requires the use of -- of placement of dry, frozen -- but dry granular material around the culvert for proper bedding.

It includes -- there's a number of

detailing issues. We are aware, as a design team, and I believe the -- the proponent is fully aware of the challenges of that and -- and is quite convinced, based on past experience. For instance, the Tuk 177 Road, some of the good experiences, and those have worked well. We've learned from that.

The -- the bridges themselves, there will be a substantive amount of work done in the -- in the winter, including the piling, for instance. There will be, on the bridges themselves, a -- a large part of that work that will have to be done in the summer.

And so in terms of your -- Transport Canada's question on the temporary crossings, there will be temporary crossings required on some of the bridge sites because of the necessity to have summer construction to allow the -- the placement of the -- the girders and -- and the concreting works that are required with that.

The intention is to -- to do as much as possible that we can do well in the winter. We will do it in the winter, but there will be summer work on -- on all of these crossings in terms of -- in terms of end treatments and things like that.

MS. AMANDA JOYNT: Okay, it's good to hear some of the specifics and -- so I guess my

request for an action item is to have those specifics, along with the mitigations for, say, the temporary crossings and those scenarios to be included in the submission to DFO.

THE FACILITATOR: It's John Donihee. Is that -- that's your intention?

MR. WALTER ORR: Walter Orr here. Yeah, we will -- I would say we will have broad level -- this is what we intend to do for a typical culvert installation and how we plan to do that. It will not be a -- for crossing 18, we plan to do this, for crossing 19 we plan to do that, level of -- of detail.

MS. AMANDA JOYNT: Yeah, and we've discussed that. And as long as the -- the scenario is there and it's something that I can assess impacts to, then -- and we can discuss specifics for -- for specific crossings as needed.

THE FACILITATOR: That's it from -- it's John Donihee. That's it from DFO? Yeah?

We had questions as well from the -- or issues from the Tuk-Inuvik working group. Can we move on to them?

MR. DEREK PARKS: Derek Parks, FJMC, the Tuk working group. We appreciate the acceptance of some of our questions. And the -- the talk around

the -- the room today, it seems like we're getting there, we're just not seeing the reports that we need to fully look at and do our comparisons.

We've got some questions that we've been asked to raise. And it sounds like with Walter in the group they -- they're coming up with it. But we'd -- we'd like to see what some of the selection criteria was used to select the crossing types at the locations with an initial review.

I mean, now we're getting down to the details of the type of structures and what the anticipated construction is looking like. Basically, what we're learning on the 177 Road, we want to make sure isn't repeated and that's why we want to just double-check with what's being proposed.

One (1) of the concerns raised was we were -- we wanted to know if the road alignment will require adjustment in the field, most likely. We feel that the assessment is pretty specific to a centre line of road that if you get off a couple hundred metres either way changes what the impacts are to that area and we really can't fully assess what the potential impacts will be at that crossing location and what the implications are to the community.

Similar questions to DFO, we are

requesting the detailed bridge construction so we can figure out what the mitigation measures are going to be implemented to ensure minimal impacts to the crossings during construction and operation.

One (1) question we'd like to see is that as we go on this process, there'll be a need to develop an emergency response plan where -- what happens if fuel tanker trucks go into -- off the road, or creeks and stuff like that. We'd like to see how that's being addressed, or what safety factors are being included in the design at these crossings to prevent such potential occurrences.

When we get into route selection we'd like -- what kind of criteria was used in the route selection. We've got a lot of community members who are -- who would like the upland route looked at from a Fisheries' safety type perspective and along with some of the technical reports on the ERIB website that the train model even says, you know, we should be looking at the upland route to try to increase the concerns from the community about access to Fisheries' resources.

And one (1) of the other things we'd like to know is, if it's available, or we suspect it should be available shortly, would be centerline

profiles of the route alignments.

This comes into the assessment of the hundred (100) year flood designs and stuff like that that allow us to just have a peek and see what that's going to do. And we'd also like to see what the cut-and-fill calculations were used for the routes to be selected.

Yeah. We understand that to be coming. I mean, you'll be doing that for the cost assessment anyway, but we'd -- we'd like to have a look at that.

THE FACILITATOR: Excuse me, it's John Donihee. And I -- that's a lot of issues.

MR. DEREK PARKS: Oh, sorry.

THE FACILITATOR: Sometimes it's better to ask one (1) and then --

MR. DEREK PARKS: Yeah.

THE FACILITATOR: -- get an answer and, you know, and -- and I'd -- I'd just point out that if you check the agenda, we've got route selection set out for a separate topic --

MR. DEREK PARKS: Okay.

THE FACILITATOR: -- this afternoon.

MR. DEREK PARKS: Okay.

THE FACILITATOR: So if you -- if you don't mind, I thought maybe we could go back to your -

- I'm just looking at your -- your document dated --

MR. DEREK PARKS: Yeah.

THE FACILITATOR: -- the 20th of August and --

MR. DEREK PARKS: Yeah.

THE FACILITATOR: -- go back to the stream crossing issues. And perhaps Rick -- I think we've had all four (4) of those items put out there now. I wonder if perhaps you might, or -- or someone on your team might respond to point number A and then we'll -- we'll see whether that stimulates any further interaction and work our way through the stream-crossing issues.

MR. WALTER ORR: Walter Orr here. In the selection criteria for designation of crossing type, as I said earlier, and I think it's -- it -- this is not a hard-and-fast rule. It's from one (1) end -- certainly as an example, certainly Hans Creek and Zed Creek are going to be bridges, no question. Something very small, shallow, low-flow places that may, in fact, be fisheries habitat are going to be culverts.

In that continuum, at some point in the middle there is a place where you could do either -- either one. And so the -- the designations were based

initially on field inspections, first in 2009 and then recently confirmed via the Fisheries work that was done by -- by Golder last year and -- and our -- the freshette trip that we -- that I was involved with in June of this year.

And then subsequent to those initial -- initial -- I -- largely visual, looking at visually the flow depth, the width, the amount of flow you could see, we have carried out the hydrotechnical.

And that hydrotechnical analysis, in fact, will -- will result in probably a few things shifting up or down. Practically speaking, it's a width and flow and flow amounts are -- are really where those designations are, and they are not a hard and fast. They're a guideline so we can discuss different categories, but they -- they are not a hard and fast. This is -- at this number, we switch to a different category.

THE FACILITATOR: It's John Donihee. I believe the second point, then, is about road alignment adjustments in the field and how -- how that affects the work that's been done and, in particular, how -- I suppose, the -- the impact assessment, if you have to move the road to a different location.

MR. WALTER ORR: Walter Orr here. I

will address this with respect to crossings. The -- the crossings evaluation that we did in June of this year that's incorporated the freshette review trip, and in the -- in the tables that we are working to compile for the master crossing list, does have some slight adjustment for the crossings to -- to fit the actual configurations of the -- the streams in the field. So there is some adjustment of -- of the alignment.

I would say that the -- those adjustments in the field will feed back into the design process when that design process moves ahead, and there will be other things obviously to feed back into it. But there has been feedback between the -- the crossing locations as -- as designated in the field and the -- the final design process for the road.

THE FACILITATOR: It's John Donihee again. I really don't want to be taking over your questioning, but if I'm doing all right, I'll keep going, but --

UNIDENTIFIED SPEAKER: No, keep it focussed.

THE FACILITATOR: All right. Well, again, if something comes up with you, they're your

questions, but point C then if you might move on, if you have anything to respond to -- to that point.

MR. WALTER ORR: Walter Orr here. Detailed bridge construction plans are -- are not, to me, appropriate for this level of consideration. What we are providing is, as I said before, a schematic level of detail to say we -- we anticipate a bridge of 27.5 metres span, single span, with this top-of-road elevation, this clearance elevation, bounded on -- on free piles, as an example, and then a detailed construction.

Perhaps it's an issue on the word "detailed". "Detailed," to me, is something that you get into at the -- at or subsequent to the detailed design phase, when you go into construction, and we are a long ways away from that. And so, I would submit that providing detailed bridge construction plans is outside the scope of what we are able to do or -- or should be required to do at this point.

MR. DEREK PARKS: Derek Parks. I'd be interested to know -- I don't think it's too early to request what type of environmental mitigations are being proposed at these crossings so we can assess the adequacy that's being proposed by the proponent. Thanks.

MR. WALTER ORR: Walter Orr here. As I said to -- to DFO earlier, we are certainly going to provide, I would say, a generic level of: we anticipate constructing in this season, we anticipate constructing this particular methodology, we anticipate constructing with this level of -- of erosion protection, this, that. But -- and that would be a -- an -- an approach-based submission that would be applicable to all similar crossings.

And then, in fact, as a -- as an engineer, I will mention that the specifics of that -- of any particular crossing, there's a lot of work between that approach-based method and the final detailed design of that crossing when -- when that is completed.

MR. DEREK PARKS: Derek Parks. Yeah, I think that's fair, but your comment before was you thought we were too -- it was premature, and you haven't -- I mean, talking with DFO, that's great, and what you've said to me, that allows us to do what we need to do moving forward. Thanks.

THE FACILITATOR: John Donihee. May I just ask, more for my edification, I presume that some form of -- where, you know, there's going to be construction that involves the placement of piers or

things like that right into the streams, there -- there's got to be a Fisheries' authorization or -- or something like that issued. And I guess -- if I'm wrong, that's fine, just tell me. But -- and I'm -- I'm curious about Transport Canada as well, because it see -- it seems to me -- it seems to me that there's a -- there is a regulatory process that comes along after this.

And I guess what I'm curious about is whether DFO and -- and the developer, maybe Transport Canada or other regulators here, you know, where it involves effects on water, streams, and things that are important to fish, whether in fact FJMC is -- is regularly involved in -- in the consultation process, I guess, it goes along before those sorts of permits are issued?

MS. AMANDA JOYNT: Amanda Joynt with DFO. Yes. That was a quick -- quick answer. And that actually bodes well with my next question for the selection criteria.

I had a question -- because you had said it was mostly width and -- and flow, but I just wanted to clarify, it's also based on the design fish -- for fish passage as well?

And also, I would like to bring up

something that I'm sure will come up tomorrow when we go over the Lessons Learned. But, with selection criteria, I'd like to ensure that consultation with the communities is included as a selection criteria as well.

Because we do have one (1) issue with 177 Road, where the community isn't happy that there's a culvert where there was supposed to be a bridge, particularly with regards to their subsistence fishing on that stream. So I'd like to have that included, as well, for a selection criteria.

MR. WALTER ORR: Walter Orr. Thank you, Amanda and -- and John. Yeah, I can speak to the specific point you just mentioned in terms of piers and -- and other things in a -- in a stream at -- at this point, and I've -- I've seen all of the concept, the schematic designs for all the bridge crossings. There are no piers in any stream bed, active stream bed in any of these crossings.

There is, in the case of one (1) particular crossing, and I can talk quite a bit about this. I don't know if -- if it's necessary. But Hands Creek is a -- is a challenging crossing. And however we do it, there will be piers or abutments in the flood plain areas, not in the active channel.

So and that is as -- as close as we get to any construction in the stream. There is no piers, no constructions in any -- any of these streams at our bridge locations.

MS. AMANDA JOYNT: Yeah, and to add on to that, there will be authorizations. Because there are impacts to fish habitat with -- especially with respect to riparian areas, because there will be fill within riparian areas on some of the streams. And when we do authorizations, we will consult with the FJMC and the communities as well.

Does that answer your question?

MR. CONRAD BAETZ: Conrad Baetz from Aboriginal Affairs. There will also be water licence authorizations issued for, I'm presuming, the medium and -- and the large -- larger crossings that are identified. So a lot of that, sort of, information will come to fruition during that process.

The NW Water Board issues those authorizations and I think they have a whole other process themselves in terms of vetting what some of the concerns may or may not be later on. Thank you.

THE FACILITATOR: This is John Donihee. Thank -- and my thanks to both of you, all of you. I guess -- I might as well do it. I'm just

curious, and -- I mean, one (1) -- one (1) of the ongoing -- I know this -- I hear this discussion all the time. It's an occupational hazard for me, you know.

The difference between what, you know, when an engineer hears the words "detailed design" and -- and people who are primarily environmental use those kind of words. And -- and you kind of go like this, right?

So what level of information is -- is possible at -- at what stage and -- and where are you at? And -- and maybe you can just comment on this, or -- or Rick. In terms of the level of analysis and design that's being done for the impact assessment as opposed to where -- where you go after the impact assessment process is over, in terms of what engineers call "detailed design." I assume that's someplace perhaps even after you get your regulatory authorizations.

Could you just kind of clarify that for us a little bit? It would help the Board out. I -- I know the regulators probably know these answers, but it would help us.

MS. ROBYN MCGREGOR: Sure. It's Robyn McGregor here, with the developer group. Walter

kindly pointed directly at me to answer this question.

The short answer to that is the -- the work that has proceeded that's been undertaken to date is -- or at the submission of the EIS is what we would call Preliminary design or Concept design, and it -- and it is at a functional level.

So it gives us enough information, from an engineering perspective and from -- from an understanding of the environmental considerations and the social considerations, it gives us enough information to understand what the picture of the highway will look like.

And I'm talking about the highway as a whole, including material sources and bridge crossings and -- and the roadway alignment itself and an understanding of its future use, what it might cost, where it might go and what it generally will look like and what are the considerations going into detailed design that we need to understand.

Since the EIS was submitted last year, fourteen (14) months ago, there's been additional work that's been undertaken to advance what we would refer to as -- as the homework and the knowledge base that needs to feed into the detailed design process.

So, all of the information that -- that

you have been receiving as it's been completed is information that is necessary for -- for yourselves to be -- to consider in your evaluation of the project, but also for us to feed into design.

We would say though, from a design perspective, that we're probably only 30 percent into the deta -- the design process. So that can give you an understanding of how much work and effort is left to be completed between now and the time that we would be able to put shovels to the ground and start construction.

Having said that, though, we -- we're at the stage in the development of a project -- pro -- process of development of a project where the non-negotiables and the -- and the big decisions in terms of design and where the highway goes, what the highway needs to look like, what the major impacts are, what the crossings are going to look like have -- have been made with some confidence and mitigation measures through design mitigation have -- have -- are in the process of being developed.

So the refinements that we would see going forward are not going to result in major changes to the information and what you're seeing today or

what you will see between now and -- and the public hearings.

So in terms of concepts of the bridges, locations of the bridges, location of the highway, selection of material sources, which is questions we're going to answer tomorrow, those kinds of things, there won't be substantial changes to that moving forward between now and the time that we get to construction.

What we have to do is make our best efforts to revi -- refine things in the areas that -- that are a bit challenging right now. And we'll talk a little bit about that tomorrow, particularly when we talk about the material sources.

We'll talk about that this afternoon when we talk about the -- the rest of the questions that -- that the gentleman down at the end of the table is asking about, the -- the criteria for the route evaluation and the alignments.

But -- but I think for -- I can confidently say that what -- what you are seeing now and what you will see between now and -- and the hearings is a very good solid understanding and -- of -- of what the highway will look like and how we're going to be managing and minimizing and mitigating

environmental and social considerations in that.

What you need to understand though is it's not enough information to go to construction. And for Walter and I, when we understand detailed design, that means that we're ready to -- to get on the back hoe and -- and the bulldozer with Russell Newmark and go to construction. And we're quite a ways away from that yet.

THE FACILITATOR: John Donihee. Thanks. I just -- one (1) other point, I guess, for the -- the regulators in the room, I suppose, and that is that -- I mean, as -- as you're all aware, I'm sure, you know, the Review Board gets called into action rather rarely. And so, you know, the last review I think was Kunek, a lease, right, for reindeer or something like that, some other . . . Anyway, it didn't involve bridges.

My -- my point is just this. That, you know, it would help, you know, for those of you that are anticipating the writing of technical submissions to the Board, particularly for the regulators, DFO being one (1), where, you know, there have been some questions.

I mean, some -- the information is coming in as we're going and it's difficult for

everyone, but it's difficult for the Board too to actually see, you know, the trees emerge from this forest and bad -- bad choice of terms given where we are, but anyway, I'll -- I'll think of a better metaphor for this afternoon.

But the, you know, the issue is that the Board would benefit from some sense of the things that you will, through your regulatory instruments require be monitored, because if you're issuing a Fisheries' authorization, or you're issuing a land use permit or a water licence, you know, water licences don't get issued without aquatic effects monitoring programs. They usually don't, or at least, you know, a -- an SMP attached to them.

And so, you know, there are some things that are sort of standard practice from the regulatory standpoint that you pretty much don't -- don't issue a permit, licence, or authorization without having that in it.

And it would help the Board quite a bit to know what those things are and what those terms and conditions will require. For the simple reason that then the Board doesn't have to go there in terms of a -- of a report.

So anyway, I -- I -- I didn't mean to

hijack this on you, but go back to it, Derek.

I think Amanda had her -- her fin -- her hand up.

MR. GORDON STEWART: Gordon Stewart. I just had one (1) question for Robyn. You'd mentioned designed mitigations that you're developing. Are -- are those something that we would see before the public hearings?

MS. ROBYN MCGREGOR: I think you can understand -- it's Robyn McGregor here. I think you can understand that you have seen design mitigations all the way along through the process.

From an engineering perspective, design mitigations are -- are things such as Walter presented earlier in the day about which type of crossing to use where, the discussion of -- of noise abatement, dust control, all of those things built into the process and the plans for construction that you have seen so far, we would include as design mitigations.

The route alignment itself, the decisions we have made in the placement of the alignment to date, the decisions that -- that we will be making in the future for the refinement and the optimization of the alignment relative to the terrain work that has been undertaken this summer, those would

be design mitigations.

So you are -- you are seeing them all the way along.

MR. BRIAN ZYTARUK: Brian Zytaruk from FJMC. This is more of an observation. Traditionally when an EIS is filed, you have truly a conceptual design, because changes do occur in these -- the -- particularly in -- in this type of a -- a project, but normally you would file your mitigation measures, even at a conceptual level.

We would normally, in this type of a linear development, have at least the central line survey. Much of the information the proponent is pro -- promising to deliver to us is normally part of the EIS.

So in my opinion, right now we've got a lot of catching up to do.

MR. GAVIN MORE: I wouldn't mind making a comment there. This is Gavin More. I've -- that's not actually quite right. The MGP, for example, had no centre line. The legal definition of environmental assessment is sufficient information to make decisions before things are irreversible.

And that idea of having centre line before going through the discussions about the issues

is actually not quite right. The typical, though, is that the Board then takes a look at what the commitments are for the processing, both through regulatory and other stages.

But to have centre lines at this stage is not necessarily absolute. The key here is you have, just like MGP, a local study area that tells you the most so you can see what's going on within that area and then there will be some switching around of the centre line as things progress.

MS. ROBYN MCGREGOR: Hi. It's Robyn McGregor again. At the time that the Project Description Report was filed and subsequently the information that was utilized to create the environmental impact statement, a preliminary design was complete, even for the alternatives for the alignment that were considered at the time.

A centre line was available. We did not need to wait until the LiDAR survey was done to have topographic information and a centre line available. We used the available 2 metre contour data that was available at the time to produce that.

The only thing that was not published in the EIS was plan and profile sheets for 137 1/2 kilometres of highway. Had those been requested they

-- in the terms of reference, they would have been included in the EIS. So the centre line for the preliminary design for all of the alternatives considered is available.

And there are some questions later on today that ask specifically when the updated or the -- the existing ground will be -- the existing ground profile, if -- available from the new LiDAR data, and we'll be answering that in due course on the agenda.

THE FACILITATOR: It's John Donihee. I think -- you know, there's -- again, we're back into one of those discussions, I think, where engineers -- I accept what you say, but it does seem sim -- to me, from my observation, that a lot of the environmental information and the -- the issues -- questions that are being raised about im -- impacts and mitigation and plans and things like that are -- are catching up to your engineering information.

But anyway, if you feel obliged to respond, please do.

MR. DOUG SOLOWAY: It's -- it's Doug Soloway, Transport Canada. With regards to any environmental impact assessment -- it -- just an observation and a comment, if you wish. But -- but to complement Brian's note, any -- any potential

significant or adverse ep -- effects have to be mitigated at the EIS stage, and that's one of the principles through -- through the assessment process.

So if some issues are brought -- because nothing is saying that we can't apply a mitigation that would address it, even though if it's in a general sense. Just a comment.

MR. RICK HOOS: Rick Hoos here from the developer's group. Just a general comment also; that's what we have tried to do in the EIS and in the subsequent information that's been collected.

A lot of this new information that is being collected is just simply allowing us to refine the design to make it a better design, both from a safety point of view and, for that matter, from an environmental point of view. All the -- any design optimizations, improvements we're making achieve both those objectives.

So it just makes for a better case than what we've predicted in the EIS, which was very good. Like, we don't see any significant environmental issues that can't be managed as a result of this project being implemented. But it is going to require a lot of help from other people, as well as the developer.

MR. DOUG SOLOWAY: Doug Soloway, Transport Canada. True. And -- and we rel -- realize you're working towards interim design drawings and then after that stage, probably final design drawings. And then through to the interim stage, this is where we're working at to address those mitigation-type issues. That's understood as standard construction practice, and is also an environmental practice which you're trying employ within that -- which is -- which we have to address.

MR. WALTER ORR: Walter Orr here. And I'd just like to clarify, Robyn and I are totally on the same page. And in fact, her -- her 30 percent number -- and I just wanted to clarify a little bit of that, that doesn't mean we're only 30 percent sure, okay.

What -- what that engineer design on -- on things like bridges and on roadways is a long, time consuming process, and you -- you spend a lot of time on things. The actual final elevation to -- to nail it down is not plus or minus. Right now, it's plus or minus here, we're trying to nail it down to that. Do we need this elevation or -- or another one?

And to get to that, because it's optimization to save cost to make -- improve safety,

to all -- do all of those things, there's a tremendous amount of -- of manpower goes into all of that. And the fact that where we're at right now, this road could be built at -- with the design that's presented in the EIS that -- the bridge designs are not complete, but the roadway itself is complete.

The final design will be better because of all this manpower, this en -- this time and energy put into it. The same thing with the bridges; the bridges, there's an enormous amount of detailing work to establish sizes, to establish all of these items that require to be a safe project.

The 30 percent is a level of the number of man hours that have been expended to date versus how many will totally be expended. It's not at all an -- an indication that we're not sure what we're -- that what we're going to be doing is the appropriate thing.

We are comfortable with the route we've chosen. There will be fine-tuning adjustments. There will be optimizations. And there will be just a lot of energy that's going to be spent in -- in all of the -- the studies that go on between now and the time we put a -- a shovel into the pit to take the first borrow sour -- borrow out.

So there is -- I want everyone to be clear that we're not expressing a, Oh, we haven't done the things we need to do to this point. Absolutely, I believe we have. And we've -- and we're endeavouring to allow you to -- to have -- share that same opinion.

MR. DOUG SOLOWAY: Doug Soloway, Transport Canada. Yes, I think we -- we appreciate that. And I think as a working group, that's what we're working towards, to help you and assist you and address the -- the regulatory concerns as well as the technical concerns, the public concerns, the First Nation concerns, which is an enormous task. Let's face it.

It's something that's going to be, you know, you can build it as big as you want. But yes, we realize that and it -- all it is to -- for us to work towards a -- a common understanding and agreement towards the interim, with the intent of going to final and -- and having something satisfactory that's going to be serviceable to everybody. Thank you.

THE FACILITATOR: Frank Pokiak wanted to say something.

MR. FRANK POKIAK: Yeah, thanks. My name is Frank Pokiak. I'm -- I'm the chair for the Inuvialuit Game Council. Since we're talking about

stream crossings and that, you know, we had a problem with a stream crossing in Source 177, where a culvert was put in. And that's our main source of where the fish come out into the harbour.

And last year it was observed that the culvert lifted up, so the fish couldn't actually go back up the -- up the stream. And apparently -- I think this -- this question is more to -- to DFO, I guess, if they're here.

The issue was brought up with them, and apparently they put a -- I think they thought that maybe whitefishes like, what they call those strong fish that go upstream with a fish ladder? So they actually built a fish ladder to see if they can actually go up. But I don't think that worked.

So how are they going to assure us that this don't happen in between all the stream crossings that are going to be built? You know, like, that's a problem. That's a concern that we would have, because we already see it as a concern with just one (1) tiny stream. Like, not a stream crossing, but it's just like a -- the main source of where all the fish come out of, you know.

So how -- how will that, you know, if it does happen, how will it be fixed? You know, I

think they never really dealt with that -- that culvert in time, you know, for the fish to go back into the lakes last year.

So if that continues, you know, it's going to really affect us big time and for harvesting whitefish. Thank you, John.

MS. AMANDA JOYNT: Amanda Joynt with DFO. Okay, so that was a -- a few things to talk about here. So with regards to that culvert, that was the culvert I spoke about before.

And so one (1) of the solutions is actually doing consultation with the communities and allowing that consultation to be a part of the selection criteria on what type of crossing is going to be put in on those types of steams.

The second thing is that we have already talked about and will be talking about tomorrow, that Lessons Learned document that DFO has asked for with regards to what lessons were learned with the Tuk 177 Road, with regards to fish and fish habitat and the crossings.

And the third thing is that we did actually require fish passage and the fish last year were -- they did get up, we did double-check that they were through the -- through the culvert. And, yes, it

was a very temporary solution. It was a very -- it was basically a long piece of -- of culvert that was put into the water body into the pool so that they could get up. But it was fixed this winter.

So when I get up to Tuk in September, I'm going to go and -- and monitor that. So it was -- it was supposedly replaced.

MR. WALTER ORR: Walter Orr here, from Kavik-Stantec for the developer team. The -- as Amanda has alluded to, there is a -- a Lessons Learned document that we'll be discussing. And that certainly discusses some of these things.

And the -- any crossings, whether it's utilizing culverts, whether it's using -- utilizing short-span bridges or any -- they -- they have to be done to best practice. And our intention for this road is to be done to best practice. There are specifics with the 177 Road that we address in the -- in the Lessons Learned document that will not be applicable to this regardless, in terms of the -- the timing, the -- the information available prior to the start of construction, things like that.

And there -- and I would also note that with any crossings, there are maintenance requirements. And that will cause challenges as we

move along. So the -- the -- when -- if a -- if a crossing settles, that has to be addressed. If it was to jack up and perch something, that has to be addressed.

You -- any design approach you do is -- is to do the -- the best possible mitigation be -- at the design level and the construction level. And then -- and then you work and maintain things to keep them working properly, so.

MR. FRANK POKIAK: Thanks. Frank Pokiak, with Inuvialuit Game Council. I know -- I know it's a temporary fix but, you know, I think where our concern is, if you're going to do the job, do it properly so you don't have to continue going back and forth to fix the problem, because it could affect us big time, you know.

Like if we miss a year of fishing because of fish that can't go back upstream, you know, or down, you know, you have to understand that it just takes one (1) time to -- you know, for fish not to come, and we may lose a season for harvesting.

So all I'm trying to say, I guess, is do it properly. I -- I don't want to see you go back every year to go fix a culvert, or every second year. So any stream crossings, you should make sure that --

that they're done properly. Thank you very much.

THE FACILITATOR: I think we've just kind of automatically moved into fish and fish habitat, which is the next issue on the agenda anyways. Thank you, Frank. So we're back. I just want to be clear then. With Transport Canada we had an issue there about the timing of your applications. I believe that's been dealt with. All right.

And I -- I think from the standpoint of EIRB, we're probably satisfied with the discussion of this water quantity/hydrology kind of thing. So let -- let's move on in then and talk about the -- the fish and fish habitat issues.

We've got some of the Tuk-Inuvik working group's material on -- on the table, but, please, if you have more that you want to add, why don't you lead off for us, Derek.

FISH AND FISH HABITAT DISCUSSION:

MR. DEREK PARKS: Derek Parks. I think most of the stuff -- I mean, we've addressed the four (4) for our stream crossings. I think the other items on this list will be addressed throughout the day. So I'd ask DFO to run through with the fish habitat stuff and we'll support where we can. Thanks.

MR. SARAH OLIVIER: Sarah Olivier with DFO. Before we move into fish and fish habitat questions I just wanted to, I guess, point out, since it came up in Walter's last response, about the Lessons Learned document.

And I guess we would be interested in knowing what the time frame for submitting that would be.

MR. WALTER ORR: Walter Orr here. The -- there -- we have a document, a slide show, on lessons learned from Tuk 177. And also, in fact, lessons learned we're prepared to present tomorrow when we discuss that. It's -- and so I think we'd probably defer that to that point.

THE FACILITATOR: John Donihee. Just -- just ha -- have we seen the material? I mean, I'm -- I'm happy -- it's just that I -- I'm not sure I want to -- I'd like to look at or know how much material there is there before I say we're going to find a slot in the agenda, because if it's an hour's worth of presentation time, we probably don't have that kind of time.

MR. RICK HOOS: Rick -- Rich Hoos here, from the developer group. John, I'm sorry I didn't pass it on to you. But I did talk to Eli

before the meeting started today just to indicate that we had about four (4) little PowerPoint presentations or -- or information bits, and -- and we're talking four (4) to six (6) slides per. And they were just -- we -- we developed them in case it would seem to be helpful to put some stuff on the screen to support answering any number of questions related to a particular topic.

And the Lessons Learned one (1) was one (1) that we thought was rather important. And -- and we're pleased to say that that little presentation covers more than just the Tuk 177 road, yeah.

THE FACILITATOR: John Donihee. Tha - - thanks, Rick. I -- is that the Lessons Learned Report or is that --

MR. RICK HOOS: No.

THE FACILITATOR: -- a slide show that gives us the nuggets?

MR. RICK HOOS: Rick Hoos, the developer group. It -- it's the nuggets, it's the latter. Yes, just the highlights of it.

THE FACILITATOR: Thank you. John Donihee. Then just to go back to the question from DFO then, I guess.

When -- can we anticipate that the

Lessons Learned Report will be filed in time for the Intervenors to absorb what you have to say and reflect that then in their submissions to the Board?

MR. WALTER ORR: Okay. Just -- the reason I'm not ans -- this is Walter Orr here.

The reason I'm not answering quickly is that when you say a "lesson learned report" that could mean anything from -- from one (1) page of comments to a hundred pages of -- of write-up. And I'm just -- I'm not sure what the direct -- that the directive that we have -- we -- we've been directed to respond with Lessons Learned.

And we put to -- put some points on Lessons Learned and so just, I guess, the terminology in the report -- term "report" is giving me a little bit of a pause before I can say, Yes, in fact, this is when we're going to file such a report.

THE FACILITATOR: John Donihee.

I understand your -- your concern and -- and it's a fair -- fair point to make. But I think "Lessons Learned Report" is your language, not ours. And regardless, I -- I'm quite open to the idea that, you know, have a chat with DFO and any of the other Intervenors here; FJMC, and Tuk-Inuvik working group, you know, give them some sense of what you have.

And we certainly can talk this afternoon about whether that makes people happy or sad. And, you know, then let's -- let's -- and then come back and we can put something on the record here about what exactly it is that is fair and reasonable for you to pro -- provide to all of us so that, you know, we can be sure that the Board has the benefits of this information when -- when it comes down -- time to make a decision.

Does -- does that work for you? Is -- are we -- can we just put this question of what the report is over until after the lunch hour? You chat with DFO and -- and some of the other Intervenors and, you know, the last person standing can tell us what you're going to do.

MR. WALTER ORR: Walter Orr here. Yeah, I would agree with that.

THE FACILITATOR: That still leaves us with DFO, right? Fish and fish habitat.

MS. AMANDA JOYNT: Okay, Amanda Joynt with DFO.

So it says:

"Issues raised by DFO..."

And it's pretty generic on fish and fish habitats so I'll reiterate the need for the fish

habitat assessment to be done as soon as possible so that we can -- we can do our assessment. And that is, essentially, that that final list of all the crossings and the inclusion of the latest Fisheries' Information.

It also says, with regards to short and long-term management of fisheries resources. And it says:

> "Within our submission to the ERIB that DFO will provide information on the initiatives that DFO is involved in for fisheries management along the corridor."

So I'll just review those. And -- but before I do that, I'll clarify that there's this been -- there's been this term called an "action plan" that's been provided by the proponent in some of the responses to the Information Requests.

And so we just wanted to clarify that we talked in our meeting a couple of weeks ago and it's not necessary for an action plan to be required from the proponent. It's DFO's mandate to manage fisheries resources and we're well aware of that and quite willing to do that.

But what we are asking for from the

proponent is ways that they, as DOT, can participate with our initiatives; so, it might be signage, it might be other things that DOT does well.

So just to now go into what DFO has been doing. For the past two (2) years now DFO has been working with the HTCs of both Inuvik and Tuk and called the Tuk-Inuvik working group to figure out how to manage the Fisheries' resources along the corridor. And that was brought about by a suggestion within DFO's letter of advice for the Tuk-Inuvik -- or, the Tuk 177 road to create a management initiative that's community driven.

So that group was created, it's -- DFO sits on it as an observer. And the two (2) HTCs are the voting members and they also Chair it. So they are the ones who are coming up with the ideas of how the two (2) communities are going to manage the fisheries resources along the corridor. And so that is where the interface can be between DOT and that group to participate as a component. Okay.

DR. PETR KOMERS: Petr Komers. Just -- I wonder if I may ask for clarification from DFO. You just mentioned that you need an assessment. Can you give us a sense of how much work is needed, how long that might take?

What -- how confident are you that you will receive the required information by any given time and milestone?

MS. AMANDA JOYNT: Well -- Amanda Joynt, with DFO. That's the easy part. I'm -- I'm confident I'm going to eventually get the information. What's -- what the difficult part is, is being able to put it all together.

So as I've said before, I've been receiving information kind of piecemeal. And so what I'm looking for is that one (1) table, that one (1) report that says, Here is our fish habitat assessment and these are the impacts.

And that's why we were asking for those scenarios, because we -- we know that, okay, there might be ten (10) bridges, there might be this many medium crossing, this many minor crossings. But I haven't yet received, With this many crossings here's our impacts, here's how we're going to mitigate them, here's our residual impacts.

And so that was my main message in that meeting two (2) weeks ago of what I need. So does that help?

DR. PETR KOMERS: Petr Komers. The -- could you give us a sense of how long you think that

might take until you get that information?

MS. AMANDA JOYNT: Maybe the proponent can answer that question a little better than...

MR. WALTER ORR: Walter Orr here. Now, a number of the things you're asking for are going to be included in this hydrotechnical study that we're completing right now. And as I said earlier, the -- the combined master list incorporated in the fisheries -- fisheries assessments as they currently stand, together with the -- the hydrotechnical list, the current -- the final naming convention and locations as -- as we currently have them will be provided shortly.

And in fact, I'm -- that will not wait until the -- the publication of the final report. That won't -- we will issue that separately as soon as that is done, and -- and I would anticipate that before the end of this month.

MS. AMANDA JOYNT: Sorry, when you -- Amanda Joynt, with DFO. When you say final report versus the other data, can you clarify what that means?

MR. WALTER ORR: Walter Orr here. The -- we have committed to -- to a -- the final hydro -- hydrotechnical report to be issued to DOT by the end

of September of this -- this month.

MS. AMANDA JOYNT: Okay. So Amanda Joynt, with DFO. It's -- I just want to clarify to the Board that it's difficult for me to do a technical assessment and to give that to the Board without that information.

So it will likely have to wait until after I get that information.

MR. WALTER ORR: Walter Orr here. The intent of the submission -- of the provision of the interim document was to allow the -- what information there was available to be initiated and -- and get into the hands of our -- your technical reviewers.

And -- and specifically the -- the concern that DFO has re -- expressed with the -- the master table of crossings fisheries information, we do commit to providing that by the end of August.

MS. AMANDA JOYNT: Amanda Joynt with DFO. Does that include the scenarios as well? The crossing scenarios, sorry.

MR. WALTER ORR: That does include the major -- the crossing -- major/minor bridge crossings breakdown, yes.

MS. AMANDA JOYNT: And those scenarios will include the mitigation measures too?

MR. WALTER ORR: Some of the -- some of the things DFO is asking for in terms of the -- I forget the term -- the proper term to use, but in terms of the impacted areas and things is not going to be available at this level of -- of assessment.

It's a -- that is a -- I would call it a -- a step in the process of detailed design, that we're beyond that -- we're not to that level of -- of -- of design at this point.

MS. AMANDA JOYNT: Okay. So maybe -- it's Amanda Joynt with DFO. Maybe we're getting a little confused about what level of information we're asking for.

So when I talk about a scenario, I'm talking about that specific scenario of, Here's the type of crossing that we're going to be using. There's going to be this many of those types of crossings -- possibly, maybe ten (10) to twelve (12) -- these are the types of mitigations we're going to be using for those crossings, here's the residual impacts.

MR. WALTER ORR: Walter Orr here. Yes, that -- that information is available -- will be available.

THE FACILITATOR: John Donihee. We're

having grins from DFO now, is that...

MS. AMANDA JOYNT: As long as it's clear that until I get that information, I can't provide you with a technical submission, because I can't do the assessment, so.

THE FACILITATOR: That, we know.

DR. PETR KOMERS: Just -- sorry for our confusion, but we're scratching our heads here. Petr Komers. Will you be receiving, or maybe the developer can answer that, the information that DFO requires for their assessments and permitting by the end of August or by the end of September?

MS. AMANDA JOYNT: Okay. So Amanda Joynt with DFO. I will be re -- well, hoping to receive the information for the assessment, not the regulatory phase. Yeah.

MR. RICK HOOS: Rick Hoos here, from the developer group. The one (1) point I simply wanted to make is that a key consideration for what kind of stream crossing will be employed at which stream is in relation to the Fisheries values of the stream.

And the bridges, whether they be longer bridges -- we -- we've talked about ten (10) of them -- or perhaps some shorter ones in some places, are

primarily intended to ensure that fish and fish habitat are protected. And that is the basic criterion, or one (1) of the key criteria, for making those decisions.

So when we're proposing bridges, whether they be longer or shorter, they are -- they are to ensure that fish and fish habitat are adequately protected.

MS. MEGHAN BIRNIE: Meghan Birnie. Amanda, a question building on Frank's earlier comments about harvesting. When you receive the fish assessment, will you be evaluating that in your work with the Tuk-Inuvik working group, in light of harvesting potential? So weighing those significance impacts against harvesting impacts?

MS. AMANDA JOYNT: And that was why I asked the ques -- it's Amanda Joynt with DFO. That was why I asked the question of whether or not the selection criteria included Aboriginal consultation with regards to subsistence harvesting.

Yeah, so I can only assess it from a -- a certain level and it really requires going outside of DFO, going to the FJMC and going to the communities to assess those impacts.

MS. MEGHAN BIRNIE: Will the developer

be doing any of that in its work in the fish assessment that will be submitted? And -- or -- or is that something that the Tuk-Inuvik working group -- well, can undertake?

MR. RICK HOOS: Rick Hoos, for the developer. I'm not quite 100 percent clear on the question you're asking.

MS. MEGHAN BIRNIE: The question -- my question to Amanda was that, when she receives the fish -- Meghan Birnie, sorry. When she receives the fish assessment, in her work in -- in the work that the Tuk-Inuvik working group does, will it look at the impacts as you predicted them to be on fish and weigh those against impacts on harvesting?

Because a -- an impact that may be deemed to be insignificant to Fisheries could be significant in -- in terms of harvesting potential. So I was wondering if that work was going to be undertaken in her review of it, with the Tuk-Inuvik working group. But, if I understand correctly, she's replied she can't really do that on her own. She needs that community consultation work to be done in order to weigh those.

So I'm wondering now if that's something that will be done in your work with the --

in the fish assessment that you submit to her. Will that include community -- some consultation with the community on what you've predicted to be the impacts?

MR. RICK HOOS: Sorry, I -- I -- Rick Hoos. I left my machine on, sorry. Anyway, I think this is a question that we should hold off responding to until Jim Stevens from DOT comes this afternoon, because this is a -- a commitment related to DOT's willingness and -- and commitment to consult on all the -- the proposed stream crossings. I -- I'm -- I suspect the answer will obviously, likely be yes, but I -- I would be reluctant to assume that until we hear from them.

But, you know, the stream crossings themselves, they have been presented in the EIS, they've been monitored. They're still the same streams that are being crossed. Perhaps the location's slightly different. The stream crossing -- crossing methods are being refined, and they'll be presented in the -- in the list that's presented or that's going to be provided shortly.

This information will be carried forward into the hearings. Those are further opportunities for dialogue between parties as to whether a particular stream crossing is of particular

interest and concern from a harvesting perspective.

So there will be other opportunities to -- you know, to discuss community concerns. Frank mentioned that one (1) particular stream which clearly was of great concern to the community of Tuk. We would like to hear of any other streams that either the community of Tuk or Inuvik have concerns about that we can factor into what's currently going on. Thank you.

THE FACILITATOR: Okay. John Donihee. Thanks. Thank you, Rick. We can wait till Jim comes back, and we'll raise that question again. That leaves that one deferred, plus a question of what the report, I guess, on the Lessons Learned Report really is going to include that can be talked about at lunchtime.

It's -- it's noon. I said we'd break at noon, so let's do that. Back at 1:30 sharp, please. I do want those of you that are interested in wildlife that walks instead of swims to -- to be aware that, if we can work our way through the agenda today and it's not five o'clock, I'm just to keep on going. So, you know, let's -- let's try to get through all this as effectively as we can.

We'll see you at 1:30. Thank you.

--- Upon recessing at 12:01 p.m.
--- Upon resuming at 1:35 p.m.

THE FACILITATOR: Good afternoon. We're going to resume where we left off. The one thing that I -- I just want to be sure of though was some thought that -- hope, I guess, that -- that there'd be a conversation over lunchtime about this report, 177 Lessons Learned.

I just want to know if -- if it took place. And I guess if -- if there is going to be some consensus on what the contents might be whether you could just let us know, for the record, so that the Board knows what to expect might be filed and -- and when.

MS. AMANDA JOYNT: Amanda Joynt with DFO. There was no formal meeting. There was a small discussion just offline with regards to what we had reiterated in the meeting two (2) weeks ago and -- and had done so as well in our Information Requests.

We did bring up the idea that the Tuk 177 Lessons Learned document or report or whatever it is, is a good idea in general. And that from DFO's perspective we would like a Lessons Learned on the crossing specifically. So I think it's something that

we should continue to talk about tomorrow on the agenda.

THE FACILITATOR: John Donihee. Thank you. Rick, there's a directive there, I guess, as well that's -- we're anticipating some kind of filing.

Are we -- has it been clarified from the standpoint of the developer's team, I guess, as to -- as to what you might be producing?

MR. WALTER ORR: Walter Orr here. I'll speak to the -- speak to that.

What -- we have a presentation to respond to that now. And this -- that's -- the -- the reason for the discomfort this morning was with the term "report". And in fact, we are responding to the -- the July 31st . -- .3.

"The Review Board is expecting a presentation on the Lessons Learned from experience on the Tuk -- Source 177 Road and the Dempster Highway with respect to aggregate use and construction rehabilitation.

The Lessons Learned have been mentioned to the developer in response to several IRs."

And then the Fisheries and Oceans

Lessons Learned from Tuk to granular Source 177:

"Further clarification regarding some of the challenges and lessons learned from the project and how it will be applied for the construction of crossings for this proposed project."

So we do have a presentation, it's sixteen (16) points and we are -- we are prepared to present that to the -- to the hear -- to this session today or tomorrow, whenever makes sense. It is not a report, and that's where the -- the challenge came from.

THE FACILITATOR: John Donihee. Thank -- thank you. Let -- let's hear it tomorrow. I think we want Dr. Burn to be here as well, I think, when -- when you present it.

And at that point then, you know, the parties -- the other Intervenors who hear it, if they have questions they can -- we'll deal with the questions at the time. And if there's a need for any kind of follow-up beyond that, we'll see what happens tomorrow, okay. Thank you.

So we were -- I'm not sure if we were finished with fish and fish habitat. I don't want to cut that conversation off if there's -- there's more

that can productively be said about it. So I -- I just want to come back to that point on -- on the agenda, that's number 9, and make sure that the people may have had an opportunity to think about what they didn't say, you know, this morning while they were having lunch. If -- so if you want to -- if there's anything more to be raised about that particular issue now is the time.

MS. AMANDA JOYNT: Amanda Joynt with DFO. I think most of our issues have been dealt with. I just spoke to Rick offline with regards to consultations. So I'll just say again, that I think it's a good idea that the selection criteria for the crossings include consultation with the communities with regards to the crossings they find important for subsistence harvesting, and that should be included when the decision of what type of crossing to create.

MR. DOUG SOLOWAY: Doug -- Doug Soloway, Transport Canada. We would also endorse that and probably ask that to be included with regards to the -- the uses of the water bodies, the type of vessels, as well.

THE FACILITATOR: Anything further on this particular issue from the Tuk-Inuvit -- Inuvik working group? John Donihee, thank you.

Okay. I think we'll still deal with the birds and habitat in the wildlife context, broader wildlife context. Let's move on to vegetation then, and we'll see if there's anything that needs to be raised about vegetation. We -- as I said this morning, I'm -- I think it's worth -- and we will get to wildli -- start -- start the wildlife discussion this afternoon. But vegetation first.

VEGETATION DISCUSSION:

DR. PETR KOMERS: Petr Komers. We do have some somewhat specific questions regarding vegetation. I don't recall any particular IRs from any other parties, but feel free to remind us if you do have any from the wildlife habitat point of view, if you wish.

In particular, if I may raise this issue, is -- is on the rare plants. And I wonder if the developer can give us some new insights as to what has happened with the plans for mitigating effects on rare plants.

MS. ERICA BONHOMME: Erica Bonhomme, Kavic-Stantec. I will just preface that question with some information about work that's done this summer, that was completed this summer, regarding rare plant

surveys.

So there were rare plant survey -- a vegetation verification survey and rare plant surveys completed this summer. And there was one occurrence of -- one location where Yukon stichwort was identified at Borrow Source 173-305. The experience of our biologist says one of the -- likely the best mitigation for that particular species is avoidance altogether. It does occur at the very edge of that borrow source.

So in discussions with ENR, I would suspect that that would be, probably, the preferred mitigation that would be recommended, but we've not had that discussion with ENR yet.

DR. PETR KOMERS: Petr Komers. Thanks very much for the clarification. That's very helpful.

We were also talking about the dust issue. And that's -- that's the sort of issue that needs to be considered in terms of effects on vegetation, because dust might affect vegetation health, which in turn might affect habitat effectiveness.

I wonder if the developer can clarify some of the baselines they have and how that might feed into future effects monitoring on the health of

vegetation in the vicinity of the road.

MR. RICK HOOS: Rick Hoos, part of the developer group. We're just looking up some of that information right now in the EIS.

THE FACILITATOR: John Donihee. Sure. While -- while you're doing that, I -- I just would make a point, Kayla spoke to me at lunchtime, and I -- I do want to make it clear that -- for the folks that, you know, are kind of in the -- in the back row, not -- not sort of at the front here, if you have questions or if you want to say something, as Frank did earlier, please feel free. We have a -- a mobile mic. Just raise your hand, and we'll -- we'll make sure to bring it around to you so that you can participate.

And if you really feel that you want to participate in a -- in a major way, we'll make room for you at the table. There's no particular hierarchy going on here. It's just, you know, there's -- so there's -- the -- the idea is that everybody that wants to get some clarification from the developer should -- can -- can do that.

John Donihee again. Rick, do you -- do you need a little time to -- to look for that, because we can come back to it. I don't know if there's anything else from -- from Petr.

MR. RICK HOOS: Rick Hoos, the developer Group. No, I think we're okay now.

I'm used to dealing with mining projects where mining companies sometimes carry -- well, they do carry -- they transport either ore or concentrate in trucks and there's always concerns related to potential contamination with chemicals.

We do not have that issue here to speak of with -- with the road, the Inuvik/Tuk road because it's -- it's simply for public use and we're not carrying any of those kinds of products on the road. So the issues related to dust and vegetation relate primarily to physical, I'll call it smothering, or blocking off stomata and things like that in the plants.

And what we've indicated in the EIS, depending on what literature you look at, road dust has been detected on vegetation by some people and by -- yeah, by some studies in the order of a hundred metres away, to perhaps two hundred (200) metres away, or as far away as about four hundred (400) metres away, depending on which reference you refer to.

And we did reference various studies on the common effects of dust on vegetation, they are primarily of a physical nature, although one could

conceivably alt -- there could be some alteration of leaf physiology, which I guess goes beyond physical smothering. But basically what we assessed was that the -- the zone of influence, if you will, of dust on vegetation beside the -- the highway was not very large. And particularly recognizing that in the summertime that's when most precipitation events occur, we det -- we -- we assessed that any effects of dust would be of a short-term nature, quite reversible, and so on and so forth.

And so we just don't, again, see a terribly significant effect related to dust on vegetation and how it might affect vegetation.

MR. PETR KOMERS: Petr Komers. Thanks for that clarification. So I think that what you're saying in light of your assessment of this being essentially a non-issue, is it fair to assume that there will not be any components of vegetation health tracking in the Wildlife Management Program?

MR. RICK HOOS: Rick Hoos, the developer Group. We -- we know of no compelling scientific or health related reason for doing any kind of significant monitoring related to dust emissions on -- and effects on vegetation adjacent to the road.

And we certainly haven't been asked to

do that for other normal road projects that don't have -- that aren't transporting hazardous materials like concentrates and ores and whatnot.

MR. PETR KOMERS: Petr Komers. Thanks for that. Just two (2) more questions on vegetation; one (1) related to reclamation.

Can you give us some clarification or some indication of what reclamation monitoring plans would look like? Is there any, let's say, targets for reclamation, borrow sites? How do you -- or, how will you evaluate the success of reclamation in the future?

MR. RICK HOOS: Rick Hoos, the developer Group. We certainly indicated in the EIS and in subsequent responses that there will be a need to have pit management plans associated with the development of each of the pits required for the highway.

Those are specified either by AN -- what is now AANDC for Crown lands, and the ILA for Inuvialuit lands. Each of those pit management plans also has a requirement to look at future closure and reclamation of the pits.

My recollection of the documentation that we've provided has indicated that to the extent that we can, we would practice progressive reclamation

of a -- of a pit. In other words, we're not going to expose the entire pit in the first instance. We're going to be starting at one end of a pit, probably in the area with the greatest quantities of desirable material and -- and work out from that.

As a particular part of the pit becomes -- is expired, in terms of source material, that part of the pit can be progressively reclaimed, initially by contouring of the slopes and whatnot. We are limited very much by the almost absence of -- of organic soils, or anything that resembles that, for reclamation.

We do also recognize that on the Tuk Peninsula, where this material will come from, a lot of the borrow sites are evident by the fact that they are relatively high and dry areas, often fairly limited in vegetation cover, because they are high and dry. And they attract primarily xeric species of plants that -- that can accommodate dry places.

We have indicated that, to some extent, we would be relying on natural revegetation of -- of these sites. But somewhat like growing plants on an esker, it's not the easiest thing to do, because they are very dry. But I believe we've also indicated that if there are some ways of -- of reseeding or -- or

whatnot using, of course, indigenous species, if that can at all be accommodated, we will be trying to do that sort of thing.

I think the details of -- of future revegetation definitely need more work. But there are limits within which we'll be operating. And to -- to the extent that we can identify measures for enhancing vegetation recovery on progressively reclaimed areas, that will be described in the pit development plans that will be submitted and approved prior to development of any of the pits.

DR. PETR KOMERS: Petr Komers. Just one (1) quick follow-up on that -- on your explanation. Can you give us an indication of what, if any, targets for reclamation there are? You were talking of natural revegetation. What do you envision might be the definition of a successful reclamation? Is it the pre-disturbance condition, or is it some form of equivalent capability?

Can you give us some indication as to where this might be heading?

MR. RICK HOOS: Rick Hoos, Developer group. I am going to put Conrad on notice that I'm going to be asking him for any thoughts that AANDC may have on this, in terms of targets for vegetation

recover, if you will, of a -- of a reclaimed area.

But we certainly are familiar with reclamation objectives for vegetation cover in -- in oth -- in the same mining areas, again, as an example, or the sides of highways in more southerly areas, where we do try to define percent cover as a basis -- percent cover of certain kinds of local species as a -- as a measure for how well the reclamation process is -- is going.

But I think it's very premature and difficult to establish those kinds of numbers at this stage, because we do know how challenging it is to try and grow vegetation on, essentially, sand and gravels. And it's -- it's -- as I said before, that's the very reason why, if you fly over the Tuk Peninsula, as we have done and as is still being done, it's quite obvious to see a number of the borrow -- potential borrow sites, because they are fairly bare hills and whatnot, or hillsides. And the reason for that is that only certain kinds of plants can live there. And it takes a long time for them to establish.

But I'm sure that we will have considerable dialogue with both AANDC and the ILA as to what can be done, what can be achieved, to try and restore these areas to as close to a natural

productive situation as possible.

MR. CONRAD BAETZ: Conrad Baetz, Aboriginal Affairs. Rick's correct in a sense that one (1) of the things that we strive for during reclamation of borrow sources, particularly borrow sources that aren't going to be revisited, ones that are a one (1) time use, is -- is to the pre -- to the precursor to the -- to the development in terms of what we strive for, recognizing as well, though, that a lot of this -- the -- the sources that are identified are -- are barren, to some degree.

That's one (1) of the reasons they're -- in those instances we'd be, you know, probably looking at slope stability, proper drainage, making sure that, you know, there isn't going to be issues with water ponding, water kwelis (phonetic) -- to some degree aesthetics.

Borrow sources that are going to be revisited from year after year shoot for, like I said, some of the progressive reclamation kind of things.

DR. PETR KOMERS: Peter Komers. Thanks very much for that clarification, it's very useful. Just another topic on vegetation, and that's the vegetation mapping that you recently sent out.

Just quickly, is there any field work

that confirms the vegetation mapping? Because you just -- Erica, you talked about field work that has happened this summer. Was -- or can that sort of thing be used for an accuracy assessment of those maps?

MS. ERICA BONHOMME: Erica Bonhomme. Yes. So what you have received in the past is a preliminary vegetation report that was accompanied by a file, a data file that would have only been able to be used by people who have GIS. So it was intended to be filed for people who could use it with the appropriate software.

We have completed vegetation surveys over the project study area this summer. What the -- the purpose of those surveys was to confirm the preliminary vegetation classification and to complete the rare plant survey.

So the -- the team visited twenty-five (25) sites where they confirmed the vegetation cover at those locations in respect to the preliminary vegetation that was completed. There were two (2) new vegetation classes identified as a result of that mapping.

They're in the forested areas, so the very southern end of the project, very small, small

areas. So, substantively, it doesn't change the vegetation, the preliminary vegetation, mapping that was done, but it has eliminated what was previously an unknown class of vegetation.

We are in the process of finalizing that report. And the final vegetation maps which will be presented at a 1 to 10,000 scale, so the same scale as the train map was presented at, and we'll be filing that by the 31st.

MR. PETR KOMERS: Petra Komers. Thanks very much. That's -- that's it for my questions.

THE FACILITATOR: It's John Donihee again. Does anyone else end -- or anyone who isn't at the front table have any -- any questions or concerns that they want to explore with the developer in relation to vegetation?

MR. BRUCE HANBIDGE: Don. Bruce Hanbidge.

THE FACILITATOR: Sorry, Bruce. Go.

MR. BRUCE HANBIDGE: I've got some questions concerning vegetation and dust, but it's not directly relating to the vegetation, so I just wanted -- perhaps I should wait until the -- the wildlife section.

THE FACILITATOR: Sure. Let -- let's do it when it makes more sense --

MR. BRUCE HANBIDGE: Okay.

THE FACILITATOR: -- to you. I don't think Rick and his team are going anywhere. Okay, that's it for vegetation then. We'll --

MR. JAMES HODSON: Excuse me. This is --

THE FACILITATOR: Oh, I'm sorry.

MR. JAMES HODSON: -- James, with Environment Canada. I guess I do have a question. I could bring it up during the wildlife, but it's pretty vegetation-specific. And I was wondering about the studies that were done in Alaska that looked at soil pH and changes to moss cover and liken cover, those kind of things.

Are they applicable to this situation in the Tuk Peninsula? I was just wondering if you had considered those studies and if you're going to look at that in further detail and relate that back to -- to the wildlife -- potential impacts to wildlife habitat and forage species and things like that.

So, we can bring that up again in the wildlife session if you want, but that was my question. MR. RICK HOOS: Rick Hoos, the

developer Group. We were at one (1) point -- we -- we considered the nature of the material that -- the physical characteristics of the material on the Tuk peninsula, which is pri -- primarily till and lacustrian and other sediments.

I'm not the geologist, so I better be careful what I say there. But suffice to say, there is -- there's no mineralization that would result in contamination in -- along the route, nor is there any possibility of acid rock drainage developing.

So in terms of those kinds of concerns that sometimes arise in connection with some types of road developments in some areas, that they do not apply here. So we're, basically, dealing with very inert dust generated from sands and gravels.

They'd like to have more rock than they have for this road, but only a portion of the topping I think might be crushed rock or something, but, yeah.

Sorry, and I could add one (1) other thing, and that is that the -- the typical pH of -- of all of the lakes on the Tuk peninsula, they're slightly basic, or alkaline, slightly above 7 pH, which again is a good sign that there's nothing to worry about in the way of ARD or anything of the like. It's alkaline.

THE FACILITATOR: It's John Donihee. Does that cover that for you?

MR. JAMES HODSON: Yep, that helps. Thanks.

THE FACILITATOR: I notice that Mr. Stevens has arrived. Welcome, Jim. You could come up to the front and share the pain with Rick if -- if you want.

MR. JIM STEVENS: I was going to wait for the break but...

(BRIEF PAUSE)

THE FACILITATOR: It's John -- John Donihee again. Yes, thank you. Welcome. I think there's one (1) more -- one (1) more question here with -- with our group about vegetation matters.

MS. MEGHAN BIRNIE: Yeah, I'm just noticing that in the -- Meghan Birnie, in the Traditional Knowledge Report that was filed, the section on vegetation is -- is fairly small, noting that there actually isn't a lot of available information on plants that are traditionally harvested.

And I'm wondering if there's going to

be, or if there needs to be any follow-up done in relation to that, just to confirm that the results of the assessment actually don't pose a -- an impact on the harvesting of traditional plants.

MS. ERICA BONHOMME: Erica Bonhomme. I will start with that question and then I'll invite Michael to fill in if required. So the trad -- Traditional Knowledge Traditional Land Use Study had very specific questions that were asked in regards to vegetation and those are included in, I believe it's Appendix A of the report. And they -- they were related to harvesting.

So the information in the TKTLU Report does reflect what communities feel are important areas for harvesting. That is a little bit different from the vegetation report itself, which does not focus on areas that are important from a subsistence perspective, but rather important from a community -- a plant community perspective.

So the -- I would say that, no, there is no further need to do -- collect information about areas where certain plants are used for subsistence and for medicinal purposes.

And my -- I'd like -- I'd like to ask Michael to respond in terms of the kind of methodology

he used in terms of using maps and things like that to gather the information that was from the TK holders regarding those particular questions that were asked.

MR. MICHAEL FABIJAN: Yeah, we had a -- a map that's similar to the one (1) you'd see in the report that's got the -- sorry, Michael Fabijan, that's got a -- the study area in it and the topography of the region and that -- and those are the maps that we used with that.

One (1) of the comments that came from the study, I've noticed that people do a lot of harvesting close to their communities and at places that they have access to. And the community commented that there's likely berries and things that they'll collect if the road's open, because there's lots of good places. They just don't know them and they don't access them right now, so.

MS. MEGHAN BIRNIE: And because I haven't actually read the vegetation assessment, were there some of those species that -- that people traditionally harvest, were those included in the vegetation assessment? Or how many of those were? Meghan Birnie, sorry.

MS. ERICA BONHOMME: Erica Bonhomme. Yes.

MR. MICHAEL FABIJAN: Just -- Michael Fabijan, just a comm -- to finish on the berry stuff.

The focus on the traditional knowledge work was on edible plants and things that the people were using, like the -- for tea or for actually eating. There wasn't a focus on other plants.

MS. MEGHAN BIRNIE: No. Meghan Birnie. In the Traditional Knowledge Assessment, but how many of those, I think Erica just confirmed that all of the ones that were in the traditional knowledge were included in the vegetation assessment?

MS. ERICA BONHOMME: Eric Bonhomme. I can't confirm that all of them are in there. So the vegetation assessment, the classes presented in the vegetation assessment are based on vegetation communities. So, ultimately, all of the species that you would expect to find in the tundra upland eco zone are going to be included in one (1) vegetation class or another.

They weren't specifically looked for in these vegetation studies, but the classification itself is based on the abundance of vegetation with plant types within each of those communities. So, ultimately, yes, they're all included.

So I guess I'm wondering, is there a --

something -- is there a specific distribution of plants that you're looking for? Or, I -- I guess, I'm trying to discern a little bit what information you're after.

MS. MEGHAN BIRNIE: Meghan Birnie. I'm interested in making sure that the link between the biophysical effects and the impact on harvesting is made. It -- it hasn't been made concretely in the -- and -- and let me preface that by saying, it's -- it's not necessarily the job of the -- the traditional knowledge study to go in and look at every single predicted impact in the biophysical assessment and say whether or not it -- it agrees with that -- that aspect of the assessment.

But the link still needs to be made between what is the impact on harvesters of those species, and those -- the harvested amounts that they'll have. So even if there isn't a -- an impact predicted, or a -- a not significant impact predicted on vegetation or vegetation communities, that could still have an impact on harvesting of those plants and on harvesters and the harvested amounts.

So I'm looking to see if that link has been made and where it may have been made. Because I -- I haven't found it.

MS. ERICA BONHOMME: Erica Bonhomme. That's good context. And, actually, the -- what the -- the linkage actually is important with its traditional knowledge, traditional land use report, which the -- the message we heard, very clearly, was that it will increase access to plants that would be harvested -- otherwise harvested closer to the communities, as Michael mentioned.

MR. MICHAEL FABIJAN: Michael Fabijan. People are an -- people were anticipating that they would find more of the same along the highway.

MS. MEGHAN BIRNIE: Meghan Birnie. So then a question, actually extending that further, and relating to the questions that were passed out this morning, I believe by IGC, does that access -- increased access to areas of vegetation need to be managed so that non-beneficiaries aren't berry picking and tourists aren't berry picking? And so that there -- there isn't, kind of, an increased disturbance of those vegetation communities through increased access to those areas by a -- a number of different users, not just harvesters, but recreational users as well?

MS. ERICA BONHOMME: Erica Bonhomme. I would suspect that is not a developer's decision to make. It was not something that was brought up during

the traditional knowledge workshops as a recommendation to manage harvest, particularly of plants by non-beneficiaries, although that concern was raised with respect to other wildlife species.

MR. MICHAEL FABIJAN: Michael Fabijan. There's currently no restrictions on anybody berry picking.

MR. RICK HOOS: Rick Hoos here from the developer. I would like to add one (1) other bit of information, which I know we did present in the EIS. Some of us have been going to Tuk since the 1970s and have come to know a lot of people in Tuk as a result of that. And we are very aware that many members of the community, if not the entire community, are -- have been looking forward to the increased access to berry-picking areas along the road that -- that the presence of the road would provide. And even with the short access road the last couple of winters, everyone's freezers in the community were quite full of berries, as well as some other things.

But the importance there is there is about nine hundred and seventy (970), give or take, people living in Tuk. This is about 138-kilometre long road. As Michael has indicated in the past, the only way that people have been able to access the land

reasonably in the summertime, south of Tuk, is by boat down -- down the Tuk Harbor to the end of the area called the Gungee (phonetic) area, which happens to be right next to where this road will go. That's where they have traditionally gone for berry picking. In the future, they will be able to pick berries further afield, along the -- the road.

It could conceivably become a concern, but unlikely, given the low population of people living in both -- in -- in Tuk in particular, but for that matter, even in In -- Inuvik, I don't think we need to be worrying too much yet about tourists coming up for the purpose of berry picking, but they might choose to do some of that as well.

At the end of the day, ILA manages access to the -- to the land. And if -- if a concern does arise about over-picking of the berries that occur in the summer, I guess there may come a time when that needs to be managed. But we don't anticipate that being an issue at the moment. The people of the community view it as a benefit.

THE FACILITATOR: It's John Donihee. Anything more on vegetation? Yes, DFO...?

MS. AMANDA JOYNT: Oddly enough. Amanda Joynt with DFO. A couple of questions just on

-- on how much was vege -- revegetation incorporated into the remediation strategy at water crossings.

So will it be active revegetation, or will we rely on natural reve -- revegetation? Is it included in the sediment and con -- erosion control plan as a component of that? And will it be included in the mitigation when you're creating your scenarios?

MR. WALTER ORR: Walter Orr here. Can you give me a -- a clarification on that please? Sorry.

MS. AMANDA JOYNT: Yeah. So the first question was -- is: How much revegetation is incorporated into the remediation plans for the crossings?

So the sediment and erosion control, is it going to be used, and how much has it been considered?

MR. WALTER ORR: At the present time, we were -- we have been anticipating doing a similar type of end treatment erosion control as -- as we have carried out previously for the Tuk 177 Road, with erosion mat and together with the placement of -- of riprap.

We're certainly open to discussions on -- on specific details of that as we move in --

through the design process. But our current anticipation is to be a similar approach to that, which seems to have been working reasonably well.

THE FACILITATOR: John Donihee. I'm not going to ask again. Can we move past vegetation? Any more questions on vegetation? I'm -- I will ask again. We're okay? Okay. We'll move on then to the next topic, which is route selection. And our -- I think a little bit of what the Tuk-Inuvik working group has identified -- has talked about this morning, but there's three (3) or four (4) issues there in item number 12 on the agenda.

So why don't we move on to those particular issues?

ROUTE SELECTION DISCUSSION:

MR. BRIAN ZYTARUK: Brian Zytaruk from FJMC. I'd like to make a request before I get into questions. This morning, we heard that the alignment sheets are complete. I would like to request that the alignment sheets be tabled for the review of both the public and the committee.

MS. ROBYN MCGREGOR: Perhaps I'll just make a correction on our discussion this morning. The alignment, the preliminary alignment, is crafted in

its design file state at this point; 11 x 17 plan and profile sheets of the alignments are not yet -- are not done. We have the information in our design files.

MR. BRIAN ZYTARUK: Can you clarify when those might be available for public review?

MS. ROBYN MCGREGOR: Given direction from DOT, we could process those in a matter of weeks, create the 11 x 17 plan and profile sheets for -- for viewing, but the question would be, so that we could be clear on -- on what really is the -- the information that needs to be presented, other than from a design perspective, what would be the need for those sheets and we can be sure that that information is -- is clear in them.

MR. BRIAN ZYTARUK: Brian Zytaruk, from FJMC. Really, I'd like to see an overlay with the vegetation typing, the crossings identified, so that the public, in particular, can visualize what's being proposed here.

MS. ROBYN MCGREGOR: If you're looking at it from a plan perspect --

THE FACILITATOR: Why don't you just remember to give your name.

MS. ROBYN MCGREGOR: I'm sorry. It's

Robyn McGregor. If you're looking at it from a -- from a plan perspective and not a profile perspective are -- is the mapping that has been provided with the vegetation on a particular sufficient for your use?

MR. BRIAN ZYTARUK: I -- I do believe we need the profiles as well for other evaluation purposes. Brian Zytaruk, sorry, FJMC.

MS. ROBYN MCGREGOR: Robyn McGregor. When we di -- when we discussed this -- let's -- let's give a clarification on the deliverable.

A plan and profile sheet that simply shows the current preliminary highway alignment in plan view with the digital data of the aerial photo -- photographs behind it, plus a grid below it showing the vertical alignment of the existing ground and the vertical profile in the current preliminary design could be created in a matter of weeks.

To take the drafting time to layer on top of that the vegetation or any other detailed information that you would be looking for, I would need to take some time away for Walter and I, and -- and Jim and others to discuss how long that would take.

MR. BRIAN ZYTARUK: That would be fine. I'd -- but I would like to see those tables. I

think the public would -- Brian Zytaruk, from FJMC, sorry. I think, in general, the public would have an easier time visualizing the project if we had that information available at this time.

I just think it would be much more useful to -- for people to be able -- and I'm surprised that -- that that kind of information wasn't used during the public consultation phase.

But, in any event, I think it -- it's timely that we get that information out in the public and we're request that we do that as soon as it's practical.

THE FACILITATOR: John Donihee. As the non-engineer in this conversation, I -- I guess I -- can -- can -- Mr. Zytaruk, can you ex -- just tell me a little bit about what it is that this information will enable the Tuk Working Group to -- to determine, that will advance the -- the impact assessment, because I'm -- I'm hearing the -- the developer's Group say a couple of weeks and the difficulty that we have time wis -- time wise is just that if -- and I don't -- I'm not debating the question of, you know, whether this would be very useful for the public and -- and for the regulatory process which will follow, but the problem that we fall -- fall -- run into on

our side of the table here is just that if we can't get this information to you in a way that will help you and allow your submissions to the Board to reflect what you learn and -- and how you respond, it -- we don't have a way to -- to make that make a difference in -- in this process.

MR. BRIAN ZYTARUK: Brian Zytaruk, from FJMC. Well, my understanding, based on our discussions this morning was that the information had been complied at this point.

I do believe that that sort of a pictorial presentation is a lot more readily understood, especially by the general public, but it will provide details with regards to all the crossing locations, give us a much better understanding of what the project looks like, and I just think it'll make the evaluation that much easier at this point.

THE FACILITATOR: John Donihee, then back to the developers group, I guess. What -- what's really possible? Because, you know, the -- in the time lines that are available, I guess, that's -- that's the difficulty that we're wrestling with here.

MS. ROBYN MCGREGOR: Perhaps if we have an opportunity to take a break this afternoon I could discuss that with Jim Stevens and then we would

be able to give you an answer, specifically, as to what's possible to deliver.

THE FACILITATOR: Sure. I -- I'm getting nods from Mr. Zytaruk, so let's leave that to the break and let's hear from you after we -- after we come back from the break.

I guess with that said, was there anything else then that -- I -- I take it that request covers all four (4) -- all four (4) of those points?

MR. BRIAN ZYTARUK: Sorry, Brian Zytaruk, FJMC. It -- it actually covers most of the detail there, if we can pry that information loose. We would like to see a little more information on life cycle costs, with respect to the -- the road over whatever period the developer deems necessary. A twenty-five (25) year period would be nice.

It would be useful to see it for the comparison of the upland route and the preferred route. And I know that's difficult at this point, based on the information they seem to have compiled. But we would like to see what information is available on that. Thanks.

MS. ROBYN MCGREGOR: Robyn McGregor. I -- I have a -- a question of clarification. By simply asking for readable alignment sheets that show

you the vertical profile, I -- I don't believe that's going to answer the questions you have in your letter under route selection.

I think you're -- because you're asking specifically for the criteria used, you are asking about life cycle costing and cut and fill calculations. That's -- if you would like, I'm prepared to respond to some of those questions right now.

MR. JOHN DONIHEE: Well, let's do what we can today, please.

MS. ROBYN MCGREGOR: All right. Maybe -- maybe what I can do is -- you did specifically just -- Robyn McGregor. You did specifically ask about life cycle costs, but I -- I will refer to both the items in the agenda and in your letter of -- of August 20th. And because they are in quite good order and allow me to kind of stage the information that I'm presenting.

The first thing that I think it's important to understand, when we are looking at alternatives and -- and even when we begin sketching lines on the map and going out into the field, that this isn't a process of which comes first, engineering or environmental.

In the twenty (20) years I've been working on this project, including the days back when I worked with Gurdev, for DOT, we learned very quickly that it wasn't a matter of the engineers sketching a line on the map and getting close to construction and then going to the environmental scientists and saying, hey, what all we're doing. Nor could we go to the environmental scientists and say, tell us where we can or cannot build the road. That -- that it was an integrative and interactive process.

And my colleagues here will tell you that there was never anything more adventurous than in September of 2009, when we went out first to do the field program, building on the work that Public Works had done in 1970s and I told the engineering team, the environmental team, the archeological team and the terrain team, Don't come back until you all have a good common sense of where you're going to build the roadway.

And -- and so I think it's important for all of us to understand that in making route selection, that the engineering considerations and the environmental considerations go hand in hand. And there is a -- a highly diversified team that works closely together to -- to build the work that you've

seen today, in an integrative manner.

When you asked the question, What is the detailed criteria under which we -- we choose the route alignment and make comparison of route alignments, I refer you to -- to two (2) places.

Section 2.2 of the EIS gives a very detailed comparison of alignment options. And that would include the consideration of the alignment for the upland route, the original 2009 primary route that we started with, and at the time, the alternative for the 2009 minor realignment around Husky Lakes.

Those criteria in that comparison of alignment options, which is truly a multi -- multiple accounts analysis includes environmental factors, economic factors, social factors, and technical factors.

Technical factors, indeed, include the life -- the -- the observations of maintenance and operations into the futures and there's at least five (5) or six (6) subfactors under each of those factors that are considered and they're evaluated with consideration and technical and specific measurable items in there. So I -- I encourage you to take a look at that section.

You can also, further to that go to our

response to Information Request Number 2. And that's where we take the same approach to the evaluation. And with the information we had on hand in February of this year for -- this year? Sorry, February of this year for Alternative 3, which is the 2010 minor realignment that we are discussing now, we were able to evaluate it under most of those same factors and compare it to the other alignments we were considering.

So with -- without going into too much detail, I -- I encourage you to go and -- and look at those sections to -- to see the results of the evaluation, but to remember that the routes were built on the consideration of environmental factors, economic factors, social, and ultimately technical factors together.

You ask about life cycle costing analysis. It's a very good question. And in fact, the idea of what -- how do we compare routes relative to each other not just simply with construction costs or the footprint we're going to take up, but what's the level of effort and the quality of life that's going to be delivered in the maintenance and operations of the highway into the long-term, into the future.

As roadway construction people we've learned that you -- you cannot just simply build the highway and leave it. I worked enough years in highway operations that at the end of the day you end up with the burden of what is going to be built and you have to maintain it, so you hope you have a good product.

In the comparison of these alignment options we looked at maintenance and operations from a qualitative perspective relative to the potential for snow blowing and drifting snow, which would be the consideration given the upland route and highway closures due to poor weather.

We also looked at where the abo -- where that kind of thing is not really a consideration, which is within the other alignments, because they would all be equal relative to their -- the ability to -- to trap and collect drifting snow and the effort that it would take to keep the road maintained during winter operations.

We look at what it would take, really, to keep the road maintained during other times of the year in terms of length of highway. The longer the highway is the greater the cost for operations and maintenance. So we have compared them in that

perspective.

We have talked about the centre line profiles. Just, again, to tell you the design files, the -- the -- in their format that they've take, an AutoCAD design file take that we used to -- to -- to -- to develop the constraints and the factors in the evaluations.

If you're a roadway designer, you can look at those files and see them today. If we want to present them such that they are in a usable format such as 11 x 17 mapping sheets in PDF, they need time to be processed so that they can be published. And that's the time and the effort that Mr. Stevens and I will discuss on the break and we will come back to with an answer.

Your final question in this section was regarding to seeing the cut/fill calculations. The first thing I'd like to point -- remind us all to is that this is a fill-only construction, fill-only construction. Walter and I both, in our careers, have made mistakes in the past of cutting into the permafrost, not learning the lessons learned thirty (30) or forty (40) or fifty (50) years ago and -- and we know now. And the -- the -- all of the guidelines now point us to those lessons learned.

And in an ice rich permafrost environment, it's a fill-only consideration. The quantities required for embankment construction and surfacing material are all detailed in the EIS and in the subsequent responses to Information Requests that I mentioned before. Thank you.

THE FACILITATOR: And thank you. You'll have that conversation then at the break and perhaps we'll come to closure on the -- on these points.

MR. BRUCE HANBIDGE: John, Bruce Hanbidge.

THE FACILITATOR: Sorry. Yes, Bruce.

MR. BRUCE HANBIDGE: I've got a -- I'm not an engineer. I didn't follow most of that, so if I could just ask a couple simple questions here.

THE FACILITATOR: All right. Sure.

MR. BRUCE HANBIDGE: Real simple. You've identified the borrow pits, you've got volumes in them. Do you have enough road -- borrow pits? That's a "yes" or "no."

MS. ROBYN MCGREGOR: Yes.

MR. BRUCE HANBIDGE: Okay. So in --

MS. ROBYN MCGREGOR: Robyn McGregor. Yes.

MR. BRUCE HANBIDGE: Okay. Bruce Hanbidge again. So you're not going to be looking at other borrow pits, opening up other borrow pits, other than what you've identified so far?

MS. ROBYN MCGREGOR: Robyn McGregor. We have a presentation tomorrow when we come to talking about granular resources that will answer those questions specifically.

MR. BRUCE HANBIDGE: Could we get a "yes" or "no" now on that?

MS. ROBYN MCGREGOR: In the presentation tomorrow, you will see that we have seven (7), six (6) -- seven (7) primary material sources that we have now narrowed our focus to identify for --

MR. BRUCE HANBIDGE: Yeah.

MS. ROBYN MCGREGOR: -- constructing the road. Those material sources, with the exception of two (2), need to have a drilling program similar to the one that we had this winter to prove the resources, and then that will prove out the available resources.

The literature and the previous investigations that are available on all of these sources tell us, with reasonable certainty, that there is more than enough material to construct and operate

the highway.

MR. BRUCE HANBIDGE: Okay. I'll just -- Bruce Hanbidge. I'll just clarify why I'm asking, Would you be considering to open up more borrow pits or not is for the habitat assessments and the wildlife assessments. If we don't know there's a -- there's a delay, I'm just looking at time for us to be able to do our job if you're saying you need more.

MS. ROBYN MCGREGOR: In the presentation tomorrow, you will see that we are committing to certainty -- to primary sources that we are expecting to use for construction of the highway.

MR. BRUCE HANBIDGE: Thank you.

MR. JOHN DONIHEE: And -- and just to be clear that you understand in making those commitments that the scope of the development will be defined that way. And what that means, if you don't play environmental assessment games all the time, is that, in -- if -- it's outside the -- those -- if other areas are outside the scope of the development, if you need to go to those other areas, you'll have to make application, and it'll go back into the screening process, and we'll just see where it ends up.

MR. RICK HOOS: Rick Hoos, Developer group. I -- I think what you'll see in tomorrow's

presentation is the preferred primary borrow sites that we now know about, but a few others as well that we might want to investigate, depending on the results of completing -- of further investigations at the existing sites. Is that correct? Are there some other possible ones beyond the seven (7)?

MS. ROBYN MCGREGOR: No.

MR. RICK HOOS: Okay. Boss says there's only seven (7). Yeah. See the presentation tomorrow is the direction I'm being given. Thank you.

THE FACILITATOR: It's John Donihee. I guess I'll have to settle for that direction as well. Route selection. Anything else there?

(BRIEF PAUSE)

THE FACILITATOR: Well, it seems like it's early. Maybe we -- I guess we can move on into wildlife. I don't want to take a break this early for fear of losing you.

MS. AMANDA JOYNT: I just have a question. Amanda Joynt with DFO.

Are we going to address the Inuvik Hunters and Trappers Committee questions as well, or is that going to be worked into the agenda?

WILDLIFE AND WILDLIFE HABITAT DISCUSSION:

THE FACILITATOR: It is going to be worked into the agenda. I spoke with a lady over here this morning, and she wanted to kind of get a feel of the flow of this meeting and everything, and felt that, if she could have time tomorrow morning to -- to deal with her -- her questions, that that would be better. So that's where we came to on that.

Okay. Let's move on then to -- see, this way, we can skip 13 and 14 on the agenda and move on to wildlife and wildlife habitat. Let's -- yes. We're going to do birds and -- and their habitat first as -- as the items, because it was scheduled actually to be done earlier. So perhaps I can go -- leave -- leave it over to my friend from CWS, and there are a few questions there that may lead us off, please.

MR. JAMES HODSON: Thanks. James Hodson with the Canadian Wildlife Service. My first question's pretty general.

I'm just wondering, aside from the activities associated with bridge and culvert installation, what other activities do you foresee occurring during the summer for this project?

MR. WALTER ORR: Walter Orr, Kavik-Stantec for the developer. There -- when we say

"largely winter construction," what we're meaning is the placement of the great majority of the embankment material will be placed during the wintertime.

There will be summer construction on the embankment itself that will include compaction of the surfaces, it'll -- grading and compaction of the surfaces, grading and the compaction of -- of the side slopes of the road to minimize erosion potential, and the placement of the surfacing material and compaction of that material. In addition, we will com -- the bridge installations will be completed during the summertime.

MR. JAMES HODSON: James Hodson again with the Wildlife Service.

Is there any work that will be taking place in the borrow pits during the summer?

MR. WALTER ORR: Walter Orr. There is -- we don't anticipate that at the present time. As we -- as I noted earlier, the construction only borrow sites we are anticipating to only access via winter road and that would include, in fact, getting equipment into them.

That -- so, we don't anticipate that. I can't guarantee it because some of that work waits to the further characterization of some of the sites

which we'll discuss tomorrow, but we don't anticipate it.

MR. JAMES HODSON: This question is related to the field work that was done this summer, specifically TR (phonetic) results for short-eared owl and some changes that you made to the habitat suitability model for short-eared owl.

You identified -- you re-classified cotton grass tox -- tusic (phonetic) habitat as kind of the most suitable habitat type for short-eared owl in your model. And I notice that Borrow Source 314/325 occurs within that habitat type. And the footprint from that borrow source would remove about one-third of that habitat type from within your -- that 1 kilometre corridor within you match vegetation.

So, have there any -- been any discussions of either dropping that borrow source as an option, or mitigations to minimize the amount of loss of that habitat type which might be important for short-eared owl?

MS. ERICA BONHOMME: I'll just start out -- I think maybe a couple other people can jump in here -- Erica Bonhomme, sorry.

Yes, you're correct. The borrow source 314/325 does -- based on revised modelling and field

verification or field -- revised modelling as a -- as a result of field verification does show high potential for short-eared owl habitat.

But to remind people that the mapping was done within a 1 kilometre study corridor and at the borrow sources doesn't mean that there isn't other short-eared owl habitat nearby; there very likely is because that habitat type is actually quite prevalent in -- or, that vegetation type is actually quite prevalent in -- in the area and may -- there may be other occurrences of it.

314/325 I will let the developers -- or, the engineer speak to in terms of its importance in the sequence -- or, in the -- as it -- its use as a primary borrow source. It is being considered as a -- as a primary source for development. I don't think it would be considered to be not included as a primary source for development.

It is also expected to be used as a source of development -- or, as a source for borrow material throughout the operational phase of the project, in addition to construction. So, I would suspect that mitigation for short-eared owls -- for short-eared owl habitat at 314/325 would be a discussion we would have to have with CWS.

MR. JAMES HODSON: Maybe just to follow-up on that. So we have the results from the field surveys this -- this summer and we realize there is more analysis to be done for the cumulative effects assessment and impacts to the wildlife habitat.

So that's something that we would be looking for, is just information on what is the availability of that ha -- habitat type within the cumulative effects region. How might it be affected by other foreseeable projects, just to get a sense of how much other habitat is remaining and what the impact is on a broader scale.

MS. ERICA BONHOMME: Erica Bonhomme. We have been working with our colleagues at ENR regarding that. And I -- I wonder if Gavin might be able to provide some insight on some of the available data that we've obtained from both CWS and ENR on a more regional scale in regards to short- eared owls.

MR. GAVIN MORE: Gavin More, GNWT. I think the answer there is what we need to do is take a look at the USD classification against the plant community. There is a version of that in the EIS or one (1) of the other documents.

But the key is, we have to make sure that we come as close as possible to the key habitat

as assessed under the -- the 1 kilometre. So I think it's possible. In fact, we may have already done it, if we're really lucky, that is.

But that, I think, is the key. We have to make sure that the USD classifications that we used before for DOT's responses are as close as possible matching the new approach to what we think the typing is for short-eared owl best habitat. And basically, the intent is -- is to do that.

So I don't -- it's not a wish list of -- - that we're going to be thinking about it. We will do that. The -- the issue that will come to light from this one, will be which species can we drop from worrying about doing a cumulative effects assessment, based on the either limited habitat, or no habitat in the area based on the summer's work.

MR. JAMES HODSON: Thanks. James Hodson, again, with the Canadian Wildlife Service.

In your habitat impact, in the tables you provided which gives a breakdown of how much each habitat type has contained within the footprint, I guess there's no footprint within water bodies, because the alignment generally avoids them.

But I'm just wondering how you're going to deal with adjacency to the road, in terms of sort

of a zone of influence effect on water bodies, when you're looking at potential habitat loss or habitat degradation, just from being adjacent to the -- to the highway.

So if, at this point, you have any idea of what you'll be using for zones of influence for that type of -- to answer that kind of question.

MS. ERICA BONHOMME: Erica Bonhomme. We have, as we've discussed in previous meetings with you and ENR, some zones of influence that would be suitable for rusty blackbird, for horned grebe and for short-eared owl, or did we -- did we do short-ear?

So we have done some preliminary metrics on those zones of influence that we've discussed as being potentially suitable for those species. We are in the process of revising some of those numbers to account for some gaps in data that we had for some of the -- the primary borrow sources that were -- we didn't originally have data for.

We will be providing those revised metrics to ENR at their request. And I suspect those will be useful in the proceedings.

MR. GAVIN MORE: Gavin More, GNWT. I can read into the record the specifics. It's no different than the contract specs that -- that CWS saw

a couple of weeks ago.

But basically, for grebe -- horned grebe, it was 100 metres from the edge of the roadway, 100 to 250 metres. For rusty blackbird, it was 150 metres from the edge of the roadway, and one hundred and fifty (150) to three hundred (300). And then none for short-eared owl and none for peregrine. And then, the one, of course, we're working on is grizzly bear.

MR. JAMES HODSON: James Hodson, Canadian Wildlife Service.

Could you just clarify, maybe, your rationale for not having a zone of influence for short-eared owl?

MR. GAVIN MORE: I can't, because we left that up to Marcel as the expert on short-eared owl.

MR. BRUCE HANBIDGE: Zone of influence for grizzly bear, you say you're working on it. When might that be available?

MS. ERICA BONHOMME: Erica Bonhomme. Sorry, I had two (2) questions there going at the same time. So maybe we can just respond to Gavin's question first.

For short-eared owl, we're using the 500 metres on either side of the alignment as the zone

of influence.

MR. GAVIN MORE: Gavin More, GNWT. Could you also answer the grizzly bear one?

MS. ERICA BONHOMME: Sorry, maybe you could repeat that one for me.

MR. BRUCE HANBIDGE: What -- Bruce Hanbidge. What is your zone of influence along the road for grizzly bear?

MS. ERICA BONHOMME: Erica Bonhomme. Grizzly bear, we are doing the 1-kilometre study corridor where -- for which we have very detailed vegetation, slope, and aspect information out from one (1) point -- from one (1) -- 500 metres from the centre of the alignment to -- to 1.5 kilometres from the alignment. We are doing grizzly bear den potential -- we have -- we have done grizzly bear den potential mapping using slope and aspect.

MR. BRUCE HANBIDGE: Bruce Hanbidge. Yeah, I -- that's what I've read in the report. I was just asking: What is the basis for that, your reference, your source for selecting those distances?

What is your basis for a zone of influence, is my question.

MS. ERICA BONHOMME: Those zones of influence were based on conservative assumptions about

potential impacts to grizzly bears dens. Some of those are in reference to information WMAC has filed. So it's a general, conservative buffer on either side of the alignment, and it's not based on any specific literature.

MR. GAVIN MORE: Gavin More, GNWT. The basis for the setbacks -- and we've been reviewing the seismic guide that has a setback of a hundred and -- 1.5 kilometres as sort of the maximum.

Basically, the way the literature goes, if you go back to the work that John Nagy and Lee Harding did in the '70s, particularly around Richards Island, where there was fairly extensive oil and gas activities going on, basically they found bears had denned quite successfully within 1.4 and a few more kilometres after that from those activities.

And the -- the key there was what people then -- if you continue that to some of the other literature from Alaska and places, people basically found that it was known that within 1 kilometre or so, bears successfully denned within close proximity to -- to, particularly, oil and gas activity.

So the key there was nobody seems to have pushed the limits down past that. So basically

it's what one would call a conservative estimate. So in the seismic guideline, ENR put in one point five (1.5) as the most conservative estimate possible. But the truth of the matter is there's very, very little information, other than direct disturbance of a den, that would indicate that -- that even five hundred (500) is not conservative.

The issue for this particular project, for the mapping that Stantec was doing, is a bit revolved around the limitations of the size of the local study area. So the key there was -- the reason why it's been pushed out a little more using pretty well more topography, because those are key aspects to -- to -- to denning habitat.

But the -- the key there, for us, was to really try to use this exercise more to try to figure out if there are some key possible areas that the project would take place in, particularly the -- what people had always mentioned as being one of the most likely areas gravel sources.

So the key for us was trying to come up with more predictive mapping so that when the searches are done for den activity in the fall months, that we're very sure that we're actually searching in the right areas.

And then the other -- other part of the discussion -- and I'm not sure we've really landed on something that would be possible -- is that whole idea, is -- is there a way to prevent bears from actually starting to den that early in the year, in the areas in that the -- the primary winter construction activities will take place in?

So from the point of view of disturbance of bears, we think, from a zone of influence after that -- once traffic is normalized on the road and the sounds become sort of regular routine, that we're actually anticipating a zone of influence probably 500 metres or less.

But it really still depends on: Is there habitat available to begin with? And that's the other part of the exercise, is there's nothing that we can monitor against and say that bears aren't denning after the road's construction if, in actual fact, they wouldn't have been there anyways because there wasn't appropriate habitat available for them.

So it's that kind of balance act of trying to get some information now that we can use for the post, both the construction, but also the -- the post-operations monitoring.

THE FACILITATOR: John Donihee. We

seem to have gotten away from the birds. I don't want to -- I -- I don't want to lose the birds if -- if you aren't finished, so let -- let's come back and make -- I just want to make sure that CWS has had its opportunity to -- to have its issues dealt with, because I'm sure we have much more to talk about in terms of mammals.

MR. JAMES HODSON: Thanks. James Hodson with the Canadian Wildlife Service.

Just wondering if I could get an idea, then, of the timeline for the cumulative effects assessment using the information that you're going to provide to the ENR, when we could expect to see that before -- I mean, relative to the final hearings that are coming up?

THE FACILITATOR: John Donihee. I -- by all means, get the answer to that question, but I -- I'd really, Gavin, maybe appreciate some clarification.

What exactly is the role that ENR is playing? You know, my understanding is you're -- I mean, you're part of the Government of Northwest Territories and part of the developer, but certainly -- and I -- I'm -- I welcome it if that's what you're doing, but the impression I have is that ENR is also

providing sort of independent kind of wildlife science advice or some -- something along those lines.

And I -- I just -- it would help to understand exactly what -- whether you're -- you're telling us these things as part of the developer, or whether you're in fact telling us as an independent scientific advisor, which, as I said would welcome. But I'd -- I'd just like to know the -- the difference.

MR. GAVIN MORE: Gavin More, GNWT. It's a bit of both. The commitment from our deputy ministers, after the project description had been filed, was for ENR to help the DOT. My normal role, of course, is to coordinate all the GNWT departments, so basically, that was -- sort of came in as a tail part of it, although the -- the greatest emphasis we've placed is working on the wildlife.

The other part of it is that -- and I think there's been evidence filed -- is that nowhere in Canada does a Department of Transportation take on the roles of other government departments. Typically, Departments of Transportation are part of a bigger government system, and they have their limitations.

So the key on this one was always that we knew that ENR would end up taking on a fair

responsibility, both in terms of some of the design of some of the mitigations, some of the implementation parts, providing expert advice during the development of materials.

And, of course, my philosophy is always try to get it done as part of the EIS rather than having to debate in public over these things. So the other -- the other part of it was to make sure that we had a stronger role in making sure that our interests were being met.

In terms of the expert advice, part of it now is just that, particularly with the questions that Petr's asked as part of the IRs. When I was on holidays in Arizona, it put me onto track that -- that people were still, in my mind, missing some of the likely evidence that could be very useful for this project.

And then the other part of it really was, as I -- we were working through that, the idea that, since we were doing this other vegetation and habitat work, that adding the grizzly bear analysis through Stantec became useful. So part of what we've been doing is using -- putting requests in to -- to DOT to have their consultants do some of the analysis that -- that we think will be useful for our work.

The other part that we're, of course, doing is the wildlife effects monitoring plan -- or program, rather, and part of that then -- and you've seen some of that in the IRs. We've actually started to -- to move some of the work that we were doing for Caribou Forever into starting special collar types and more collars on two (2) of the herds so that we have that information coming in as part of the effects monitoring.

So the role we've been playing is that combination of getting as much as we can in appropriately to the Board through DOT, where possible, but we're getting to the point now where the independence of what our position is and our thoughts is becoming more apparent. So the IR responses that -- that you saw sort of lead into that, so --

And then the other part, of course, is that a number of the species are under the management of the GNWT, even though they're listed under SARA or under federal legislation.

And one (1) of the final points always, when there's no management plan, is the advice of the jurisdiction, and so the key here is we have a big interest in making sure that whatever is done in terms of the -- the assessment and -- and the determination

of what we need to do for -- for monitoring mitigation, since we will likely will have to undertake a lot of it. We want to make sure that's appropriate.

So we're basically -- the key for -- the bottom line for us is to try to get the best information for the Board, but also to make sure that the material that's developed since we have co-management partners that will come into play in the future, that that information also starts to look at and answer some of the questions that they've been raising through the process.

THE FACILITATOR: It's John Donihee again. Thank -- thank you. I think that helps. I -- let me try to put it in more specific terms. A moment ago there was a question about zones of influence for short-eared owls. Ms. Bonhomme said that something in addition was going to be worked on and she'd be providing information to ENR.

The question came from CWS. And I guess I'm wondering, you know, how this turns up on the record, if it does, in a way that actually helps the Board.

Because if all we have here is one (1) part of the developer communicating with another part

of the developer, that's fine too, as long as the end result is that there's going to be some change in the materials that the developer's filed to reflect, you know, the issues and concerns that have been raised by the Intervenors.

Now, am I being clear? You know, I -- I guess I'm -- I'm having a little bit of difficulty with this distinction, because I don't -- it doesn't trouble me if ENR is -- is assisting the -- the developer at all.

I mean, any party here can and should work with the developer to help them put the best case forward to the Board. But when changes to filed materials or new monitoring plans or something like that are -- are in the offing, or in the works, I guess I'm just wanting to make sure that we're actually going to see these things reflected in the record at some point so that the -- the Board gets to consider then when it has to decide what impacts are significant and what measures to recommend.

So I don't know if I've helped either, but if -- if she provides the information she mentioned to you, I guess I'm just make -- I want to make sure that CWS is going to see that at some point so it affects what they tell the Board.

MR. GAVIN MORE: Yep. I think that's the key, CWS has actually been involved. From my point of view, the kind of letters that CWS has put on the record aren't helpful to the Board because the intent of the developer and the commitments were always to work with CWS.

So, in this particular case, we made sure that CWS was involved, they saw the contract specs, they saw the drafts, they received a set of the drafts of material that were issued to the Board on Monday. They received it directly.

So they've been involved through this process. They're not as interested, of course, in the grizzly bears. That was an add-on that -- that we developed over the last few months realizing the advantages of the vegetation mapping and the LiDAR.

But basically CWS has been involved and the key, based on the letters, was to make sure that they also had input so that if they didn't like things like the certain zones of influence that they had a chance to do that so that the next assessments that are done better meet the -- the concerns that they raise with the Board.

MS. ERICA BONHOMME: Erica Bonhomme. I'll just provide a -- a commitment on our part, which

is when those calculations are completed we will make them available for all parties to see and comment on -- Erica Bonhomme, and do as they wish with.

THE FACILITATOR: Thanks. It's John Donihee. The obvious question is then: When will they be done and will they be done in a way that they can be available in order to influence what's told to the Board at hearing time?

MS. ERICA BONHOMME: Erica Bonhomme, yes, within a matter of days.

THE FACILITATOR: Thank you. I'm sorry to hijack things on you, James, but are there -- any -- anything more from CWS?

MR. JAMES HODSON: Yeah, James Hodson, with the CWS.

Maybe just to clarify what we are expecting as an outcome of filing those letters with the Board earlier was an additional report to be submitted to the regis -- registry by the developer with accumulative effects assessment for species at risk, which was to be based on -- partly on the outcome of the field surveys that were conducted this summer.

So what we have now is a report from the developer, which gives the results of their field

studies, but it's -- it still hasn't -- that cumulative effects assessment still hasn't been completed.

And my understanding from out meetings with the developer and the ENR so far was that Kavik-Stantec was going to supply the results to ENR and ENR would be using those results to update the cumulative effects assessment and submit something to the Board so that it could be considered by everyone.

So I guess where that leaves us is, we're still expecting a report to be submitted to the Board at some time, hopefully before the final hearings.

We probably won't be able to comment on it in our technical submission, just given internal deadlines and the deadlines for submitting the first draft to the Board.

So, it could be that we have questions at the final hearing, and then in our final submission to the Board, we'll be able to put something together more formally in writing, as a response to that submission.

So, I hope that clarifies where we were coming from with our letters to the Board. Essentially, those letters were also just to give our

perspective on what our ob -- obligations were, requirements were, under the environmental -- Canadian Environmental Assessment Act for considering species at risk and cumulative effects.

I have one (1) last question to do with the field data. You considered water birds as one (1) of the groups. And within water birds, you considered water fowl and shore birds and you pre -- presented the results of your aerial surveys.

But you also did point counts, which were intended to detect whether rusty blackbird was present or not. But I'm just wondering if you have any additional observation of shore birds from those surveys, because that might be more appropriate to detect some species of shore birds than aerial surveys. And if you would consider providing the results of your point counts, in addition to your aerial surveys.

DR. MARCEL GAHBAUER: Marcel Gahbauer, Kavik-Stantec. Yes, we did, through the point counts, observe a number of shore birds. We have the -- the data compiled. We -- I believe in our last conference call with Environment Canada we did talk about submitting all of the point count data. And we're just -- we were -- I think we agreed to wait until we

received instruction on what format you preferred it in, but we have those data available.

We did certainly see a number of shore birds there. For the most part, they were the same species that we had from the air. There were a couple of differences. I don't know if it's of any value to go into those details now, but certainly we -- we can provide that. We just need to discuss what -- what format it's convenient for you to receive it in.

MR. JAMES HODSON: It's James Hodson with the Canadian Wildlife Service. We can get back to you on -- on the format. And maybe that's something that can be submitted, just as an addendum to that report that you submitted already.

MS. ERICA BONHOMME: Erica Bonhomme. Just a question of clarification.

What -- the -- there is a table within the report that documents the species that were observed. So I'm not exactly -- we will provide the data -- data to CWS once you tell us what format you would like that in. But I'm confused as to what we should submit to the -- the Board as a -- as a report.

MR. JAMES HODSON: James Hodson with the Wildlife Service.

I guess we'll have to talk a bit about

-- more about it, but if there weren't any new species detected in those surveys, then maybe the information that's in that table is sufficient to tell us what species were there.

But I'd like to kind of discuss further whether -- if those point count survey observations would have affected how you modified your habitat suitability ratings at all. Because if they did, then maybe it would be important to include -- include those results. If not, then maybe it's not critical at this point to include them.

DR. MARCEL GAHBAUER: Marcel Gahbauer, Kavik-Stantec. Yeah, we did have a few -- so the -- the table that is in the document summarizes the numbers from the aerial surveys. We have another, just working table that summarizes the -- the observations from the point count surveys on the ground.

There were some species, Lee's sandpiper (phonetic), for example, that we only identified on the ground. No doubt we saw it from the air, but we weren't able to conclusively identify them there. So, we can submit a -- or compile a similar table like that if that's of value.

With respect to your question about how

it influenced the habitat classifications, I would say it didn't really, especially for the water bird group being so diverse. There weren't sufficient numbers of shore birds, or water fowl for that matter, at these points on the ground to really swing that analysis one (1) way or the other.

Our assessment of the habitat really was more focussed on the -- the ground truthing of the veg types and focussing mostly on the species at risk and how they related to those vegetation types.

THE FACILITATOR: John Donihee. I would just say that if you come to agreement with CWS about the way to file an addendum to a report that's been filed with the Board, then just -- the only other point I would make is simply that I want to remind -- the Board's decision is required to meet the requirement of Section 79 of SARA.

So, you know, this -- this -- standpoint it may not be that exciting to sit around talking about rusty blackbirds. You know, they're -- they're -- and I don't know quite what the classification is, but they're on -- they're on the list and we have to be able to say that we've considered them and either there won't be any effect on them or that the mitigation is sufficient to cover

them off.

That's a legal requirement that comes out of that legislation and discussion is ultimately important to -- to the Board's finding.

MS. ERICA BONHOMME: Erica Bonhomme. And, yeah, that's why we've been, since May, working with CWS and ENR to design a summer study program that was specific to those species at risk.

THE FACILITATOR: Thanks. Rick...?

MR. RICK HOOS: Rick Hoos, Developer Team. Just to add to the confusion, but hopefully to actually clarify where all this is fitting into things -- I'm getting old.

On April the 27th, 2012, ER -- ERIB file 0210-005, we submitted a response to the March 8th, 2012, Information Requests. One (1) of those related to the preliminary work that the team had done to evaluate possible cumulative implications related to these various SARA listed species.

That document is part of the public record. It describes the known information that was available, including updated information that was obtained by ENR from Environment Canada and other sources for each of the species at risk.

It als -- and it -- it -- it came to

conclusions. And -- and just for -- as an example, in the case of short-eared owls, the conclusion it came to at that time was that -- bear with me. Sorry.

Given the prediction of no effects or residual impacts on the short-eared owl, the developer does not believe an accumulative effects assessment is required for this particular species.

That was a conclusion that was drawn based on the information that was available at the time. It then goes on to say though:

> "Depending on the habitat modelling and wildlife field review in the spring of 2012..."

Which Kavik-Stantec has been doing:

> "...the developer will incorporate relative mitigations if new information and discussions with GNWT and ENR indicates the need."

We did that for all the SARA listed species and this is a follow-up to the responses that we provided in April. And, as was mentioned, the work began in earnest in May.

Just to provide some context for what we've been talking about, which must be very confusing to a lot of people here. Thank you.

THE FACILITATOR: John Donihee. Well, back to CWS. Are -- are -- have -- have you worked through your list?

MR. JAMES HODSON: Yes. James Hodson with the Wildlife Service. I think that takes care of me for now. Thanks.

THE FACILITATOR: I -- I think we may have some questions at this end of the table. So let's -- let's do that and we'll -- we'll break at -- as soon as this next round of questions is over.

DR. PETR KOMERS: Petr Komers. Rick, the information you just presented to us, is it fair to say that that will be superceded by the report that's coming out now, based on the habitat modelling and field surveys?

MR. RICK HOOS: Rick Hoos. I -- what we indicated is that if there's any new results that come out as a result of the field work and modelling done this summer, we will be discussing what that means in terms of any further mitigation measures, if necessary, that could perhaps be implements and we'll be reporting that to the Board.

Yeah, I'll leave it at that.

DR. PETR KOMERS: Petr Komers. So I take it that was a "yes". A question now for

clarification for Gavin. I -- I'm not -- I may have totally misheard something, but I think you said that there is no zones of influence assumed for the Peregrine Falcon.

Is that -- did I hear that correct? I -- I -- I hope I understood right, that you mentioned earlier on that there was no zones of influence assumed for the Peregrine Falcon.

Is that correct?

MR. GAVIN MORE: Gavin More, GNWT. Yes, the key -- key prior to it -- and we originally had wanted one of our biologists to do the Peregrine survey. But when we talked to Suzanne (phonetic), she indicated when we were getting ready to -- to roll, that from her point of view, she did really not think that there would be much likelihood of Peregrines nesting. And nesting is basically the -- the key items that we go after for Peregrine protection.

And instead, Stantec was asked to do the work. And based on predictive mapping, Stantec went and looked at the kind of sites that came out as maybe being possible for Peregrines. The key is that -- that we know Peregrines will do some funny stuff on tundra.

But from our point of view, it was

extremely unlikely that there was any decent habitat for nesting. So for us, it was -- it would just put certainty, or the icing on the cake, that from our point of view, Peregrine is not a species of concern for this project.

And then from an accumulative point of view, when it comes to the MGP -- and I'm not sure everybody is aware of this, but there's a significant set of terms and conditions that have to be done by that proponent: one set for ConocoPhillips development field, one set for the gathering system. But we will be going through with that proponent for Peregrine Falcon, reviewing their -- their exact alignment against known nesting sites. So we already have a process in place for future protection and making sure that the MGP has no impact as well.

Most of our work though, we -- if you think about this area, it could well be feeding area for immatures, that sort thing. But from our point of view, the item that we look at for protection is virtually strictly the -- the known nest sites. And then we have the setback of 1.5 kilometres that we recommend for ground activities from that.

DR. PETR KOMERS: Petr Komers. Thanks for that explanation. So I assume that it basically

means that if you find nests -- I think that's what you were saying, if you -- if you do find nests, you would have to follow that 1.5-kilometres setback and -- which is basically a zone of influence.

MR. GAVIN MORE: Gavin More, GNWT. Well, we agreed through the JRP process that if a proponent had to be under one point five (1.5), we'd discuss it with them, because, of course, it really depends on their activities about how much disturbance they might cause. So you can go under one point five (1.5), but our preference is to discuss it so we can figure out if -- if the circumstances weren't.

DR. PETR KOMERS: Petr Komers here. So this goes back to John's question about your role.

So essentially, you were saying you would be discussing it with yourself, since you're both the expert and the developer. Is that -- is that a fair assessment?

Or will there be other people involved?

MR. GAVIN MORE: Actually, that's a bit of the point. You have to remember, there's the Federal role under Federal SARA, and then there's our role as the jurisdictional manager of those species. So we don't have exactly the same requirements as Environment Canada has to meet SARA, which means they

have to look and -- and look at adverse effects, not significant effects.

From our point of view, our -- when we look at this, we -- we would actually prefer Environment Canada to do what they did for the two (2) species that don't exist in the area, that they would sign off and say, This doesn't need to be -- to be assessed under -- under SARA because your study this summer indicates that there's no good habitat and definitely no nest sites.

So I think we'll have to discuss that offline. If we're made to go through adding nothing to nothing, we'll do that in order for them to -- to meet their requirements. But the key there was they do have steps that they're -- they're trying to go through.

The key is, from our point of view, we look at that concept of a project effect and then a residual effect. If the project has no effect, there -- from our point of view, you don't need to go through that step of accumulative effects.

MS. ERICA BONHOMME: Erica Bonhomme here. I just also want to point out again that construction is predominantly during the winter. So if there was a nest, it would likely not overlap with

the construction activities. And if a nest gets set up while the highway is already there, well, that would provide us some pretty useful information about Peregrines and highways and how they get along.

DR. PETR KOMERS: Petr Komers. Thanks for that. I -- I appreciate that, but the nests could have been there before, too, and when the peregrine comes back to its nest, so all of a sudden there's a highway under its nest, it may be a surprise to him.

Can I just followup with some -- a couple of questions to Environment Canada? Or is there something that you would like, Rick, to --

MR. RICK HOOS: With respect, Rick Hoos. I think it's very important that I read into the record some of the information that we know about peregrines in the area of the Inuvik-Tuk highway, if -- if you will bear with me. And this is in the April 27th, 2012 response document that was submitted to the EIRB:

> "Most peregrine falcons nest on cliff ledges or crevices next to good feed -- foraging areas. Cliffs ranging from 50 to 200 metres high are preferred.
>
> cited.] Other nest sites

potentially include the tops of pingos. That's one (1) place where it could occur in the delta."

That having been said, it goes on to read:

"GNWT/ENR reviewed the proposed highway alignment in 2011 and indicated that there were no known nest sites within 1.5 kilometres of the alignment. Steve Matthews (phonetic), personal communication, 2011.

The MGP proponents who studied the whole delta, including the area where the highway will be located, did not observe peregrine falcons during aerial or ground surveys in the regional study area for the Inuvik-Tuk highway. So at this time, based on the trained analysis conducted by us

developer], GNWT/ENR does not expect that any suitable nesting habitat occurs for peregrine falcon in the project area. S. Carrier

(phonetic), personal communication, 2012."

So we can talk a lot about peregrine falcons, but they actually don't seem to nest there, and that's a very important consideration in trying -- in terms of trying to evaluate effects on -- possible effects on peregrine falcon. Thank you.

THE FACILITATOR: Thanks very much, Rick. Now, Petr, I think you had some questions for CWS.

DR. PETR KOMERS: Petr Komers. The question to CSW is: In -- in terms of species at -- at risk, we're not supposed to harm or remove habitat and residences of species at risk. Is that a fair summary?

MR. JAMES HODSON: No. There's a slight precision there. Sorry, James Hodson with Canadian Wildlife Service.

There are specific prohibitions under the Species at Risk Act, and there's prohibitions against damaging or destroying a residence of a species at risk, which could be a den or a nest; that's only for extirpated, endangered, or threatened species, not species of special concern.

And then the prohibition against

destroying habitat only applies to critical habitat, which again only applies to endangered, threatened, extirpated species, and that critical habitat has to be identified in a recovery -- final recovery strategy.

So none of the species that occur within this project area -- I guess for -- well, first of all, rusty blackbird, short-eared owl, and now peregrine falcon are species of special concern listed on Schedule 1. I don't think there's any threatened or endangered species that occur there, so the critical habitat prohibition wouldn't apply.

So there technically is, in this specific circumstance, nothing prohibiting habitat destruction, per se.

I guess the other thing to keep in mind is, for birds, migratory birds, they're protected under both Species at Risk Act and Migratory Bird Convention Act for the damage or destruction of nests. So those two (2), those are covered off for those.

DR. PETR KOMERS: Just a follow-up question on that. Thank you very much. Petr Komers.

The -- will Environment Canada be making their own evaluations of the significance of effects? And will they, based on its evaluations,

recommend possible offsets or mitigation measures to the developer?

MR. JAMES HODSON: James Hodson, the Wildlife Service.

Yes, we will be looking at the information that the developer provides to us, I guess specifically the -- the cumulative effects assessment once that comes in.

I guess, in terms of significance, we may not comment specifically on whether it's significant or not, but whether it's adverse or not. I guess that's the distinction under the Species at Risk Act is that we don't make that distinction between significant or not significant. It's either adverse or not adverse.

So that's what we'll be looking at, and we will probably be recommending, where we have expertise relevant to that species, setbacks to protect, for example, nests or things like that, commenting on whether or not we agree with the -- the conclusions of the developer. So I hope that helps to clarify.

DR. PETR KOMERS: Petr Komers. Yes, that's very useful. Thank you.

THE FACILITATOR: Okay. It's 3:30.

Fifteen (15) minutes. Let's come back and we'll continue with the wildlife topic.

--- Upon recessing at 3:25 p.m.
--- Upon resuming at 3:49 p.m.

THE FACILITATOR: It's John Donihee again for the Board. We're still, I think, talking about wildlife. And I think we're -- if we haven't already then we -- we can and should hear about some of the terrestrial wildlife issues raised by -- by WMAC.

(BRIEF PAUSE)

MR. BRUCE HANBIDGE: Bruce Hanbidge. Now I guess we're talking about cumulative effects assessment; that's been a major concern of the WMAC. And we have noted a series of concerns since the confirmation stage of this review. And it deals primarily with temporal and spatial boundaries.

And I guess I've asked a few questions here about zones of influence, but it -- it was good to hear from, I think, Robyn, where you're saying that environment and engineering, when you deal with these

sorts of processes, it's an iterative process and as it progresses with more and more information on each side, then you go back, you review and reassess as -- as required.

So I guess my first question is: Given some of the information we have on caribou, in particular, CWS asked a couple of questions about when is the new information going to be put into a cumulative assess -- effects assessment and when will we get it?

But -- that's my same question, really. Is -- is there any -- anything that the developer sees specifically to change temporal or spatial boundaries in the CEA that they've done so far, given any new information you've received?

MR. RICK HOOS: Rick Hoos from the developer group. What we've been discussing over the last while as -- as you're aware is, enhancing, if you will, the cumulative affects assessment for SARA listed species.

In terms of caribou, and -- and other species, with the possible exception of grizzly, we're -- there is no plan at the moment to, let's say, redo the cumulative effects assessment for those species.

In terms of the spatial boundary that

was assessed in the cumulative effects assessment, it was clarified in one (1) of the more recent IRs that we responded to. I don't have that information directly in front of me.

But, basically, the area that we chose was the area of the Tuk peninsula down to Inuvik, bounded on the west by the Mackenzie River and the east by, essentially, the Husky Lakes area and the marine waters that separates the Tuk peninsula form the rest of the mainland.

We felt that was most appropriate and most relevant for evaluating the possible effects, cumulative or otherwise, of this two-lane gravel road between Inuvik and Tuk.

We do understand that caribou, in particular, have a much larger range. We also understand that there's virtually no activity ever taking place in the rest of that range. And we saw no point in trying to extend the evaluation beyond a more immediate portion of the Delta that -- where -- within which some effect of some kind might be measurable.

MR. BRUCE HANBIDGE: Sorry. Bruce Hanbidge. Just two (2) more, I guess, very specific questions.

When you're looking at disturbance or

avoidance, what -- whichever the proper term is, could you just qualify what is the actual measurable parameter; is it caribou avoidance, is it whether you see them or not? Is it an anthropocentric assessment or what? What exactly are you measuring?

(BRIEF PAUSE)

MR. RICK HOOS: Rick Hoos, Developer Group. In the EIS we described what we meant by "disturbance" and the kinds of activities that may alter the behaviour or distribution of caribou, both in the local study area and less likely in the regional study area.

We identified that caribou can be sensitive to sensory disturbance, which was described as being noise from machines, human presence and vehicles, and displacement from habitat adjacent to roads.

And then we went on to say what would happen if habitat displacement could occur, and that could result in reductions to access to security areas and the efficiency of foraging strategies, et cetera, et cetera, et cetera.

So we provided a description of the

kinds of disturbances that could occur in relation to -- in this case it was caribou, but same -- we did the same thing for other VECs (phonetic).

MR. BRUCE HANBIDGE: Okay, yeah. Thank you. I have read that. But -- so the gist of my question was:

What exactly are you measuring to determine that there is no disturbance? What is it that caused you to eliminate impact on caribou? That's what I'm not clear on. What was the quantitative measurement that was done?

MR. RICK HOOS: Rick Hoos, developer group. We were relying -- or, drawing heavily on the existing available literature from various parts of Northern Canada and elsewhere in order to carry out the assessment, as we have done for other kinds of projects in Northern Canada.

We have also drawn on experience from other actual projects, like mining projects and the like, where there may have been more quantitative measurements taken from time to time that would allow us to identify, for instance, a set of caribou may move 20 metres as a result of a blast in a mine pit, 10 metres as the result of a siren, 30 metres as a result of a truck moving by, and even 50 metres when a

person approaches a caribou on foot. We pro -- we used that kind of information, as appropriate, in our assessment.

MR. BRUCE HANBIDGE: Okay. Bruce Hanbidge. Thanks very much.

And according to, I guess, the little bit of reading I've done in, sort of, the -- the guide for conducting environmental assessments, the cumulative effects that is the first stage, is you set the parameters and make your best educated judgment on spacial and temporal boundaries.

Just -- in the event that there is more specific information that comes up, you're saying that -- will you consider that in any future -- or, the need for that in any future cumulative effects assessment?

MR. RICK HOOS: Sorry, I don't quite understand that question. Rick Hoos.

MR. BRUCE HANBIDGE: What you've done to set the spacial and temporal boundaries is very consistent with the scoping aspect of an environmental impact assessment. But the next stage is when new information comes up, you reassess and redo the cumulative effects assessment.

And I'm just asking if that's your

intent.

MR. RICK HOOS: Rick Hoos, developer group.

Well, with any environmental assessment, as new information becomes available that may shed some further light on how animals react or don't react to an activity, that information, to the extent that it becomes known to us, is always used by us to -- for -- for whatever next assessment we may undertake.

(BRIEF PAUSE)

MR. BRUCE HANBIDGE: Bruce Hanbidge. John, if I have any more information here today or tomorrow, I can bring it up, so we're tabling.

THE FACILITATOR: Yes.

MR. BRUCE HANBIDGE: Okay, thank you.

THE FACILITATOR: We'll move on then. I think where -- there were some questions from MSES? No?

Rick, I -- I just have one (1) question that and it came out of the exchange.

How many of the studies and things that you looked at that measured disturbance effects on

caribou, how many of them are roads? How much of that background literature was related to roads?

(BRIEF PAUSE)

MR. RICK HOOS: Rick Hoos, developer group.

When we prepared the EIS initially, we drew on whatever literature was available, whether it was specific for roads or whether it was related to a development that may have included roads. As you know, a lot of northern resource infrastructure by definition has roads associated with them.

We also drew on our experience as the environmental managers for the -- the Tibbitt-to-Contwoyto winter road for the last fifteen (15) years, wherein we have been from time to time monitoring wildlife behaviour in the context of the winter road.

More recently, as a result of inquiries directed to us by the EIRB, we were asked to have a look at what -- what happened at Meadowbank. And we -- we drew on the experience and observations of monitoring that has been conducted at the Meadowbank gold project in Nunavut since the road has been constructed. And we presented all of that information

to the Board.

We also reviewed all of the documentation provided by WMAC, or that WMAC had brought to the attention of the Board and ourselves. And we examined all of that information and are still comfortable with the predictions we've made in the EIS.

THE FACILITATOR: Okay, thank you. Just in terms of the agenda, I don't know whether -- it -- are there any other questions, first of all, about -- from anybody about wildlife -- wildlife issues? We --

MR. BRUCE HANBIDGE: John, Bruce Hanbidge.

THE FACILITATOR: Oh, sorry.

MR. BRUCE HANBIDGE: Maybe a couple more here.

THE FACILITATOR: Okay, sure.

MR. BRUCE HANBIDGE: Okay. Specifically dealing with human -- human developments and impact, we're looking at an increase -- substantial increase in the ability for -- for people in skidoos to access the area, going out laterally from the highway, and have been trying to find information as to any quantification of that that you

have, either from your -- your consultations with the community or other assessments, and I'm having trouble locating that. And I'm looking there from the point of view of increased human access for disturbance on caribou, grizzly bear.

MR. RICK HOOS: Okay. Thank you. Rick Hoos here. We -- we have in the EIS certainly discussed the existing historic, traditional trails that people have used for snow machines to get them to -- primarily to the Husky Lakes area in the wintertime, which is of great interest to the people of Tuk and, to a lesser extent but still important extent, Inuvik as well.

We are aware and we identified snowmobile trails, snow machine trails, that actually extend right from Tuk to Inuvik. We accept that, having -- well, I'm not sure. I -- I guess, knowing the people that I know and how they use snowmobiles up here it's quite different than I'm used to. They drive pretty well anywhere they want to under almost amazing conditions.

So, I would expect that snowmobiles would also probably use the -- the highway once it is constructed. And if they are wanting to go south, that's probably going to be a pretty effective way for

them to head south.

I also do know, though, that when we built the access road, or when -- as we were going through the project description stage of the -- of the access road from Tuk to Source 177, the community of Tuk wanted to make sure that our road-building activities did not interfere with their traditional trails to the Husky Lakes area, which were somewhat adjacent, but far enough away from the road that we could, in fact, effectively avoid them.

Initially, we had the access road for construction equipment following a series of -- of lakes heading south to be able to access that road. The community was concerned with that, so when the road actually got constructed, we -- we moved away from the plan to use some of the existing lakes as -- as a -- as a base for the ice road and winter road and, instead, constructed a -- a winter road directly adjacent and parallel to the proposed alignment of the Tuk to Source 177 road.

I'm not sure if I'm answering your questions, but I think -- I think it's fair to say that we could expect snow -- snow machines to be using the road as well as vehicles, unless somebody tells them they can't do that. Thank you.

Excuse me. Rick Hoos, developer. The clarification I just got from Jim next to me was that the snow machines would likely use the -- the general right-of-way, but not necessarily the road surface, probably for their own safety.

THE FACILITATOR: It's John Donihee. I -- Frank, just one (1) sec, please.

I understood Bruce's questions to be asking about increased access for hunting and harvesting for people that are using the road that -- you know, from -- in the pre-road situation, they would have had to skidoo all the way from Tuk. Now, they'll drive out, drop the skidoo off, and -- and be able to access a much larger area for harvesting purposes, with potential and consequential effects on wildlife populations. So, that -- that was my understanding of the questions.

MR. BRUCE HANBIDGE: Thank you. That's correct.

MS. ERICA BONHOMME: Erica Bonhomme. I would also add there is information about some of the concerns raised during the traditional knowledge, traditional land use workshops that are documented in that report that relate to having the road provide access to hunting and fishing. That may -- may

provide some answers to your information and -- or your request, and Michael Fabijan could provide you some specifics if you have some specific questions about that.

MR. JOHN DONIHEE: Bruce, it's John. If I just let you think about that for a minute. Maybe Frank -- Frank has something he wants to say, and let's let him --

MR. FRANK POKIAK: Thank you, John. Frank Pokiak, with Inuvik Game Council. You know, I was wondering who is going to be responsible for mon - - monitoring?

Like, you mentioned skidoos. Right now, that -- that access road that we have -- if you go to the end of it you see a lot skidoos right there right now that -- that are being used to go -- to have access to Husky Lake. And some people are actually dragging boats over from that access road all the way to Husky Lake.

And if you look at the road which is on that map over there, there's some places even closer to Husky Lake that -- that's going to be a problem where people are able to drag equipment or their boats into Husky Lake.

So I was just wondering who will be

monitoring that? Because you, once you disturb the tundra it continues to melt, you know, and after a while, you know, you can't even use that certain area; you have to make another road, you know. So it's already happening with just that -- that road that we have, you know, where people are bringing their four-wheelers and also their skidoos.

And right now, if you go across the harbour there's probably about ten skidoos across the harbour, you know, that go all over the tundra. They -- they don't even wait for winter anymore. You know, so -- and right now everybody is waiting for the grizzly bear season to open because some of the comments I heard from the young folks is once -- once the grizzly bear season opens, they'll bring their skidoos to the end of the access road and start hunting.

You know, so that's the kind of concerns that I have. You know, once you disturb the tundra, you know, it -- it continues to erode. Thank you.

MR. RICK HOOS: Frank, thanks very much for the question. Rick Hoos, Developer Group here.

I've just been provided with some text

that came out of the ILA response to the Board's inquiries about how they see themselves becoming involved in managing access and controlling some activities that are beyond the road, but nevertheless, very important.

They basically indicated that:

> "While these activities will result in land impacts, the impacts can, in large part, be managed and the resulting activities will be beneficial to Inuvialuit residents, businesses, and corporations. However, it should be noted that monitoring and responding to these impacts over time will place additional draws upon the time and resources of the ILA."

I can also mention that the Fisheries' joint management committee in -- again, in responding to questions from the Board certainly indicated the role that they see themselves playing in helping to manage activities related to the road.

We have, in the EIS, made it quite clear we have recognized that the road does indeed provide access to areas that have not heretofore been

very easy to get to at certain times of the year, particularly the summer months.

And we've identified and indicated that in order to make sure that the environment of the area remains protected, it's going to be very important for the HTCs and the Game Council and the co-management agencies, and for that matter, the resource management bodies to all work together to develop some policies, some rules of the road or rules of conduct, if you will, to -- and -- and combined with an education program to allow people to understand that they must respect the environment while enjoying the benefits that the road provides.

I think we've also indicated that the developer would be happy to help to try and facilitate that, but that it is really beyond their mandate to try and manage those kinds of activities beyond managing the -- the operation and maintenance of the road itself.

MR. BRUCE HANBIDGE: John, just another question. Bruce Hanbidge here.

Yes, there's limits to the mandate of the developer to control disturbance, but within that what we're starting to see more in cumulative effects assessment is you've listed a host of different

possible things and groups having to work together.

And it gets very diffuse and very difficult in a hurry. So what we're seeing when you're looking at a cumulative effects assessment is you're seeing a shift towards -- disturbance is quantified to a common denominator so you can determine threshold levels.

I'll give the example of the boreal caribou study done by Environment Canada. What we're seeing with the cumulative effect assessments you've done, it's qualitative. It's best -- best efforts, best -- best professional judgment of the moment.

But we're now looking sort of the next iteration and there's nothing in it this morn -- observation -- I'm coming towards the question. There's nothing in it that quantifies levels of disturbance within an area of impact, or a zone of influence.

And once again, when you constrain the area and the time, it to -- it removes any ability to determine what might be an impact, and it removes any ability to say what do you monitor and what do you mitigate.

It is within, I think, the responsibility of the developer to quantify. With the

science that we have now you can quantify a level of disturbance so that you can use that as a baseline to look towards cumulative additive effects.

And I just turn towards the Review Board here. You've asked for specific information over a fifty (50) year time span related to borrow pits. I'd like to hear how you're -- how you're addressing that.

MR. RICK HOOS: Rick Hoos, developer. I have a little bit of a problem here in that cumulative effects is supposed to be discussed tomorrow, but we seem to be discussing them quite regularly today.

I guess that's okay. Just a general comment, John. Is it -- is it all right to keep talking about cumulative effects at this time when --

MR. BRUCE HANBIDGE: I can wait until tomorrow.

THE FACILITATOR: Well, the -- the question I think is -- are -- if you're not prepared, because you don't have the right people here, then of course we'll defer it until tomorrow. But if you have the people here, we have the people here, you know, it seems to me we should use the time productively. So it's -- it's your call.

MR. RICK HOOS: Okay. Fine. Rick Hoos, developer group. I was hoping to prepare myself a bit better for this discussion for tomorrow, but what the hell, we can do it today. Pardon my English. That's -- that's off the record, wherever the record is.

MR. JOHN DONIHEE: It's all without prejudice, Rick. You can change your -- you can change your mind tonight and tell us something different tomorrow if you want.

MR. RICK HOOS: Sorry. No, I -- I won't do that. In terms of the environmental assessment, we have determined that there will be no significant effects and minimal residual effects on any and all environmental parameters related to the development of this road.

We've also reviewed the past historical projects that have taken place in the -- this part of the world, and we explained why none of those projects were having any sig -- any measurable effects on any of the wildlife species removed from the road area itself.

So we basically concluded there was no way that there could be cumulative effects between the road and these existing past historic projects. We

also looked at potential future projects, the largest one (1) of being -- being the MGP, the Mackenzie Gas Project.

We also reviewed their cumulative effects assessment, which from their point of view also considered the possible existence of a highway between Inuvik and Tuk. And their cumulative effects assessment concluded the in essence there were no cumulative effects that they could perceive between the Mackenzie Gas Project and other activ -- past or future activities in the Mackenzie/Delta area.

So we did not choose to disagree with their cumulative effects assessment. They spent a whole lot more money on it and a whole lot more time than we did for this project, which is considerable smaller. I have more to say, but I'm just trying to think of what it is.

In terms of other future developments, part of cumulative effects assessment is that you should really consider possible developments that are either in the regulatory review phase or have some reasonable potential to occur. And in that respect, we -- we -- we identified only a limited number of such projects as being possible.

Apart from the Mackenzie Gas Project --

and I should say, I was manager for the predecessor of the Mackenzie Valley gas pipeline for almost ten (10) years with TransCanada pipelines. So I have some understanding of natural gas pipelines and -- and whatnot. I was involved with the review of the Mackenzie Gas Project on at least three (3) iterations between the 1970s and the present time.

I have been following, as other people have, with great interest, the possibility of this Mackenzie Gas Project going forward in the next conceivable few years. And I -- I personally -- this is my own, personal feeling, but I don't see that Mackenzie Gas Projet moving forward for at least another ten (10) years, if not considerably longer.

And if the Mackenzie Gas Project does not go forward, not too much is going to happen at Parsons Lake either, since it is one of the prime fields feeding into the Mackenzie Gas Project.

We also looked at the Tuktoyaktuk Harbor Project, which is still a bit of a dream, but it's out there. And we looked at a possible future Husky Lakes development. Husky Lakes area has been developing, from -- from a Northern perspective, I would say, quite quickly. There are more and more cabins popping up at the Husky Lakes, even as we

speak.

Suffice to say, that kind of development, any access trails or whatnot to the Husky Lakes, any development of docks that might be conceived of, all is within the purview of the ILA and needs to be carefully managed. And, in fact, in the scoping sessions -- or actually, not in the scoping sessions but in the project description stage of this project, the ILA representative of the day assured people that were listening that it was the ILA's responsibility to manage those kinds of act -- or, help to manage those kinds of activities, and they will do so.

Beyond ten (10) years -- and I know people would like us to project fifty (50) years down the road -- we don't see very many projects happening in the Mackenzie Delta area of interest here for the foreseeable future. Offshore oil and gas is still possible, but it's very challenging. And frankly, gas isn't going to happen in -- any gas-related activities, whether onshore or offshore, are not going to happen until the Mackenzie Gas Project is built and shale gas is pushing Mackenzie further and further in the background.

And oil in the offshore -- well, apart

from the fact that there was a moratorium put on by the Gulf of Mexico blowout that has now been lifted, I spoke with representatives of one of the companies that is hoping to drill in the offshore Beaufort Sea. And they have a few problems. One of them is drilling a well in the deeper offshore Beaufort Sea is going to cost them approximately $1 billion, because it would require three (3) complete drilling seasons at about $300-something million a year.

Beyond that, it requires a drilling fleet, including a drill ship and support vessels, none of which have actually been built yet. And the companies are reluctant to build such expensive equipment until such time as they have gone through an environmental assessment process and received some sort of a green light. And none of that has happened.

So even being an optimist, as I am, for the oil industry, it doesn't seem that oil and gas activities in the offshore area is even going to happen in -- in the next, I'm going to suggest, ten (10) years at least. But if it were to happen, I'm not convinced that -- that that would have much impact on the -- on the road itself, because most offshore equipment will come in in a floating mode. They would certainly benefit from having a support base at -- at

Tuk or elsewhere. And that's one (1) of the reasons why Tuk is very keen on developing a -- a deeper water harbour in relation to their community.

But apart from potential future oil and gas development or oil exploration, and hopefully development in the offshore Beaufort Sea, and a possible Mackenzie gas project -- which, if it did come about, would certainly mark the beginning of the next hundred years of oil and gas activities in the Mackenzie Delta, it certainly would, but it's not really on the next ten (10) to fifteen (15) year radar screen, as far as we're concerned.

And the problem with trying to make predictions beyond even a ten (10) year time frame, although people can always try to do it, the fact is, the biology of the systems changes. Caribou populations ebb and flow, increase and decrease. So do populations of other animals. And it's very difficult to predict how these VECs will change over time such that you can do any kind of reasonable assessment of cumulative effects looking beyond a relatively short time frame.

We had defended the ten (10) year time frame as being a time during which we could observe and learn from the construction of the road. We could

observe and learn from the operation of the road. And that information itself would help in judging the future potential cumulative effects related to other activities, should they come about.

Long story. I'm sorry. I've got too much history with this part of the world, and I've had too many experiences in the past where we've tried to make extensive predictions about the future, and none of that future ever transpired. And it's a little -- it's been a little discouraging. Thank you.

THE FACILITATOR: Thank you, Rick. Bruce, I think I forgot what your question was. Did you?

MR. BRUCE HANBIDGE: No. It was just -- the specific question was on temporal boundaries, and I think Rick got around to answering most of the pieces somewhere in there.

THE FACILITATOR: Good. We're leaving at that. We're not going back to that question. You know -- it's John Donihee. I -- I think it's late. We're probably a little ahead of schedule, and I think my preference would be to let people rest and organize for tomorrow rather than try to continue on.

I -- I do have one (1) request that I -- I would like to make of the developer's group, if --

if you will consider it. And that's simply that, over the course of the day, there's been a number of times where, you know, reports being imminent and about to be filed, some just August 31st, some soon, some you're -- you're going to talk to other people.

And we could get that same information simply by combing through the -- the transcripts, but I'd like to offer you the opportunity to come back tomorrow with a bit of a summary of what -- what's coming our way before -- before -- well, I say "our," what's coming in the direction of the other Intervenors before August 31st.

Because, you know, the -- the request that we've made of them, although there's been a -- a -- I think a little bit of flexibility with the -- with the timelines now because of other hearings happening next week, the request we made was for them to -- to file their technical submissions on the 4th of September. And, of course, August 31st leaves them working over the Labour Day weekend.

Now I think the deadline is the 7th of September. And even then, I think they may be hard-pressed. And so, you know, I think, from the standpoint of what the -- the Board needs to do, we are meeting with them on the 4th, and we -- we need to

look at how this is working to go forward so that we make sure that all the parties can put their best foot forward in front of the Board.

To help us do that, if you could give us this summary of what is about to -- what's still on the -- on the list to be filed or any addenda that were talked about today and things like that, it would be most helpful.

And nobody is going to be held to this, we just -- we're just trying to sort of keep track and strike some things off the list and -- and that sort of thing. So if the developers group would do that for us we can circulate it first thing in the morning and make sure everybody is on the same song sheet with that, I think it would be very helpful.

So, literally all I am asking for is one (1) piece of paper with a couple of -- of reports and -- and deadlines that are going to be filed on it, nothing more than that. So it shouldn't keep you out of the bar too long.

Yes...?

MS. ERICA BONHOMME: Erica Bonhomme. I just have one (1) piece to add to that, if it's useful to the Board and others, because I think many of the reports you're referencing are Kavik-Stantec

reports.

We have filed preliminary versions of all of those reports, they've been on the Board's record for quite a while. And today we've provided some clarification on what additional information has been collected over the course of summer surveys and how that information will be used to update those reports, and in some cases the results of the studies themselves.

So I would encourage people not to wait until the final reports to ask us questions. I see today as a really -- today and tomorrow as a really good opportunity to ask us questions that you may have. But those final reports are largely going to be updates based on field verification of the preliminary reports that have already been filed.

I have a second point, which is I have some further information to provide regarding a discussion we had earlier on species that are harvested in the study area and how they relate to the vegetation classes we have identified.

And those -- there is an important -- a useful piece of information that I neglected to mention, and that's that the species cover within each of those vegetation classes is actually defined by the

studies that were done in support of the Mackenzie Gas Project.

And I would refer you to Volume 3, Section 9 of the Mackenzie Gas Project EIS, which has a description of the species and percent cover for all of the vegetation types within the tundra ecological zone, and the two (2) that we have identified from the forest -- transition forest ecological zone.

THE FACILITATOR: Thank you. The -- tomorrow we -- we still have a couple of little carry over items related to -- to wildlife. Lisa, we'll -- we'll deal with the questions that were tabled by the Inuvik HTC probably fairly early in the morning. So hopefully we can -- we can get you up here with us. And, you know, we can make sure that each of those questions gets anter -- answered for you.

Other than that, we're -- you know, we -- we've made some progress into what actually was tomorrow's agenda already. And I suspect that -- you know, we -- we'll put our heads together tonight as well and -- I mean, I -- I think we probably have a pretty good day's work to do tomorrow, but I don't think it's going to be overwhelming.

I encourage you all to give thought to the items that are left on the -- the agenda that

relate to your mandate, or you department's mandates, or organization's responsibilities. Let's try to be as focussed as we can and get the most that we can out of the -- the session tomorrow.

I -- I didn't move on to climate change because I -- I know NRCan had some issues there. But I really -- I really was hoping to have Dr. Burn in the -- in the room when that discussion happens, so that's why I decided to -- to cut it off.

So with that said -- oh, Gordon has some housekeeping matters and then we can adjourn for the day.

MR. GORDON STEWART: Thanks, John, Gordon Stewart here. I think there was one (1) outstanding item from before lunch this morning that you were waiting for Jim Stevens to come. We can either answer it now or -- or you can discuss it and you can ans -- tell us in the morning, regarding consultation, I believe.

The other housekeeping item for everybody is we've asked people to leave us with their business cards. So those that have not provided a business card if you could please do so, that would be very helpful for us.

(BRIEF PAUSE)

THE FACILITATOR: Sorry, Ms. McGregor, you were supposed to talk to Mr. Stevens at the break and report back to us, and I wonder if you're ready to do that. If not, we'd be happy to hear from you in the morning.

MS. ROBYN MCGREGOR: Yes, I think I can respond, Robyn McGregor here. We -- we had a -- we will be able to provide, in time for the public hearings, eleven (11) by seventeen (17) plan and profile sheets. And to be clear, so that -- so that there's no expectations of more things to be shown on those plan and profile sheets, the top half of the sheet will show the highway alignment in -- in plan and it will show what we are discussing now, which is Alternative 3, the preferred alignment.

It will be the central line overlaying on the air photo imagery in the background, similar to the terrain maps that you have seen and the map books that are included in the PDR -- and in the EIS. And there will be kilometre posts shown on those and stream-crossing locations.

So from the plan information you would be able to relate that back to the other reports and

information that have been provided by the kilometre post location.

In the profile it will be a simple vertical grid that shows two (2) lines, the existing ground based on the elevation data that we have used in the past to produce the preliminary design and the central line of grade line for Alternative 3.

(BRIEF PAUSE)

THE FACILITATOR: Now this arose because of Mr. Zytaruk's question. It -- it sounds like this is what's possible. I guess the question is -- I -- I do apologize, I didn't hear you say when -- when that would be available.

MS. ROBYN MCGREGOR: It's Robyn McGregor here. In time for the public hearings.

MR. BRIAN ZYTARUK: Brian Zytaruk from FJMC. Yes, the best we can do in the time frame. So it's useful information, so it's great to have it in that time. Okay.

THE FACILITATOR: Rick, just one (1) other point. You have several PowerPoints, I guess, that you're going to show us tomorrow. I wonder if we could get them either on -- give it to one (1) of our

folks on -- on a stick or something and we'll charge back to the office and we can email it out to everybody so that -- it -- it's good for them to have a -- the opportunity to look at it. I'd -- I'd hate for them not to have anything to do tonight, so.

MR. RICK HOOS: Rick Hoos, developer group. We'd be very pleased to provide those to you. That's kind of the reason why we introduced it as a possibility at the beginning of the day, so we're more than happy to do that.

THE FACILITATOR: Okay. Unless -- any -- any -- anything from anybody else, otherwise the gavel comes down. Okay. We'll see you at nine o'clock sharp tomorrow, please.

--- Upon adjourning at 4:38 p.m.

Certified correct,

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Mr. Sean Coleman