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ISSUES CONFERENCE VOLUME 8

In the Matter of the Applications of
CROSSROADS VENTURES, LLC,
For the Belleayre Project at Catskill Park
for permits to construct and operate pursuant
to the Environmental Conservation Law

Margaretville Fire House
Margaretville, New York
June 23, 2004

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HON. RICHARD WISSLER,
Administrative Law Judge

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1 (STORM WATER ISSUE) 1784

2 THE COURT: Before we begin, a
3 matter has arisen with respect to an application
4 by the Applicant to provide an additional
5 witness or witnesses with respect to the issue
6 of Alternatives.

7 The record should reflect that a
8 conference call was held with the parties,
9 someone will have to help me when the date of
10 that was, sometime last week I think,

11 thereabouts. In any event, there was a
12 conference call with the parties and request was
13 made by the Applicant with respect to that
14 matter and I indicated that I would grant the
15 request allowing CPC and other parties equal
16 time, if you will, to respond.

17 There has been some concerns raised
18 with respect to that so I am at this point
19 entertaining any kind of positions of counsel
20 with respect to my ruling in this matter.

21 I don't care who goes.

22 MR. RUZOW: Your Honor, we have the
23 Applicant. We had requested when we initially
24 set the Alternatives schedule, one of our
25 experts who had prepared the report was not

1 (STORM WATER ISSUE) 1785
2 available that day but we decided to go ahead
3 and have Erich Baum, who was involved in the
4 preparation as he will be here to accommodate
5 the schedule. During the course of the
6 presentation on Alternatives by CPC's experts or
7 consultants, it became clear to us that the

8 commentary by Tom Alworth went well beyond the
9 comments that were put in the Petition in terms
10 of the scope of what he was testifying to or
11 offering evidence on and that bringing in Steve
12 Rushmore, who is the principal of HVS, became
13 more important. Moreover, I believe in the
14 discussion and the response by DEC, Vince
15 Altieri, during the course of that actual day's
16 colloquy he had indicated a desire, initially
17 indicated that he would reserve until after all
18 of the remaining issues had been heard, and
19 while we didn't say anything at that point in
20 time, it was my conclusion that that made a lot
21 of sense in light of the fact the purpose of the
22 alternative analysis in SEQRA is to respond to
23 avoid purported impacts in some way and we had
24 not even really begun the discussion of the more
25 significant impacts that folks had raised, to

1 (STORM WATER ISSUE) 1786

2 wit, storm water, surface water, aquatic, a
3 whole litany of things, and I thought it made

4 sense to be in a position to respond further on
5 the subject of Alternatives after we had heard
6 that, those issues. So when the next
7 opportunity to raise that issue was I believe
8 our conference call and scheduling and I raised
9 the issue of desiring to come back, and at that
10 point counsel questioned that and your Honor
11 indicated a willingness to accommodate that and
12 provide everyone with an opportunity as well.

13 THE COURT: Mr. Gerstman.

14 MR. GERSTMAN: Thank you, Judge.
15 While we do appreciate your Honor's willingness
16 to create a full record for the Commissioner in
17 view to make the issues rulings, we believe that
18 this issue in fact has been closed. I don't
19 recall Mr. Ruzow or frankly the DEC reserving
20 the opportunity to present supplemental
21 information concerning Alternatives. Our
22 process has been that you have allowed the
23 interveners and the proposed parties to present
24 supplemental information. Our witnesses are all
25 scheduled to be here and during that period of

1
2 time in the Issues Conference we have been
3 allowed to rebut and then have sur reply on
4 those issues as the issues unfold.

5 As your Honor knows, this is a
6 process that requires us to bring experts back
7 at this point. There are certainly budgetary
8 constraints associated with that. If Mr. Ruzow
9 wanted to put Alternatives at the end of the
10 Issues Conference, that should have been
11 discussed at that time. I believe this is a
12 question that should have been, should be
13 considered resolved for the purposes of
14 discussions, and frankly, it revolves more
15 around Doctor Alshuler's testimony, having
16 essentially pulled apart the Applicant's
17 Alternatives analysis, than it does with a
18 desire to have us look at Alternatives at the
19 end of the process. So we would request the
20 issue be considered closed and be briefed at the
21 end of the Issues Conference and that should
22 suffice at this time.

23 MS. MELTZER: Your Honor, we also
24 object to opening the Alternatives, re-opening
25 the Alternatives testimony. I would want to

1 (STORM WATER ISSUE) 1788
2 clarify that our objection is to going back
3 through subjects that have been testified to.
4 If or in a very limited respect the Applicant
5 for DEC wants to delineate certain issues that
6 have arisen during subsequent testimony, for
7 example, Alternatives that relate specifically
8 to storm water discharges, and they want to
9 bring in an expert to discuss why Alternatives
10 were not mentioned, included or analyzed or
11 something that is limited to testimony that has
12 not -- had not occurred as of the time of the
13 Alternatives testimony that we view as closed, I
14 think that would be a reasonable motion to
15 entertain or reasonable testimony to entertain,
16 but we do object to going back to the
17 Alternatives matters that were discussed and
18 were fully testified to by all parties as of the
19 date that they were discussed.

20 THE COURT: I'm not sure that is
21 Mr. Ruzow's position, but you are talking about
22 bringing in a principal from HVS. Essentially I
23 need some amplification of what you have already
24 placed.

25 MR. RUZOW: Amplification other than

1 (STORM WATER ISSUE) 1789
2 your Honor just reminded everyone here, though
3 you don't need to be reminded, this is not
4 testimony, this is all argument, so the need for
5 the witnesses to rebut testimony, we are not
6 talking about testimony, we are talking about
7 argument. We think that we need to amplify the
8 basis for their conclusions that are in the
9 documents. It is an opportunity to expound on
10 the purposes of the project in relation to those
11 and the rationale for the alternative and it is
12 an area that is reasonably esoteric. We heard
13 from Doctor Alshuler explaining his views of
14 what he would invest in or advise an investor
15 and I'm not sure how those play out and the

16 response by the principal of HVS who he was
17 questioning the judgment of, we feel, we believe
18 we need an opportunity to respond to that. We
19 didn't have that opportunity without
20 Mr. Rushmore here.

21 THE COURT: Mr. Altieri, anything
22 you want to say on behalf of Staff?

23 MR. ALTIERI: Staff doesn't object
24 to going back to Alternatives.

25 THE COURT: Let me just clear

1 (STORM WATER ISSUE) 1790
2 something up for the record. When we did
3 discuss Alternatives, I'm not sure that Staff
4 put in its two cents with respect to the matter;
5 am I right?

6 MR. ALTIERI: Well, Staff's concern
7 was that you need the record. The record has to
8 be developed in order for there to be a
9 meaningful Alternatives analysis. We are doing
10 Alternatives in the middle of the hearing. The
11 record had not been developed regarding
12 subsequent matters.

13 THE COURT: My question is, I don't
14 recall Staff's putting on its position with
15 respect to Alternatives. Did that occur?

16 MR. ALTIERI: Well, its position was
17 that Alternatives would be fully discussed after
18 the record was developed and that to do it in
19 the middle of procedure doesn't necessarily make
20 sense. It should be more at the end.

21 THE COURT: Is Staff's position the
22 issue of Alternatives is closed?

23 MR. ALTIERI: No, not that it's
24 closed.

25 THE COURT: That it would be

1 (STORM WATER ISSUE) 1791
2 revisited during the Issues Conference so there
3 could be response from Staff?

4 MR. ALTIERI: I believe I
5 specifically said there would have to be further
6 evaluation depending how the record was
7 developed in this proceeding and that
8 contemplated that Alternatives may be revisited

9 at the end.

10 THE COURT: So you weren't done when
11 we discussed Alternatives the last time around?

12 MR. ALTIERI: Well, we wanted to
13 leave it open to have further input in case it
14 was needed. Nothing was concrete that we knew
15 we were going to say something.

16 THE COURT: What are you, a lawyer,
17 Mr. Altieri?

18 MR. ALTIERI: But the gist of it is
19 that depending on what was heard, we wanted to
20 be able to comment on Alternatives at the end
21 after hearing everything that we heard.

22 THE COURT: Mr. Gerstman.

23 MR. GERSTMAN: I think Staff
24 actually put in their one cent on the issue.
25 Mr. Altieri made a statement. I don't believe

1 (STORM WATER ISSUE) 1792

2 that he reserved the right. He suggested some
3 table may be expanded at some point. Staff did
4 not reserve any desire to re-open the record,
5 have this discussed further. In fact, what

6 Mr. Altieri said was that the EIS isn't
7 necessarily a perfect document, but the analysis
8 of Alternatives was enough to be able to go
9 through this process.

10 In terms of whether this is argument
11 or testimony, it's clearly something beyond
12 argument that we are hearing. These offers of
13 proof from experts we have to be prepared to
14 respond to the presentations that the Applicant
15 makes and certainly that DEC in its role
16 presents to your Honor. We would have expected,
17 fully expected that the Applicant would have had
18 its experts here available to testify and to
19 respond to the expert testimony or expert offer
20 of proof, if you will, of Doctor Alshuler and we
21 don't see any reason this discussion ought to be
22 prolonged because the Applicant did not take
23 advantage of the opportunity that your Honor has
24 been providing to allow full discussion of the
25 Alternatives issue at the time that it was

2 scheduled.

3 THE COURT: Everybody is standing.
4 You don't need to stand anymore unless somebody
5 has something.

6 MR. YOUNG: No objection.

7 THE COURT: First of all, let's
8 remember we are at the Issues Conference stage
9 and what I am hearing are offers of proof. We
10 have had experts appear and offer their opinion
11 and so forth. I suppose technically that's not
12 even necessary at the Issues Conference stage.
13 However, I have permitted it because my
14 overriding concern here, given the nature and
15 importance of this project to all parties is, my
16 overriding concern is that a very full record be
17 developed in this matter. And to that extent I
18 have made myself available to the parties so
19 that everybody will have the opportunity to
20 fully present their position with respect to
21 this matter. Because of that, that is my
22 overriding concern, and in my view that must of
23 necessity take precedence over scheduling
24 concerns. Scheduling concerns must never be a

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reason to stop me or preclude the development of

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(STORM WATER ISSUE)

1794

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a full record.

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Mr. Ruzow has indicated that he

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wishes to bring back the principal of HVS.

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Sounds like that that individual will be

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commenting on matters that are already before

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us, perhaps in some amplification of those

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matters, but in any event given the very serious

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nature of this application, given my desire to

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have as complete and full a record as possible,

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I am going to afford him that opportunity. I

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will afford all the parties any opportunity they

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need to respond to that. And it may well be

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something that can be done through some kind of

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closing brief, or it may well be something that

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can be done experts can review the transcript of

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what the Applicant's witness says and provide

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comments to me as an exhibit in this hearing, or

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certainly as part of some final argument I will

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allow that to happen, but again, I'm not going

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to allow concerns over scheduling to be a reason

22 to preclude me from having as full and open and
23 complete a record as I can in this case.

24 So Mr. Ruzow's request is granted
25 and we can schedule it for whatever day we agree

1 (STORM WATER ISSUE) 1795

2 on.

3 MR. RUZOW: The 14th? I'm sorry,
4 the 21st?

5 THE COURT: 21st of July?

6 MR. GERSTMAN: Subject to
7 availability.

8 THE COURT: And if there are
9 concerns with respect to that scheduling,
10 people, if you want to bring back Doctor
11 Alshuler or whoever, you will alert me to those
12 concerns.

13 MR. GERSTMAN: Thank you, Judge.

14 THE COURT: Anything else? All
15 right. Ms. Meltzer.

16 (Whereupon, City Exhibits 23 and 24
17 were marked and received.)

18 MS. MELTZER: This morning the City
19 will continue to make its offer of proof -- this
20 morning the City will continue with its offer of
21 proof with respect to DEC's storm water plan for
22 the project, so Joe Damarath will be talking
23 about some of the issues with the proposed storm
24 water management practices for the operation of
25 the project.

1 (STORM WATER ISSUE) 1796

2 I have asked that two additional
3 exhibits be marked. I am just going to
4 distribute them to the parties while Joe
5 continues.

6 THE COURT: This is what we have
7 marked as 23 and 24?

8 MS. MELTZER: Yes.

9 MR. DAMARATH: I guess what the
10 issue is, is that due to any operational phase
11 that we predict and the DEIS suggested, there
12 will be severe water quality impacts that will
13 be generated by the project in the operational
14 phase.

15 My discussion yesterday was based on
16 again there is three components to a storm water
17 prevention plan. Basically you have hydrologic
18 analysis that we had discussed yesterday,
19 loading analysis that was addressed in the
20 WinSLAMM model, and an erosion control plan.

21 The erosion control plan includes
22 temporary measures taken during construction and
23 permanent measures taken to stabilize the site
24 during for the operational phase.

25 For the operational phase the

1 (STORM WATER ISSUE) 1797
2 HydroCAD model was run based on the cover types
3 and the routings of storm water flow through the
4 developed area. It was the ponds, the micro
5 ponds that were proposed were connected up and
6 there were several distinct discharges about the
7 site at Big Indian and the Belleayre Highland
8 Site, also the Wildacres, but we are going to
9 concentrate on Big Indian as far as my
10 discussion goes.

11 For a couple of, at least three of
12 the sites at the Big Indian, Belleayre Highlands
13 or three locations at the Big Indian, Belleayre
14 Highlands site there are major discharges of
15 storm water. There are a few other discharges
16 that are not quite as large. I'm not going to
17 discuss those, but they are considered issues
18 also, I mean, and I will get to that later on in
19 my discussion here.

20 I want to start by discussing the
21 discharge at Pond 25. On 25, would be
22 collecting flow from several upgradient ponds
23 and discharging at a location right here on the
24 plans.

25 THE COURT: For the record, you are

1 (STORM WATER ISSUE) 1798

2 looking at what?

3 MR. DAMARATH: I am looking at Sheet
4 SD7 of the DEIS. The DEP's map over here, we
5 have mapped this drainage path in blue. That
6 Pond 25 is located approximately right here.
7 Actually this tag is incorrect. You will notice

8 we have Pond 28 on the east end, Pond 25 is on
9 the west end. Over here we have these two
10 areas. Pond 25 is shown on the east end.
11 Actually it's the west end. The tag was put in
12 incorrectly.

13 THE COURT: We are looking at City
14 11?

15 MR. DAMARATH: Right. You will
16 notice with City 11 here this blue line drainage
17 channel is the one that we walked down. It is
18 what we could say is the main channel. We look
19 over here at this sketch that I made early on.
20 I put this on the map early on with my site
21 evaluation and as we walked down this channel I
22 noted at the time that flow split at this bench
23 right here and part of the flow went on the east
24 side of this residence right here and we walked
25 down this section right here. So there is a

1 (STORM WATER ISSUE) 1799
2 flow path that goes this way. We didn't walk
3 down that path.

4 THE COURT: Joe, I just want to stop
5 you for a second. I need to have that in or you
6 are going to lose it. So we are going to make
7 that City 25. We don't have to mark it right
8 now. Go ahead.

9 MR. DAMARATH: If you notice, I
10 think I noted at the time that where this flow
11 splits it hits a flat bench. I also noted that
12 it appears as though the original flow path for
13 this drainage way was re-routed by the logging
14 that was done up here and that that's why a lot
15 of this channel here was in an instable
16 condition and I noted a couple reasons why I
17 thought so would be within the channel such as
18 head cuts and depositions, very large
19 depositions above the culverts, and a lot of
20 overbank flooding in this area as we walked down
21 this drainage path.

22 It's very important to understand
23 that when you are looking at conveyance channels
24 during a modeling exercise, that the most
25 important one or one of the most important ones

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storm events to look at is the hundred year storm. That's a storm where in the general permit, the Phase II general permit, that flows must be safely conveyed off-site. You will notice that this is the post development plan. This shows the ponds, it shows drainage linking these ponds together, and it's tough to follow but certainly by the Applicant's schematic, which we probably should -- that would be.

THE COURT: Appendix 9A?

MS. MELTZER: Appendix 9A.

THE COURT: We don't need to mark it, just tell me where it is.

MS. MELTZER: In Appendix 9A in the Big Indian Post Development section, it's page 1.

THE COURT: Wait, wait, wait. Is there an index? Okay. For the record, we are looking at the section of Appendix 9A, the Big Indian Resort and Spa at Big Indian Country Club, title page and the second page, says Post Development and the very first figure on page 1

24 thereafter is the page that Mr. Damarath is
25 referring to.

1 (STORM WATER ISSUE) 1801

2 MR. DAMARATH: I remind you that
3 HydroCAD uses these icons, a hexagon is a
4 subcatchment, a triangle is a pond, and a square
5 is a reach. I am looking at right now at this
6 point I'm looking at Pond 25 located right
7 there. You will note that on this schematic
8 Pond 25 is modeled to reach 93. Reach 93 you
9 can find a little farther back almost at the
10 very end.

11 MR. GREENE: Big Indian Post
12 Development One Hundred Year Storm, page 4.

13 MR. DAMARATH: So we are looking at
14 reach 93 here. This is the outflow of Pond 25.
15 I want to make note that most of the reaches on
16 this plan are labeled. We see the railroad
17 reaches 97, 98, 99, we see the road reach 87,
18 however, we don't see a reach -- well, yes, we
19 do, I guess we do. It's along this watershed

20 divider is where it is. Okay. Well, be that
21 the case, it's been modeled as in a hundred year
22 storm to have a discharge of 147 cubic feet per
23 second at a length of 1,300 feet at a slope of
24 35 percent.

25 THE COURT: Show me where that is,

1 (STORM WATER ISSUE) 1802

2 Joe.

3 MR. DAMARATH: Right here. It's a
4 little difficult because you have to flip back
5 and forth, here is your headings. So if you are
6 looking at the bottom width of ten feet you are
7 looking at a depth of three feet, we're looking
8 at a length of one hundred, we are looking at a
9 slope of --.

10 THE COURT: We're looking at 97,
11 right?

12 MR. DAMARATH: I'm sorry.

13 THE COURT: You want to be 93,
14 right?

15 MR. DAMARATH: 93, right. So here
16 is the length.

17 THE COURT: Right.
18 MR. DAMARATH: Here is the slope.
19 THE COURT: Right.
20 MR. DAMARATH: 15.
21 THE COURT: Right.
22 MR. DAMARATH: I'm sorry, here is
23 the slope 35. And that's the discharge of 147.
24 THE COURT: 35 meaning what, 35
25 degrees?

1 (STORM WATER ISSUE) 1803
2 MR. DAMARATH: 35 percent. You will
3 also notice that the velocity at the hundred
4 year storm is 11.5 feet per second. That's
5 significant and no channel has been designed for
6 this. So what are we saying here? Is it going
7 to scour a channel this deep? We only assume
8 that it will. I think that about 70 acres
9 discharges to this point and we were at that
10 site. We stood at the point where Pond 25 was
11 to discharge. I believe the immediate slope, do
12 you remember where that was, pond 25? That was

9 over run.

10 THE COURT: Right.

11 MR. GREENE: So that's 35 feet
12 vertically over 100 feet horizontally.

13 THE COURT: Okay.

14 MR. DAMARATH: So my point is that
15 the erosion control, erosion potential for a
16 design like this is severe.

17 Pond 21 is located right here. This
18 is the waste water treatment plant. This is the
19 employees parking lot. Pond 21 is a very small
20 pond located right there at the juncture of
21 those two roads.

22 THE COURT: Also depicted on page 1
23 of this.

24 MR. DAMARATH: It is also in the
25 schematic. If you look at the routing for that,

1 (STORM WATER ISSUE) 1805

2 first of all, again, it's important to look at
3 the hundred year storm because we need to safely
4 convey the hundred year storm. Pond 21
5 discharges to reach 87 at 254 CFS, then into

6 reach 87, to reach 88 at 278 CFS.

7 Just keep going down here, I will
8 take you down this path. Just follow me down
9 it. Pretend we are in a tube.

10 MR. RUZOW: What are we looking at?

11 MR. DAMARATH: We are looking now at
12 C6 where the match for the road continues on at
13 this point. I believe now we are at reach --.

14 THE COURT: Again, any way that you
15 can mark these up that you want me to know, you
16 are going to have to put them in.

17 MR. GREENE: This would be City 26.

18 MR. DAMARATH: I didn't mark this.

19 So on the other plan sheet I showed
20 you reach 87 at 254 CFS flows into reach 88 at
21 278 CFS, flows into reach 89 at 264 CFS.

22 THE COURT: 263.8. What number?

23 MR. DAMARATH: Yeah, 263.8. I
24 rounded it. It takes this turn, which looks
25 like quite a bend. Now we are going down reach

2 90, which I might have rounded this but it's 248
3 CFS. From there it's modeled as heading into a
4 pond. Oh, did I forget reach 94? There's
5 another reach before the pond, reach 94 which is
6 modeled at 247 CFS.

7 THE COURT: Pond 27, that's where we
8 are going?

9 MR. DAMARATH: All this discharges
10 to Pond 27. Pond 27 discharges to reach 94 and
11 we are off this sheet again, have to go back to
12 the other.

13 THE COURT: Pond 27 discharges to 94
14 or 97?

15 MR. DAMARATH: 97. We are back down
16 here again. Here is Pond 27. That discharges
17 to reach 97.

18 THE COURT: Again looking at SD7.

19 MR. DAMARATH: Correct. Here we
20 have a flow of 419, picking up flow, flows down
21 the railroad track to reach 98 at 569 CFS, keeps
22 on going, picks up reach 99 at 595 CFS which
23 takes us to the design point. So as modeled --

24 THE COURT: Meaning design point

25 one?

1 (STORM WATER ISSUE) 1807

2 MR. DAMARATH: Design point one. So

3 as modeled we have a discharge point at design
4 point one at almost 600 cubic feet per second
5 for the hundred year storm. That is huge. And
6 there is nothing from there. I mean, it ends
7 here. I don't know where it goes from here.
8 There is no more routing from here. Design
9 point one is where the analysis ends. We know
10 nothing about this 600 CFS.

11 Again, a point of the General Permit
12 is to safely convey this off-site. I think the
13 crux of the issue here, we got to take an
14 overall look at this entire design of what I
15 have discussed so far. So in general, let me go
16 over this one more time.

17 Pond 25 discharges, which we have
18 provided no erosion control for whatsoever,
19 discharges at 147 CFS over 1,300 feet down this

20 slope. It is going to be collected in a road
21 side swale over the railroad swale, to merge
22 with this other flow. We are nearing 600. As
23 it is picking up, it picks up this flow, that's
24 noted in the design, that this flow is picked up
25 in these reaches because there is a jump in flow

1 (STORM WATER ISSUE) 1808

2 at this point. And I want to make it very clear
3 that this method of dealing with storm water
4 conveyance off this mountain side is not
5 feasible.

6 The Applicant has made one reference
7 to this location, one reference. It's the only
8 explanation that we have of what's going to go
9 on at this point and it's a bit ambiguous. I
10 will read it to you from the quote.

11 THE COURT: What are you reading
12 from?

13 MR. GREENE: He is reading from our
14 technical appendixes, Appendix 9A, page 19.

15 THE COURT: What are you reading to
16 me from, the DEIS?

17 MR. DAMARATH: I am reading a quote
18 from the DEIS, 9A, page 19. Nowhere else in the
19 DEIS is this discussed.

20 THE COURT: Mr. Greene, where is the
21 quote in your appendixes?

22 MR. GREENE: In our appendixes it's
23 at Appendix C1, page 10. We will represent it
24 and we will locate where this quote is exactly,
25 where this quote was extracted to. We have

1 (STORM WATER ISSUE) 1809
2 miscited it.

3 THE COURT: This is the top of your
4 page 10 and your C1.

5 MR. GREENE: We purport it's in
6 the DEIS.

7 MS. BAKNER: We found it.

8 MR. GREENE: It's page 6. Great.
9 Thank you very much.

10 THE COURT: Appreciate the
11 co-operative effort.

12 MR. GREENE: It's an Issues

13 Conference, elaborative process.

14 MR. DAMARATH: So what this says,
15 and I will read it very slowly because it's a
16 little hard to get your mind around: Design
17 assumes that any small femoral streams,
18 intermittent drainage ditches, or wash-outs of
19 the railroad ditch that could be intercepted by
20 storm water discharges. Try to get your mind
21 around that. What I think this is saying is
22 that existing femoral streams transporting clean
23 water, I imagine intermittent drainage ditches
24 wash out to the railroad ditch, that may be
25 intercepted or I think a better word might be

1 (STORM WATER ISSUE) 1810

2 co-mingled by storm water discharges will be
3 bypassed in order to maintain separations of
4 storm water runoff in any existing streams.
5 This can be accomplished by repairs made within
6 the existing railroad bed.

7 We don't know what repairs. They
8 are not stated anywhere what repairs they could

9 possibly do along this railroad bed to bypass
10 clean water that isn't coming off the top of the
11 mountain and separate out the storm water.
12 Again, remember, we got, at this
13 point we got 600 CFS. You saw the streams
14 coming down. We know we are discharging Pond 25
15 off of here. Now, this may all be technically
16 feasible, but I believe it is not, and the
17 reason I don't believe it's feasible is one
18 thing that is often not taken into account when
19 we are looking at stream flow, it's not apparent
20 in pipe flow, but when you are talking about
21 stream flow you can't ignore the sediment flow,
22 you cannot ignore the bed flow of movement of
23 these streams, of these man-made riprap
24 channels. We are heading down a slope here
25 along this road that's relatively steep

1 (STORM WATER ISSUE) 1811
2 gradient. We hit this railroad track and DEIS
3 states these reaches along the railroad track
4 are on a slope of two percent or so. Whenever a

5 stream -- and you noted or I made note to you of
6 how when you are in steep sections you can get
7 erosion and head cut in the sizing of a channel.
8 When you hit constructions or when you get
9 changes in slope you get depositional areas,
10 flow spreads out, channels become wider, and
11 that material that was moved quickly through
12 those steep sections and narrow stream channels
13 is deposited in the lesser slope, wider stream
14 channel sections.

15 So my feeling that this errie method
16 of transporting this kind of flow to this point
17 down here, which was designated design point
18 one, is not feasible due to the fact that this
19 discharge from Pond 25 is going to be
20 carrying -- there is a very steep channel and
21 it's going to be carrying a sediment load. This
22 sediment load is going to come down, it's going
23 to hit that railroad track, that flat railroad
24 track, and it's going to deposit. It's going to
25 deposit within whatever collection channel we

2 are going to make. It's going to be a block to
3 flow and it's going to cause that channel to be
4 unable to convey that water. This can happen in
5 one storm event. And everything could be
6 looking great, one good size storm event comes
7 down, loads that channel up and takes all that
8 flow coming down the railroad track and tosses
9 it off in Birch Creek somewhere. This can also
10 happen within the steep gradient of the road
11 when it gets to the railroad track. Again, we
12 are carrying a sediment load, coming down off
13 the site, whatever, coming down through these
14 areas, hits the railroad track, deposited,
15 there's a point of possible failure. That
16 distance, by the way, of that railroad track,
17 those reaches that I noted from Pond 27 down to
18 what's called design point one, that's about
19 1.44 miles.

20 I would like now to go to the sheet
21 SD --.

22 MR. GREENE: SD6.

23 MR. DAMARATH: I want to point us
24 now to another drainage schematic, this is going

25 to be a real hard one to find. It's page 1,

1 (STORM WATER ISSUE) 1813

2 Belleayre Highlands Proposed.

3 THE COURT: Appendix 9A?

4 MR. DAMARATH: Yes, we are still in
5 9A.

6 THE COURT: Proposed?

7 MR. DAMARATH: Yeah, Proposed. It's
8 right after --

9 MR. GREENE: One Hundred Year Storm
10 Event, pages 149, 150, Belleayre Highlands Post
11 Development.

12 THE COURT: That doesn't help me.

13 MS. BAKNER: Your Honor, Dave has
14 it. We will bring it up. It doesn't have a
15 good reference.

16 THE COURT: Find it for me too,
17 please.

18 MR. GREENE: It's page 1 of that
19 appendix or section, then we are going to go to
20 page 50 in the Hundred Year Storm section,

21 that's page 50 of the Belleayre Highlands.

22 THE COURT: Does that look like it?

23 MR. GREENE: That's it.

24 THE COURT: Okay. Go.

25 MR. DAMARATH: Okay. Now.

1 (STORM WATER ISSUE) 1814

2 MR. GREENE: It's just 50. I
3 thought it was 49. I apologize.

4 MR. DAMARATH: What I am looking at
5 is what was modeled as Pond 8. Pond 8 is
6 located on this schematic right here.

7 THE COURT: Okay.

8 MR. DAMARATH: Pond 8 is the only
9 location on the entire site where the Applicant
10 has designed a level spreader structure. I'm
11 not sure if this is the only place it is going
12 to be used, but this is the only place it has
13 been designed and modeled.

14 THE COURT: Explain for the record
15 what a level spreader is.

16 MR. DAMARATH: A level spreader,
17 what the Blue Book, and it's in the Blue Book

18 Guidelines --

19 MR. GREENE: I have the pages here.
20 I am going to submit it as an exhibit. I will
21 do that right now.

22 THE COURT: This will be City 26.

23 (Whereupon, City Exhibits 25 and 26
24 were marked and received.)

25 MR. GREENE: These are excerpts from

1 (STORM WATER ISSUE) 1815

2 the Erosion and Sediment -- the Blue Book
3 manual, the Guidelines for Erosion and Sediment
4 Control which is a DEC document.

5 MR. DAMARATH: The idea of a -- can
6 I go?

7 The idea of a level spreader
8 structure is to take a concentrated flow, spread
9 it out on the contour of a hillside and release
10 it into a sheet flow. The ability of this
11 structure to work depends on several things.
12 There was actually some thought of taking it out
13 of the Blue Book because they fail so often,

14 even designed correctly, but the idea is that
15 you discharge -- the discharge from this level
16 spreader is spread out in a sheet flow and it's
17 extremely important that your downstream area
18 has a slope that's less than 10 percent, has an
19 even topography, and is densely vegetated to
20 keep that flow sheet.

21 THE COURT: So how is that
22 accomplished, through swales or is it through
23 some kind of structure or riprap?

24 MR. DAMARATH: Actually the
25 Applicant shows two different designs for a

1 (STORM WATER ISSUE) 1816
2 level spreader structure. The one that they
3 designed at this location is actually modeled as
4 a pipe where all the flow comes down almost into
5 a pipe which is perforated and it discharges out
6 onto the road fill slope. It's actually built
7 into the road fill slope and this is at a point
8 where that slope is like 60 percent. We stood
9 there at the Belleayre Highlands site and looked

10 off where this road was going to be and where
11 this level spreader structure was going to be.
12 It's actually located, you will see here, that
13 this is a cut, this is the road, the new roadway
14 against Giggle Hollow. This is a cut, this is a
15 fill here. And that level spreader structure
16 will be built into the fill.

17 THE COURT: You are referring to
18 SD6?

19 MR. DAMARATH: I was referring to
20 SD6. If you flip now to the other page.

21 MR. GREENE: Page 50.

22 MR. DAMARATH: Page 50, you will see
23 and wait, go back to the schematic for one
24 second, look at where I had Pond 8. Pond 8
25 discharges to reach 52, 53 and then to 27. If

1 (STORM WATER ISSUE) 1817
2 you flip back now to page 50, you will see those
3 two reaches, 52 and 53.

4 MS. BAKNER: Can we take a break? I
5 think some people are still looking for the
6 pages.

7 MS. KREBS: Can you just review
8 again what page you are on?

9 MR. DAMARATH: Right now I am
10 flipping back and forth a bit but right now I
11 have gone back to 50.

12 MR. GREENE: There's two pages. One
13 is Belleayre Highlands Post Development, page 1,
14 the schematic. The page that outlines the
15 velocity of the reaches is page 50 right here,
16 the schematic. Should be the first page of the
17 Belleayre Highlands Post Development.

18 MR. DAMARATH: I believe I have to
19 point out one more page. Sorry to keep throwing
20 you around like this, really apologize.

21 THE COURT: Find where we need to be
22 next, then we will let Mr. Greene know. Bring
23 everybody to the same page. Joe, you want to
24 add a page?

25 MR. DAMARATH: I do. Page 41. I

1 (STORM WATER ISSUE) 1818
2 also want to flip you to page 41.

3 THE COURT: You are at page 50, just
4 go back nine pages.

5 MR. DAMARATH: Okay. If you will
6 note -- just a second, I want to make sure I'm
7 at the right place.

8 MR. GREENE: Your Honor, can we take
9 a one-minute break?

10 THE COURT: Not a problem. Five
11 minutes.

12 (A recess was taken.)

13 THE COURT: Okay. We are ready?

14 MR. GREENE: We are ready.

15 MR. DAMARATH: Thanks for bearing
16 with me. Sorry about that. A little hard to
17 get things together here when we are all over
18 the place like this.

19 I want to now just reiterate looking
20 at the level spreader coming off the Belleayre
21 Highlands site directed toward Giggle Hollow
22 stream. We are looking at the schematic on page
23 1 of the Belleayre Highlands Proposed and we are
24 looking at the reach properties on page 50.

25 THE COURT: Appendix 9A.

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MR. DAMARATH: Right, Appendix 9A. I mentioned another page, page 41. We are not going there, it's not necessary. Okay.

If you look at the schematic, Pond 8 discharges to reach 52 to 53. Refer to page 50 and we look at reach 52 and 53 at the bottom of those pages. Let's take a look at what we have there. Unfortunately, you have to flip back to page 49 to see what the headings are for each of these columns, but if you come across with me we are modeling a channel down the hillside at 200 feet wide. Look at 52 first. The channel is 200 feet wide. It is one foot, the bottom width is one foot. The side slopes is foot, foot is 33 percent. The length is 200 feet and the slope is 50 feet. The discharge is 177, or roughly rounded up 178 CFS. The peak velocity is 6.2 feet per second. This reach flows directly into reach 53 which is another 200 foot wide reach modeled at one foot deep, a lesser slope, 800 feet long, at a slope of 45 percent

23 at a peak velocity of 5.9 and the discharge has
24 reduced to 168.4 CFS. That distance total, help
25 me out, a thousand feet, this map is at a scale

1 (STORM WATER ISSUE) 1820
2 of an inch equals 200 feet. Basically we are
3 somewhere here. We look at see where that would
4 be, a thousand feet takes you past the stream on
5 a straight line. Maybe travel time was taken as
6 a sinuous path, but roughly say it takes us to
7 the creek itself. To maintain a 200-foot wide
8 channel, and this isn't a design channel, we are
9 letting this level spreader go off this slope.
10 That's impossible, not going to happen, no way,
11 no how. This flow is going to go down this
12 steep slope, it's going to hit even micro
13 topography, let alone boulders and any major
14 topographical differences in the slope, that's
15 going to separate out this flow, it's going to
16 spread out, it's going to be compounded when it
17 hits these typical Catskill benches where the
18 flow spreads out and it's going to develop into

19 a concentrated flow channel. The hundred year
20 storm could be devastating. That's enough of
21 that.

22 MR. GREENE: Exhibits 23 and City
23 Exhibits handed out earlier, we are going to use
24 City Exhibits 23 and 24, the Soil Map and the
25 Soil Survey.

1 (STORM WATER ISSUE) 1821

2 MR. DAMARATH: If you take a look at
3 the soil map that I have provided, I made two
4 Xs.

5 MR. GREENE: Joe, where is that soil
6 map from, Joe?

7 MR. DAMARATH: The Soil map is from
8 the Ulster County Soil Survey. I photocopied
9 the sheet that shows these two discharge
10 locations, the Pond 25 discharge and the Pond 8
11 discharge from Belleayre Highlands.

12 THE COURT: They are indicated by
13 the Xs?

14 MR. DAMARATH: Right.

15 THE COURT: Okay. Which X is which?

16 MR. DAMARATH: The eastern X that
17 would be on the right-hand side is your Pond 25,
18 discharge from the Big Indian site. The western
19 X is your Pond 8 discharge from the Belleayre
20 Highlands site.

21 If you take a look at those soils,
22 the ones I want to point out are the Lacawanna
23 soils, that's the LCF on the Giggle Hollow area
24 and it's the LCD on the Belleayre or the Big
25 Indian site. I also want to point out below the

1 (STORM WATER ISSUE) 1822
2 LCD soils on the Big Indian site are SaC soils.
3 There is a thin strip right there, that's a
4 Schoharie silt loam. Now if we quickly flip to
5 the booklet I gave you, I would like to just go,
6 first take a look at the LCD soils. You will
7 note on here it says Lacawanna and Swartswood,
8 very boldery soils, right there on the very
9 first page.

10 THE COURT: Page 39 of Exhibit 23.

11 MR. DAMARATH: That's right, page

12 39. The Swartswood soils describe similar soils
13 in the Shawangunk areas and the Lacawanna soils
14 are the Catskill soils. If you go down several
15 paragraphs, you will see -- let's see where I
16 am. LCD, go down two, three, four, five
17 paragraphs. At the bottom of that left-hand
18 column, four lines from the top it will mention
19 that, on the lower slopes, mainly in the Esopus
20 Creek Valley, it has more clay than typical.
21 That's always important to note whenever you see
22 clay.

23 Go to the next column.

24 THE COURT: Joe, you are
25 highlighting the phrase it says, "and some areas

1 (STORM WATER ISSUE) 1823

2 of the lower slopes mainly on the Esopus Creek
3 valley of a soil," is that what you are drawing
4 my attention to?

5 MR. DAMARATH: That's right. Of a
6 soil that is similar to the Valois soil but has
7 more clay than is typical.

8 Follow me on to the next column.

9 You see that right at the top there, that
10 paragraph that starts, "free water," go down 10,
11 11 lines where there is a paragraph that starts
12 with "runoff," says "runoff is very rapid."

13 THE COURT: The sentence "runoff is
14 very rapid," okay.

15 MR. DAMARATH: Go down you see where
16 it says LCF at the bottom, go up two paragraphs
17 where it starts with "woodland productivity."
18 It will mention there that logging roads and
19 skid trails need to be welllaid out and need to
20 be protected from erosion with drainage dips or
21 water bars.

22 Next paragraph, go down to the
23 second sentence. It says, the hazard of erosion
24 is severe during construction. These LCD soils
25 are located below the discharge of Pond 25.

1 (STORM WATER ISSUE) 1824

2 Now I want to talk about the LCF
3 soils on that same page. These soils you will
4 see are noted on the Soil Survey Map at the Pond

5 8 discharge over Giggie Hollow. Almost that
6 entire length of soil is LCF soils.

7 So if we flip to page 40, the next
8 page, go to the bottom of the first column, 12
9 lines up from the bottom of that column there is
10 a sentence that starts, "runoff is very rapid."
11 Okay, says, "runoff is very rapid. In some
12 areas streams have undercut the very steep
13 slopes and have caused sections to slump and
14 form escarpments." That's telling you this soil
15 is prone to mass movement. Catastrophic
16 failure, if you will.

17 Go up to the next column, top of the
18 page, the second paragraph from the end of the
19 description of this soil. It says there on the
20 second sentence, "logging roads and skid trails
21 need to be well designed and need to be
22 protected from erosion."

23 The next paragraph, last paragraph
24 of this section is it says, "the hazard of
25 erosion is high when vegetation is removed."

1
2 Now, if you go back to the map and
3 look again you will notice that there are large
4 areas around the Big Indian site that are
5 designated as ARF, that's Arnot-Oquaga-Rock
6 outcrop complex I believe, and you will find
7 that on page 13. All I want to note there is if
8 you go down one, two, three, four, the fifth
9 paragraph that starts, "included with this unit
10 in mapping."

11 MR. RUZOW: Joe, I'm sorry, which
12 page?

13 THE COURT: They are not in order.
14 So we are on page 13 now.

15 MR. DAMARATH: Right. I want to go
16 five paragraphs down. It starts, "included with
17 this unit." That sentence says, "included with
18 this unit in mapping are Valois, Swartswood,
19 Lackawanna and Bath soils that are intermingled
20 with the Oquaga soils at the basis of slopes
21 where soil depth is more than 40 inches." In
22 other words, within this ARF area that's
23 delineated on this soil map it's not all that

24 soil. Sometimes it's hard because these soils
25 are so intermingled that the Soil Survey doesn't

1 (STORM WATER ISSUE) 1826

2 map them also. Instead they will state what
3 they feel is the dominant soil and then they
4 will state that there are inclusions which means
5 this Lacawanna soil is scattered in there in
6 places. We don't know where it is. It may be
7 throughout this whole slope in significant
8 areas.

9 You will look again in that same
10 area look just below that eastern X of Pond 25
11 discharges is ORD soil. The ARF is
12 Arnot-Oquaga. The ORD is Oquaga-Arnot. They
13 are similar soils. That's all I will say about
14 that.

15 The last place I want to go is take
16 a look at below Pond 25 you will see that sliver
17 near the stream of SaC soils. If you back up a
18 page or two, that's page 67, and that's
19 described as Schoharie silt loam. If you flip

20 to the next page, page 68, at the very top of
21 that first column it mentions, that's where the
22 description is of the soil profile and you will
23 see that lower down in the soil profile we have
24 this varved silty clay and silty clay loam. If
25 you remember at I think our second to last site

1 (STORM WATER ISSUE) 1827

2 visit we stopped on the bridge on Winding
3 Mountain Road and looked within Birch Creek and
4 you saw those exposed varved clays.

5 THE COURT: Joe, where exactly
6 within that paragraph are you directing my
7 attention?

8 MR. DAMARATH: I am directing you to
9 the very top of the page, it says varved silty
10 clay.

11 THE COURT: Varved silty clay.

12 MR. DAMARATH: And if you flip back
13 to the other page what we are describing there
14 is the profile from the top to the bottom and it
15 is saying the underlying soil is this varved

16 silty clay.

17 Now go down to the second paragraph

18 down where it starts, "this soil has a perched."

19 So there is a perched seasonal high water table.

20 Roots are mainly confined to the upper 20 or 30

21 inches. That's important. Roots can't

22 penetrate very deeply for that reason.

23 Stabilization of vegetation isn't that all

24 effective on these soils for certain reasons. I

25 will explain it as we go down a little further.

1 (STORM WATER ISSUE) 1828

2 If you go down a couple more

3 paragraphs it says, the paragraph that starts

4 "that this soil is suited to cultivated crops."

5 Do you see that paragraph? I just want to

6 mention in the next sentence or sentences after

7 that: Seasonal wetness, high content of clay

8 and silt in the subsoil, and slow or very slow

9 permeability, that's the important aspect of

10 this soil.

11 If you go to the next column over

12 starting with the paragraph that says, "perched

13 seasonal high water table," the sentence I want
14 to point out is right there. Perched seasonal
15 high water table, low strength, slope and slow
16 or very slow permeability in the subsoil.

17 Now go down from the top of that
18 paragraph 10 lines down. It says that cut
19 slopes are subject to slippage. Another line
20 down says the hazard of erosion is severe during
21 construction.

22 MR. GREENE: Joe, you have gone
23 through the Soil Survey. Can you summarize what
24 your point is with the soils?

25 MR. DAMARATH: My point is that this

1 (STORM WATER ISSUE) 1829
2 information is readily available. The Soil
3 Survey is well known to anybody who does any
4 planning. It's not only important to look at
5 soils that are on your site, but it is critical
6 to look at off-site soils too, especially where
7 you are discharging concentrated flow you have
8 to know what the erosion hazard of the soil is.

9 You have to have some idea of what their
10 limitations are and what the effect on them is
11 if they are loaded with water, either from a
12 concentrated flow or from a flow which charges
13 the water table or has an ability to recharge
14 into the water table and raise or change the
15 ground water elevations in these areas. You are
16 sending a lot of water down to these areas. You
17 have the capability of charging the ground water
18 and raising ground water elevations or loading
19 these soils with water making them wetter, to
20 put it in simplified terms.

21 MR. GREENE: Has the Applicant
22 provided an adequate analysis of these off site
23 soils?

24 MR. DAMARATH: No, none of these are
25 described in the DEIS to my knowledge and the

1 (STORM WATER ISSUE) 1830
2 erosibility of the soils is not mentioned at
3 all.

4 With the Lacawanna soil we know
5 that, we have found through the Soil Survey that

6 it may be subject to mass wasting when a
7 concentrated flow is introduced. We also see
8 the Lacawanna soil on the Big Indian site where
9 Pond 25 is discharging, but the point that I
10 want to make most is that we already have
11 problems in Birch Creek with exposed clays due
12 to instabilities within the stream and I also
13 want to explain an observation that I had out on
14 site.

15 You may have noticed during our site
16 walk, you may not have, that downhill of the
17 railroad bed there was one location where there
18 was a loam of soil that I believe has shown
19 signs of creeping. Soil creep is something that
20 happens when a soil that can hold high moisture
21 is sitting over top of a soil such as a varved
22 clay. What can happen when you charge that
23 soil, that profile with water, is you can get
24 creepage or mass movement of that soil in a
25 direction towards the creek as that material

2 rides over top of that clay, and there is signs
3 of mass movement of this soil along that stretch
4 of Birch Creek on that hillside below the
5 railroad track below the project area.

6 MS. BAKNER: Your Honor, could Joe
7 locate that on a map?

8 MR. DAMARATH: I could give it out
9 at a later date. I could give you a general
10 idea where I think it is; certainly could take
11 anybody there.

12 THE COURT: Joe, you got City 24.
13 Can you locate it on that map, that soils map?

14 MR. DAMARATH: Something recent like
15 that is not going to show up on topo maps. Topo
16 maps aren't that fine, contour lines are too
17 great.

18 THE COURT: The theory you are
19 talking about is somewhere within this run of 28
20 shown on the map.

21 MR. DAMARATH: Right.

22 THE COURT: I don't want you to
23 guess. I want you to be as precise as possible.
24 So if you want to do it on a break or something,

25 I will let you do that.

1 (STORM WATER ISSUE) 1832

2 MR. DAMARATH: Well, it's going to
3 have to be somewhat of a guess, but my best
4 guess is going to be if you look along the
5 railroad you will come down to an area where it
6 says "PEN" right here. You see where it says
7 "PEN." You will notice that's adjacent to this
8 SaC soil. I believe the mass movement I noticed
9 was right there and what I found was a loam of
10 soil, if you will.

11 THE COURT: Counsel want to come on
12 up here?

13 (Discussion off the record.)

14 MR. DAMARATH: Now I want to explain
15 what I saw and how one of the ways you can
16 identify mass movement of soil. There was a
17 definite soil loam or there was a leading front
18 to it. One of the most identifying features is
19 the trees were leaning out along that leading
20 front. That's all evidence of soil creep mass
21 movement.

22 MR. GREENE: Just before we move on.

23 THE COURT: Very considerate of you.

24 MR. GREENE: I saw you were busy
25 over there, Judge. I just wanted to note before

1 (STORM WATER ISSUE) 1833

2 we move on all the numbers Joe took us through
3 today in the Appendix, those are all derived
4 from the HydroCAD modeling which the City
5 contends is not accurate. So Joe is discussing,
6 basing this analysis on the model we believe is
7 inaccurate based on the testimony yet.

8 The next issue we are going to move
9 on is a related issue to the operation phase,
10 storm water plan. In here we are going to talk
11 specifically about the two SPDES permits, the
12 Wildacres permit and the Big Indian permit and
13 the differences between those two permits.

14 The Wildacres SPDES permit contains
15 an individual component for the storm water for
16 12 storm water pond outfalls. Those outfalls
17 have concentration based effluent limitations

18 for pesticides, they also have effluent
19 limitations for phosphorus and monitoring
20 limitations for total suspended solids amongst
21 other conditions. No such mechanism exists for
22 the Big Indian storm water plan. However, it is
23 the City's position that there is no rational
24 basis for the differences between these two
25 permits. The City contends that the impacts on

1 (STORM WATER ISSUE) 1834

2 the Big Indian side will be more severe than the
3 impacts on the Wildacres portion and, therefore,
4 this protective mechanism should also be
5 included in the Big Indian SPDES permit.

6 Joe Damarath will now talk about
7 places where the Big Indian terminal ponds, some
8 of them, some of which were identified in the
9 previous section of our testimony, Pond 25, will
10 result in direct discharges to surface waters on
11 or around the Big Indian site.

12 Therefore, there is, again, truly no
13 rational basis for this lopsided distinction
14 between the permits for the actual protections

15 of the Wildacres permit which obviously DEC felt
16 were necessary to put in and for having no such
17 protections in the Big Indian permit when there
18 is virtually not a very great distinction
19 between what's actually happening on the site.

20 Now Joe will go into some of the
21 possible outfalls that will result from these
22 terminal ponds.

23 MR. DAMARATH: I will remind you
24 what I just went over was three major discharges
25 from the Belleayre Highlands and Big Indian

1 (STORM WATER ISSUE) 1835
2 sites. There are others that need closer
3 scrutiny. I am not going to go there today, I
4 will stick with the larger ones that I have
5 evaluated more carefully.

6 We will start with the Belleayre
7 Highlands and Pond 8, that level spreader. As I
8 just mentioned before, in my estimation, my
9 belief based on flow characteristics and soils
10 on the site, the discharge from that level

11 spreader will scour a channel and result in a
12 direct discharge to Giggle Hollow stream.
13 Likewise, Pond 25 will do the same. It will
14 scour a channel. It's actually been modeled as
15 a 10-foot wide channel. It will scour a channel
16 down the slope, either be collected at the
17 railroad ditch and conveyed to what's been
18 referred to as design point one or as I feel
19 will happen with this entire plan of conveying
20 water down the side of a mountain is not
21 feasible and may not even ever make it long-term
22 to design point one as failures within that
23 channel along the railroad bed will send it
24 directly into Birch Creek. Either way it's a
25 point discharge to either Birch Creek or

1 (STORM WATER ISSUE) 1836
2 whenever design point one is going to, which is
3 not at all evaluated.

4 The discharge from Pond 21 I will
5 refer to similarly, that I feel that it is
6 conveyed directly down or the plans show it
7 conveyed directly down the new Friendship Road

8 access road to be collected into railroad ditch
9 swale to be constructed, proposed to be
10 constructed by the Applicant. That whether it
11 makes it to design point one or doesn't due to
12 the failure in the design, it will result in a
13 direct point discharge to Birch Creek or
14 wherever design point one goes to.

15 MR. GREENE: We would like to now
16 move into the construction phase, erosion
17 control plans which are I believe in the DEIS
18 located in Appendix 11. Joe Damarath will be
19 testifying about impacts, severe impacts,
20 erosion impacts which will occur during the
21 construction phase particularly because Big
22 Indian is the one area where the controls have
23 been thus far identified, the focus will be on
24 the Big Indian, the Proposed Big Indian
25 Construction Phase as set forth in Appendix 11.

1 (STORM WATER ISSUE) 1837

2 MR. DAMARATH: So it's our issue the
3 Applicant's analysis of the erosion sediment

4 control impacts arising from the construction
5 phase is deficient. The Applicant has not
6 considered or mitigated the serious erosion
7 sedimentation impacts that will result from
8 construction of the access roads to Big Indian.
9 We are talking about the new Friendship Road
10 access road and also the Giggle Hollow Road
11 access road. I am referring to plan sheet SD6.
12 The Phase II General Permit is very clear on
13 erosion sediment control plans as is the New
14 York Guidelines for Erosion Sediment Control.
15 You must phase your erosion control plan. We
16 know that there is extensive phasing on the
17 plateau with construction of the fairways. I
18 will refer you to the phasing table located in
19 Appendix 11, page 6.

20 MS. BAKNER: Just a second, we are
21 looking for it.

22 MR. GREENE: Do you need any maps
23 set up for this? You have the two access road
24 maps. Why don't we take a minute to set that
25 up. I want you to be able to show that.

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THE COURT: Take a minute. Do you have anything you want to put into evidence at all, exhibits with this?

MR. DAMARATH: I'm not drawing anything on it, just put two maps together.

(A recess was taken.).

MR. DAMARATH: I was discussing the phasing plan and I was pointing you to page 6 of Appendix 11 which discusses the phasing plan. I was pointing you to Part Four which discusses the access road construction from Friendship to the Big Indian Plateau and across Giggle Hollow linking the Big Indian Plateau to Belleayre Highlands.

So this is Part Four of the phasing plan and I will just read you through it briefly. It says, Construct a main access road in the bridge over Birch Creek near Friendship Road simultaneous. Main access road construction will begin at the top of the plateau near the proposed hotel site and

23 progress downhill towards the bridge over Birch
24 Creek. Install portable and irrigation water
25 supply lines, waste water lines and utilities

1 (STORM WATER ISSUE) 1839
2 along the access road. Road to be constructed
3 so that the binder course is installed in six
4 months or less. Once this road is passable the
5 new bridge at Winding Mountain Road will be
6 built. Also continue access road to Giggle
7 Hollow. Now, I'm not sure when the initiation
8 of the access road to Giggle Hollow Road is, but
9 it says also continue, so it may be, it's a bit
10 ambiguous but it may be that the Friendship Road
11 access road will be being constructed as the
12 Giggle Hollow access road will be constructed.
13 It's a little bit unclear here. And then the
14 bridge across the brook and then continue on to
15 Belleayre Highlands to Woodchuck Hollow Road.

16 This isn't phasing. There is no
17 phasing here of this road. This is a continuous
18 construction process and it appears from worse
19 case scenario not understanding a bit of

20 ambiguity in this block right here number four,
21 we could be constructing both roads at the same
22 time. Now we have talked about a top to bottom
23 approach.

24 MR. GREENE: Joe, before we move on,
25 can you just tell us why phasing, let's focus on

1 (STORM WATER ISSUE) 1840

2 the Friendship access road. Why is phasing so
3 critical of that particular portion of the
4 construction phase? What about that, the
5 context of that construction phase is so
6 important?

7 MR. DAMARATH: My understanding is
8 DEC has asked that a very detailed phasing plan
9 be done for the construction of the Belleayre
10 plateau. The reason that that request was made
11 was due to the stream sensitivity of this area.
12 As a matter of fact, site-wide this has been
13 designated as the most difficult place to
14 construct this. It's got the most limitations,
15 slope being the number one. So in doing this

16 detailed phasing plan, the Applicant has taken
17 all of its time and all of its energy providing
18 extremely detailed phasing plan of the
19 construction of the plateau. The roads were
20 left out. As a matter of fact --

21 THE COURT: You are looking at, tell
22 me what you are looking at.

23 MR. DAMARATH: I am looking at
24 the --.

25 THE COURT: SD what?

1 (STORM WATER ISSUE) 1841

2 MR. DAMARATH: DS7 coupled with SD6.

3 So while a lot of time and energy
4 went into phasing the construction on the
5 plateau, and it is very detailed, there is no
6 phasing of the road, none at all. There is no
7 phasing of the road over Eagle Hollow. This is
8 an extremely sensitive area.

9 MR. GREENE: Why is that area
10 sensitive, Joe?

11 MR. DAMARATH: Because the slopes
12 are so steep and, as I mentioned, the Soil

13 Survey puts this road through areas that are
14 very erodible and are at extreme hazard to
15 erosion when exposed, when vegetation is
16 stripped off.

17 They also talk about drainage during
18 logging. You will note or you will remember on
19 our site visit that I pointed out a number of
20 logging roads that traversed the hillside and I
21 pointed out that these logging roads can easily
22 collect runoff and change flow paths directing
23 concentrated flow down the roads. Indeed, I
24 have been to hundreds of logging sites and the
25 number one problem with logging is the skid

1 (STORM WATER ISSUE) 1842
2 roads and their proximity to sensitive
3 resources. We are going to work here, the only,
4 the only phasing suggested for these roads is
5 just this top to bottom approach. Erosion
6 control, temporary erosion control measures to
7 my knowledge are not mentioned in the DEIS at
8 all for the road. But I have to kind of feel

9 that the construction of this road would be
10 analogous to a logging road and here are some of
11 the problems with logging roads.

12 1. On steep slopes you can't get
13 sediment traps in, so your whole, your
14 management plan or your management practice of
15 taking concentrated runoff and putting it into a
16 pond of large volume and providing a volume
17 large enough to settle out particles before
18 overtopping the pond and discharging can't be
19 done here. It's not feasible. Not with a lot
20 more disturbed area and a lot more fill.

21 MR. GREENE: Has the Applicant shown
22 any temporary sediment ponds for its
23 construction of the road?

24 MR. DAMARATH: No, no temporary
25 sediment ponds were shown on the construction

1 (STORM WATER ISSUE) 1843
2 plans for the construction of the road. So
3 sediment ponds are out. As they are with
4 logging projects, you will never see a logger

5 put in a sediment pond unless perhaps down lower
6 on the site on the landing area sometimes you
7 will see one but rarely are they used. Loggers
8 mainly rely on broad-based dips and water bars
9 in their logging roads. I will explain both of
10 those.

11 A broad-based dip is a general
12 lowering of a road in a section. If you look at
13 this traverse coming down the mountain side, a
14 broad-base dip would be a localized lowering of
15 the road in certain sections. These should be
16 spaced according to your slope. The steeper
17 your slope, the closer your dip should be.
18 Essentially what happens is any concentrated
19 runoff along that road will hit this depression
20 or dip in the road and runoff will be diverted
21 off-site, or off-site, off the road way, off the
22 disturbed area. You want to put these in as
23 much as possible because you don't want long
24 stretches of concentrated flow running down this
25 road, picking up speed, scouring, picking up

2 sediment, then discharging, because if your
3 discharge gets too great, the greater the chance
4 of making it down to your valley resources or
5 any other sensitive seeps or wetlands that may
6 be situated along this slope, or I will look in
7 this area because they are not saying about a
8 road over here right now, but any sensitive
9 areas that and again I have to point out that
10 this entire section here, anywhere off-site, the
11 Applicant has done no research regarding any
12 wetlands or seeps or any water courses or
13 drainage patches down here that could be
14 affected by off-site discharges of any kind.

15 So broad-based dips. I don't
16 believe that broad-based dips are going to be an
17 option here. Again, anything is do-able. They
18 could put temporary broad-based dips in, but in
19 fact loggers rarely use broad-based dips, but
20 what loggers usually rely on is water bars. And
21 water bars can be very effective. What a water
22 bar is, is simply they also call them thank you
23 ma'ams for whatever reason. If you are looking
24 downslope or along a roadway, what a water bar

25

will do, and if this is the uphill side and this

1

(STORM WATER ISSUE)

1845

2

is the downhill side, what a water bar is, is

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just a ditch in the road obliquely. So that any

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water coming down is diverted off in this ditch.

5

Water bars again, it's very specific, they are

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spacing depending on the slope. The more

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steeper your slope, the closer these water bars

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are spaced. It is a guideline in the New York

9

Guidelines for Erosion and Sediment Control and

10

all the specifications for them are in there.

11

Regardless of loggers using these

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water bars, and many of them do, many of them

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don't, but regardless of them using them, there

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is a big problem with water bars during the

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construction phase, a huge problem, and that is

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that heavy equipment running back and forth, if

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you can imagine us advancing this road down the

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hillside, and heavy equipment coming down doing

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more cuts, coming back up, coming down, doing

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more cuts, what happens is these water bars get

21 ruted and they basically have to be installed
22 almost daily depending on the soil. If you are
23 in a rocky bouldery, bony enough substrat,
24 sometimes you can get away with having these
25 diversions last. But often, especially when you

1 (STORM WATER ISSUE) 1846
2 are getting into softer soils, probably found
3 these Lacawanna soils I believe that the Soil
4 Survey specifically pointed out that you need to
5 put in diversion structures, those soils it may
6 be more difficult to install water bars that
7 will not be wiped out by the heavy equipment
8 that's run back and forth, dump trucks loaded up
9 with material back and forth up the mountain.
10 You can imagine what happens with a truck when
11 you get to very defined ruts in the road. This
12 problem could be further compounded because as
13 you are making these ruts you are essentially
14 making new channels going down the road. As you
15 are establishing a cut fill to make the road you
16 can intercept groundwater seeps. As this road
17 advances down the mountain, this problem can get

18 worse and worse and worse. Water bars that
19 would have to be re-established would have to be
20 more numerous. At the close of each business
21 day they may have to be redefined. This becomes
22 a burden for the contractor. It is something
23 that's often ignored.

24 MR. GREENE: Joe, just to be clear,
25 the Applicant has not provided any temporary

1 (STORM WATER ISSUE) 1847

2 erosion -- the Applicant has not provided any
3 temporary controls for construction of this road
4 in the DEIS?

5 MR. DAMARATH: When I reviewed the
6 DEIS I have not found anything regarding
7 temporary erosion control on the roadways.

8 MS. MELTZER: You are speaking to
9 the feasibility here rather than responding.

10 MR. DAMARATH: The feasibility of a
11 road like this constructed on this slope with
12 heavy equipment that is being proposed.

13 As we come closer down to Birch

14 Creek, of course, you know the chance becomes
15 more and more that we are going to have a
16 problem like this, and although this top as we
17 have a top down approach, it could be that as we
18 advance down this mountain that you are not
19 really seeing much of a problem because of the
20 forested slope maybe dissipating any runoff a
21 bit, maybe not getting any turbidity discharges
22 into Birch Creek that are noticeable. This
23 thing could progress away before we start to
24 see any impact. Hopefully, that the inspections
25 would pick it up, that would be the purpose of

1 (STORM WATER ISSUE) 1848
2 inspections, but there is a chance that with
3 traffic up and down this road every day there is
4 a good chance that we could have a very heavy
5 rain storm at a point when our water bars are
6 either have been rutted out or aren't spaced
7 close enough, or what else can happen is these
8 water bars, what could happen is they could be
9 filled with sediment and therefore bypassed and
10 as soon as you start bypassing a few water bars,

11 the ones down below take a lot more heat.

12 Here is another thing. Since we
13 haven't really looked at any concentrated flow
14 coming off this area, we could advance down,
15 this is just a scenario, we could advance down
16 during a dryer period, get down to a certain
17 point, get hit with a rain storm, then a flow
18 path we didn't know about or didn't anticipate
19 enters the road and suddenly we have a problem
20 we didn't anticipate.

21 The new Storm Water Management
22 Design Manual says very specifically that storm
23 water pollution plans and erosion plans in
24 particular are works in progress. That there
25 rarely is a case where a construction project

1 (STORM WATER ISSUE) 1849
2 doesn't run into something they didn't
3 anticipate and must roll and jive and move with
4 it and figure out a fix on the fly. Usually
5 this happens during a major storm event. All of
6 a sudden you get hit with a major storm event

7 and several problems will crop up that you will
8 need to run out and you will need to fix right
9 away. So of course that's difficult. The
10 larger the site is, the more area you are
11 exposing, the more apt you are to run into
12 problems here and there that you must run out
13 and redefine your storm water plan to address
14 new problems.

15 So just to summarize quickly, I have
16 discussed three main points here. I have
17 discussed that this road, it was similar to the
18 construction of a skid trail in which we should
19 expect rutting and problems with maintaining
20 water bars; that when you cut into the hillside
21 you can cut into ground water flow paths that
22 are picked up in here. Ground water is a tough
23 thing to see in a roadway with cuts of this
24 magnitude. You can hit areas of ground water
25 flow that you will have no indication of until

1 (STORM WATER ISSUE) 1850
2 you get into them. The DEIS shows no provision
3 for running into these situations where all of a

4 sudden you hit an emerging ground water flow.

5 This top to bottom approach, this
6 could be deceiving. You could go along at a
7 certain point, get a heavy rain storm and
8 because you have a separation here and somewhat
9 of a buffer zone, albeit not a very good one due
10 to its steepness, we may not see impacts in the
11 stream if we have a hard rain storm here.
12 Hopefully inspection would pick it up but you
13 cannot guarantee it. As we advance down the
14 mountain we are loading the gun. Once we get
15 down to points close to Birch Creek the scenario
16 is set during a very heavy rain storm to have a
17 very large problem here. If at any point we get
18 a significant concentrated flow along the length
19 of this road, it will most definitely create a
20 significant discharge to Birch Creek. Possibly
21 disastrous.

22 So the problem is not only slope
23 stability and temporary stabilization of these
24 slopes and fills, but it's that concentrated
25 flow along the road that is of great concern.

1
2 Applicant has not analyzed or
3 designed a way to mitigate the erosion that will
4 occur as a result of storm water channeling on
5 or along the access roads during the
6 construction phase. I believe this length right
7 here is somewhere in the neighborhood of four
8 thousand feet. Look at that. Four thousand,
9 eight thousand, twelve thousand.

10 I want to talk now about in the
11 construction phase storm water plan the
12 Applicant discusses temporary sediment basins
13 that have been sized for the 10-year storm
14 event.

15 MR. GREENE: Just to clarify, these
16 are only designed for the top of the plateau,
17 correct?

18 MR. DAMARATH: Correct, only for the
19 top of the plateau.

20 We go to page 16 of Appendix 11,
21 same section. Part B there discusses basin
22 dewatering.

23

THE COURT: Page what?

24

MR. DAMARATH: I'm sorry, page 16,

25

the part that discusses basin dewatering.

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(STORM WATER ISSUE)

1852

2

Now, the scheme is that during the

3

course of construction, again we have sized

4

these things for the 10-year storm. During the

5

course of construction, rain events will produce

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runoff that will be retained in the storm water

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basin. Retained means held there without a

8

discharge.

9

In order to make sure the basins

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function effectively, it's important to pump out

11

the basins so their full design capacity is

12

available for the next storm event. The basins

13

do not have a discharge outlet to either swales

14

or to the permanent storm water system that will

15

be developed on the site. Again it mentions the

16

10-year storm. To empty the basins it will be

17

necessary to pump them out. Depending on the

18

location of the basins, the basins will be

19

pumped to either irrigation ponds or to level

20 spreaders in the wooded area followed by
21 treatment by a flocculating material. Followed
22 by treatment of a flocculating material. Sounds
23 like after we discharge to the level spreaders
24 we will be treating it with flocculant, that's
25 how that reads.

1 (STORM WATER ISSUE) 1853

2 MR. GREENE: Joe, is there any
3 indication --

4 MR. DAMARATH: Okay. It says that
5 last sentence is the remaining basins will be
6 pumped out to level spreaders consisting of
7 lengths of wrapped perforated pipe, I imagine
8 wrapped in some kind of filter fabric, set up in
9 adjacent undisturbed wooded areas.

10 MR. GREENE: Joe, is there any
11 indication how much flow will be sent through
12 these level spreaders in the DEIS?

13 MR. DAMARATH: No. There's no
14 indication of what size pumps are going to be
15 used and what these discharges are going to be

16 that I found in my review. I have found no
17 discharge quantities or velocities or size
18 pumps. So the idea is, there is no discharge
19 except for the pumps.

20 I want to first make a note that
21 this idea of pumping down basins and not
22 allowing for an overflow discharge to the basins
23 is not in the New York Guidelines for Urban
24 Erosion and Sediment Control. In fact, I have
25 looked at many different guidelines for many

1 (STORM WATER ISSUE) 1854
2 different states and I couldn't find it
3 anywhere. The reason for this is, it defeats
4 the purpose of the temporary sediment basin.
5 The temporary sediment basin is designed to have
6 a standing water level. The reason being is
7 that when you keep a basin full of water and you
8 create quiescent or non turbulent conditions
9 within that basin, when the storm comes in, the
10 heavy sediment laden water runs into this basin,
11 hits this lower quiescent pond condition,

12 allowing an environment for settling of
13 particles. It's important to look at what the
14 particle distribution is on your site so you
15 know what your settling time should be in these
16 basins, how long it's going to take your fine
17 particulate matter to drop out. Studies have
18 shown that regardless of sediment basin size,
19 they are only so effective. They won't settle
20 out everything. You will have the turbid
21 discharge from the basin. This has been a point
22 of contention with contractors. I have found it
23 on a personal basis many times over that you
24 know here they have a temporary sediment basin
25 and they built it according to the Blue Book

1 (STORM WATER ISSUE) 1855
2 manual, it's been approved by the regulatory
3 agencies, here comes a storm event and they are
4 still having a discharge. We run into
5 flocculating and things like that. Try to get
6 clear water because the standard is there will
7 be the turbidity standard for the classified
8 stream is no contravention of water quality, no

9 visible contrast between upstream and downstream
10 waters to the discharge point. No change in
11 clarity, no visible contrast, that's the
12 standard. So this has led to many problems due
13 to the fact the temporary settling basins just
14 are not one hundred percent effective and even
15 if you are following your erosion control plan,
16 you can still have a contravention within the
17 creek. If you are going to pump these things
18 down, then so here is the scenario. You get a
19 storm event, the basin fills up. You need time
20 to settle out your particles. We don't know
21 what that time is. The Applicant to my
22 knowledge has not provided an analysis of what
23 the particle distribution is and what how much
24 fine particulate they have and what the time it
25 would take to settle that out so they can

1 (STORM WATER ISSUE) 1856
2 effectively pump it down and be pumping clearer
3 water and not turbid water. Certainly towards
4 the bottom of that pond you would start to get I

5 imagine one way to do it may be to apply the
6 inlet of the pump onto a float that sits on the
7 top of the pond so when you pump down you are
8 pumping the clearer water, but as soon as you
9 get to a certain level you are going to start
10 sucking sediment off the bottom because you are
11 creating turbulence with this pump. You are
12 pulling, creating velocity and starting to kick
13 things up so there is some problems with this.
14 Again, this is not in the Blue Book. There are
15 no guidelines for doing this kind of thing. So
16 then now we are discharging this stuff at an
17 unknown quantity, at an unknown rate to level
18 spreaders on the hillside. As I mentioned
19 before, any level spreader that's designed on
20 this site on those steep hillsides are not in
21 conformance with the Blue Book Guidelines. The
22 slopes are too steep, the topography is too
23 uneven and the discharge is too great or maybe
24 too great, since it is unspecified in this
25 condition, probably not.

1
2 Another thing that causes me concern
3 is that these level spreaders are perforated
4 pipe wrapped in filter fabric. Particulate
5 matter can clog filter fabric very rapidly.
6 This is a problem whenever you are trying to
7 filter discharge of any kind of construction
8 site runoff. If you try to filter it through
9 anything it can clog almost immediately and
10 fail. We don't know how much, we don't know
11 where these level spreaders are going, and they
12 are highly questionable, not in accordance with
13 the Blue Book. Therefore, again the Applicant
14 has not demonstrated the feasibility of moving
15 this water down this steep slopes during
16 construction phase.

17 So to summarize, I want to summarize
18 here that we have sediment ponds not in
19 accordance with the Blue Book. We have level
20 spreaders not in accordance with the Blue Book.
21 We know that in some areas downgradient of the
22 site we have seeps, we have springs, we have
23 sensitive water resources down here that have

24 not been identified by the Applicant.

25 THE COURT: Exactly where are you

1 (STORM WATER ISSUE) 1858

2 pointing to?

3 MR. DAMARATH: I am pointing to the
4 slope downgradient of the site between Birch
5 Creek and the construction area.

6 MS. MELTZER: Joe, can you relate
7 that to where we were walking?

8 MR. DAMARATH: We walked the
9 railroad track from about this point down. If
10 you remember our walk, we passed a number of
11 locations where there was flow paths coming down
12 off the hillside. I ran up a couple of them
13 looking for that one wetland area that I
14 couldn't find.

15 THE COURT: And down the slope
16 generally northeast from where we were when we
17 were at Proposed Stream 3, right?

18 MR. DAMARATH: Correct. Yes, yes.

19 So, you know, coupled with the
20 fact -- so we have a couple things here. One,

21 we know sediment basins aren't one hundred
22 percent effective so we are discharging some
23 sediment. We know that these level spreaders
24 are not in accordance with the Blue Book. They
25 will likely, almost definitely reconcentrate

1 (STORM WATER ISSUE) 1859
2 down the slope. The concentrated flow itself
3 can cause erosion. We don't know where these
4 discharges are. We don't know where they are
5 going. We don't know where it's going to be in
6 relation to whatever resources, wetland area
7 seep springs are down here. These springs as
8 pointed out by Doctor Mankiewicz yesterday are
9 extremely important for filtering and
10 maintaining a high water quality in the
11 watershed.

12 THE COURT: Have those springs and
13 seeps been located on any map in the DEIS?

14 MR. DAMARATH: No, they haven't.
15 They are not on any national wetland inventory,
16 Fish and Wildlife Service, National Wetland

17 Inventory Maps, and they are not in the DEIS at
18 all.

19 And so therefore, this lax of the
20 five-acre to 25-acre disturbance threshold I
21 believe is not warranted, not justified, and not
22 supported by the DEIS. One of the
23 reasons, another reason why I feel that it is
24 not warranted or shouldn't be allowed is that
25 with large construction sites such as this, and

1 (STORM WATER ISSUE) 1860
2 as I mentioned before erosion control plans must
3 be malleable. In other words, if problems come
4 up, you have to address them. You must change
5 the plan to address them. A lot of things can
6 happen here. You know, slopes that you thought
7 were stable, maybe there was ground water that
8 was not present at the time when you stabilized
9 the slope, all of a sudden you get it, the slope
10 slips, you got to go fix it somewhere. The
11 basic point is that it takes a lot more time to
12 stabilize 25 acres than five acres if we run
13 into a problem out here. We are doing the road

14 at the same time that we are doing 25 acres or
15 the proposal is to do the road, the roads I
16 believe, at the same time that we are opening up
17 25 acres down here. We can have problems
18 developing at any of these numbers of locations
19 and all of them could be severe. The ability to
20 come out here and fix a problem here and here
21 and a 25-acre problem here simultaneously.

22 MR. GREENE: Even if it's not
23 simultaneous, Joe, is stabilizing 25 acres if a
24 problem exists still more difficult than five
25 acres?

1 (STORM WATER ISSUE) 1861

2 MR. DAMARATH: Yes. Yes, it would
3 take a much longer time, more material, more
4 labor. That's all I have.

5 MR. GREENE: I am going to talk a
6 little more about the five-acre standard, just
7 the legal framework.

8 Both the final scoping document and
9 both individual Draft SPDES Permits require that

10 the Applicant conform to construction phasing
11 and erosion control plans to the General Permit
12 for storm water discharge and for construction
13 activity GPO 201.

14 The General Permit Part III (d) (2)
15 bullet (4) states there should be no more than
16 five acres of exposed soil at any time without
17 prior written approval by the Department.
18 Despite this limitation, the Applicant proposes
19 to expose at least 25 acres of soil at one time
20 during its extensive construction phase.
21 Although DEC has yet to grant the Applicant a
22 formal waiver from the General Permit five-acre
23 standard, both the DEIS and both Draft SPDES
24 Permits strongly suggest that DEC will in fact
25 grant this waiver.

1 (STORM WATER ISSUE) 1862

2 The City contends, however, that
3 this waiver from the five-acre standard is
4 totally inappropriate under these circumstances.
5 The legal standard under the General Permit for
6 variances is that the storm water and erosion

7 control management plan must be designed to
8 protect water quality. And it must be designed
9 and implemented to prevent turbidity and
10 accruals of settleable solids in the receiving
11 waters.

12 In order to be granted a variance
13 from the five-acre standard, an Applicant must
14 ensure compliance with state water quality
15 standards and with the substantive intent of the
16 General Permit. In this case because of its
17 context, the Applicant cannot ensure compliance
18 with the state quality water and substantive
19 intent of the General Permit. Again, it's
20 because of the nature and the context of its
21 construction activity.

22 As reiterated by Doctor Mankiewicz,
23 by Joe Damarath, the majority of the
24 construction is going to take place on extremely
25 steep slopes. And as just demonstrated by

1 (STORM WATER ISSUE) 1863
2 Mr. Damarath, the Applicant has not come forward

3 with a means to safely convey storm water
4 through temporary sediment ponds after storm
5 events. Mr. Damarath just testified how the
6 plans to dewater the basins are not detailed and
7 in many ways will defeat the mitigative
8 capabilities of settling ponds in the first
9 place.

10 Furthermore, as explained by Doctor
11 Mankiewicz yesterday, severe damage to water
12 quality will result from this excessive
13 sedimentation. These impacts cannot be risked
14 because of the sensitivity of the receiving
15 waters to sedimentation impacts. The Ashokan
16 Reservoir, which the Big Indian site sets
17 directly in its watershed, is an impaired water
18 for erosion and sedimentation on New York
19 State's 2004 303 (d) list.

20 Although there is no currently no
21 TMDL in place, it is clear that this water must,
22 should and must be protected against the very
23 impacts that the Applicant's project will likely
24 generate.

25 With that, your Honor, we are going

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(STORM WATER ISSUE)

1864

to, we are completed with our storm water presentation, our direct presentation that we of course would like time to respond to whatever sort of responses comes out.

THE COURT: Thank you, Mr. Greene. I have exactly noon. Want to break for lunch? How much time do we need, folks?

MR. GERSTMAN: Two hours, your Honor.

THE COURT: For lunch? Where are you going? Take us all.

MR. GERSTMAN: That would be 12 noon.

THE COURT: Why don't we 12:45, 1:00. Okay 12:45.

(A recess was taken.)

THE COURT: Okay. Going back on the record. Anything before we begin from anybody? No. Okay. Mr. Gerstman, it's all yours.

MR. GERSTMAN: Judge, procedural issue on the alternatives. Mr. Ruzow and

23 hopefully Mr. Altieri will hopefully consent to
24 our responding in writing to whatever additional
25 supplemental submissions or testimony your Honor

1 (STORM WATER ISSUE) 1865

2 will hear on July 21st. If that's acceptable to
3 you that would solve some of our --

4 MR. GOLDSTEIN: Just in terms of
5 resources, your Honor.

6 THE COURT: That's fine. Do you
7 want to make that part of a closing brief or do
8 you want to make it part of the record here.

9 MR. GERSTMAN: Prefer to be able to
10 make it part of the record here before.

11 THE COURT: That's fine. Anything
12 else? Are we ready to start?

13 MR. GERSTMAN: Ready to start, your
14 Honor.

15 Your Honor, Mr. Goldstein will take
16 the next segment of the offer of proof.

17 MR. GOLDSTEIN: Thank you, your
18 Honor. Once again Eric Goldstein with Doctor

19 Robin Marks from Natural Resources Defense
20 Counsel presenting the next witness on behalf of
21 the CPC, Catskill Preservation Coalition. Our
22 next witness already somewhat famous in these
23 proceedings, Doctor Robert Pitt.

24 Doctor Pitt, could you briefly
25 summarize for us your educational background and

1 (STORM WATER ISSUE) 1866
2 professional experience.

3 DOCTOR PITT: I am the current
4 professor of Urban Water Systems at the
5 University of Alabama Tuscaloosa. I have been
6 there for a little over three years now. Before
7 that I was at the University of Alabama
8 Birmingham for 14 years where I have been
9 teaching environmental engineering and water
10 resources classes, mostly urban water classes,
11 hydrology, water quality, water supply. Before
12 that I worked in industry for about 16 years
13 including the Wisconsin Department of Natural
14 Resources as a regulator in addition to being a
15 senior engineer with large consulting firms

16 mostly in the San Francisco Bay area but with a
17 lot of project work outside of that area too
18 throughout the country. I have mostly been
19 involved in storm water work for my 30 years of
20 career. I have a bachelor's in engineering
21 science from the California State University at
22 Humboldt State in Arcata, California and a
23 master's in sanitary engineering and hydrolic
24 engineering from San Jose State, and I have a
25 PhD in environmental engineering and hydraulic

1 (STORM WATER ISSUE) 1867
2 engineering from the University of Wisconsin.
3 Again, over this period of time I have been
4 mostly involved in watershed management
5 involving controls in storm water for urban
6 areas and also developing tools for evaluating
7 what the problems are, understanding where
8 sources of problems originate in watersheds,
9 also how to put things together in a complete
10 assessment.

11 MR. GOLDSTEIN: In the course of

12 your professional work have you served on
13 scientific or technical advisory committees on
14 these watershed and storm water related issues?

15 DOCTOR PITT: Yes. I have been on a
16 large number of committees, some even for New
17 York previously on flowable control and CSO
18 programs. I have been involved in value
19 engineering committees for storm and combined
20 sewer issues in Cincinnati, for example. I have
21 been involved with expert panels with the EPA on
22 technical issues associated with the storm water
23 permit program. I have been involved on
24 committees with the National Academy of Science
25 and also professional organizations, so I have

1 (STORM WATER ISSUE) 1868
2 been involved in quite a few.

3 MR. GOLDSTEIN: In the course of
4 your work have you done some consulting with
5 developers, with private businesses, and with
6 government agencies? Can you just summarize
7 that in a couple of sentences for us, please?

8 DOCTOR PITT: Yes. In the early

9 parts of my career when I was working with URS
10 and Wilbur Clyde we had many private clients
11 with development concerns and we would prepare
12 Environment Impact Statements. I was mostly
13 involved in the water components, storm water
14 issues associated with that and over the years
15 since then periodically I have also worked with
16 individual developers to try to come up with
17 suitable plans for development strategies and I
18 have also worked with very large project with
19 the telecommunications industry. I am working
20 with the NEPA to develop their general storm
21 water permits.

22 MR. GOLDSTEIN: How about
23 publications, have you written any publications
24 dealing with the issues of storm water and water
25 control?

1 (STORM WATER ISSUE) 1869

2 DOCTOR PITT: I have written about a
3 hundred publications including I have my eighth
4 book coming out this summer on erosion control.

5 MR. GOLDSTEIN: Okay. Thank you,
6 Doctor Pitt. Can you summarize for us, you have
7 reviewed the Draft Environmental Impact
8 Statement and the relevant portions of the
9 Appendixes, is that correct, I have sent to you?

10 DOCTOR PITT: Yes, I have.

11 MR. GOLDSTEIN: Can you summarize
12 for us your overall reaction to these documents
13 as they relate to storm water issues just sort
14 of list for us some of your reactions or
15 concerns might be.

16 DOCTOR PITT: It's a very large
17 document, as we all know by now for sure, and an
18 awful lot of information. It was difficult to
19 get a good picture and a good feeling for a lot
20 of the bases for the analyses. However, I was
21 specifically looking at issues on how my, the
22 model that I prepared, the source loading
23 management model or SLAMM used on this project,
24 I am concerned about specifically how that model
25 was used for examining predevelopment conditions

2 and also specifically the lack of local
3 calibration with that model. I was also
4 concerned about the assumptions for the
5 performance of the micro pool extended detention
6 ponds and also how the calculations remain
7 looking at multiple contour practices together.

8 MR. GOLDSTEIN: Let's turn to the
9 WinSLAMM model a moment. A major focus of your
10 written comments addressed concerns you had with
11 the way in which the project sponsors used the
12 WinSLAMM model in this DEIS. Can you tell us
13 first, even though we have spent several days
14 talking about these issues, we may as well hear
15 it from the horse's mouth. What actually is a
16 model? Let's start from the very basis.

17 DOCTOR PITT: A model is used as a
18 tool to enable us to look at alternatives. It
19 enables us to look at conditions that don't
20 currently exist, of course, but we also relate
21 to current situations as much as we can. It
22 enables us to make decisions based on different
23 strategies that we would like to consider in the
24 future. This is a way of, of course, having

25 actual information on those conditions and also

1 (STORM WATER ISSUE) 1871

2 to accelerate an analysis considering the broad
3 range of environmental features or
4 meteorological conditions that may occur over
5 long periods of time. It has to be used with
6 care and with good professional judgment to
7 ensure that the results are accurate and that
8 the decision-makers can utilize the results
9 appropriately to understand what the impacts of
10 the development might be and what the best
11 strategies could be. Tools have been used for a
12 lot of different purposes. Models have been
13 used for a lot of different purposes, but that's
14 basically how I envision how SLAMM would be used
15 in projects like this.

16 MR. GOLDSTEIN: Can you tell us
17 please what is the WinSLAMM model and what is
18 its particular purpose?

19 DOCTOR PITT: I started working on
20 development of the model in the late 1970s as

21 part of some of my early research with the U.S.
22 EPA when we were looking at storm water control
23 practices in cities. And from our field
24 observations we realized that what we were
25 seeing from our data was not really

1 (STORM WATER ISSUE) 1872
2 representative of current tools that were
3 available. There were a lot of assumptions that
4 were incorrect. So we started formulating
5 another approach that would more accurately
6 describe the storm water process in urban areas.
7 Over the years, of course, we have made a number
8 of modifications and enhancements to the models
9 based upon further research in the U.S. and also
10 Canada in order to make it more feasible to
11 address certain types of questions that
12 different agencies and folks wanted to use it
13 for.

14 MR. GOLDSTEIN: Just for the record,
15 what's your connection with this WinSLAMM model?

16 DOCTOR PITT: I developed it. I

17 worked over the years, I have worked with
18 different programmers who assisted me but
19 basically I have signed the model and I designed
20 the enhancements to that. I set up the out
21 rythms used in the model and the basic
22 structure of that model and also take
23 responsibility in an attempt to do quality
24 control on the predictions of the models and our
25 test conditions.

1 (STORM WATER ISSUE) 1873

2 MR. GOLDSTEIN: Now, one thing the
3 WinSLAMM model could be used for would be to get
4 accurate projects on post development storm
5 water runoff conditions under various control is
6 scenarios would that be a fair statement?

7 DOCTOR PITT: Yes.

8 MR. GOLDSTEIN: And if one wanted to
9 do that, how would one go about utilizing the
10 WinSLAMM model? Could you just walk us through
11 the process, please?

12 And your Honor, we have a little

13 check sheet for use of the WinSLAMM model that
14 Doctor Pitt would like to go through. We ask
15 that it be entered as CPC Exhibit 57 I believe.
16 Thank you.

17 (Whereupon, CPC Exhibit 57 was
18 marked and received.)

19 THE COURT: Mr. Goldstein, are you
20 going to be quoting from this at all?

21 MR. GOLDSTEIN: No, I don't believe
22 so.

23 So Doctor Pitt, why don't you just
24 walk us through the step-by-step process using
25 CPC Exhibit 57 as you wish.

1 (STORM WATER ISSUE) 1874

2 DOCTOR PITT: Okay. This is a very
3 brief summary on an overall strategy for using
4 the model. It's similar to what would be used
5 in any storm water quality model actually but
6 there are some specific points illustrated here
7 for this model specifically.

8 The first item on this list is
9 examining the version of the model that the user

10 may have and looking at our update logs that we
11 have at our model website and to see what
12 changes have been made and to ensure that you
13 have the appropriate version for the project
14 activities envisioned.

15 The second part is understanding why
16 you want to use the model, to try to examine
17 developmental alternatives, to compare storm
18 water management options, to calculate pollutant
19 loadings for different subwatersheds in a large
20 watershed area, but in order to understand the
21 basic objectives and the setting of your model
22 needs, of course, a lot of this has to go to
23 ensuring you are using the right model for the
24 objectives at hand and to understand what type
25 of information requirements might come up. And

1 (STORM WATER ISSUE) 1875

2 also part of that is understanding what we call
3 data quality objectives, to understand what the
4 accuracy of the model results need to be. If
5 you are doing a very preliminary evaluation it's

6 quite appropriate a lot of times to not invest a
7 lot of resources into gathering very specific
8 and detailed data if you are able to work with
9 relatively crude estimates. However, if you
10 need to have the most precise estimates, then
11 you would know that you are going to have to
12 invest more resources to obtain more detailed
13 information.

14 THE COURT: What would be the
15 threshold that would lead you from one level of
16 analysis to the next?

17 DOCTOR PITT: Well, if you were
18 looking at a potential site and you are trying
19 to understand what the types of problems might
20 be, you can do a fairly rapid preliminary
21 examination spending a few hours with the model
22 to understand what the gross order of magnitude
23 problems might be and the level of controls and
24 other issues that might originate from that and
25 the supporting files that we supply with the

2 model are very appropriate for an analysis along
3 those lines. You would need to incorporate
4 regional rain fall records, of course, to be
5 able to do that analysis.

6 The next step would be as you
7 approach discussions with the design engineers
8 on the site, the site owner, to try to look at
9 some very specific objectives that you might
10 have and alternatives for site development to be
11 able to communicate to them some of the
12 advantages of making decisions that they may not
13 have been aware of. And at that point you may
14 want to start incorporating some more detailed
15 site information.

16 And then finally if you need to make
17 very precise estimates of your absolute
18 calculations, then that would require the
19 highest level of work. And an example of that
20 is what the state of Wisconsin is doing with the
21 model. They have been working with it for about
22 15 years and they have a lot of resources
23 invested in the model and its utilization.
24 Again, that, of course, has been very useful for

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other users also in other areas. So there are

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different strategies and different levels of use

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for this model as there are on other types of

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models.

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THE COURT: Thank you.

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DOCTOR PITT: So the next step is

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actually collecting the data. As I mentioned

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here, certainly understanding what you have

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already in your region for storm water

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characteristics to understand what the

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background is like or the characteristics of the

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discharges for as similar conditions as possible

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to what you are proposing, just to understand

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again where you are at in the large scheme of

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things to understand the relative magnitude and

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how applicable your specific area may be to

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other locations where additional data may be

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available.

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In this case we are looking at

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different types of data bases such as the more

21 historic Nationwide Urban Runoff Program or more
22 recently the information that I am assembling as
23 one of my EPA reference programs on looking at
24 Phase I data for NPDES programs throughout the
25 nation trying to against present people, namely

1 (STORM WATER ISSUE) 1878

2 Phase II communities, for NPDES programs to
3 understand what the characteristics of storm
4 water are likely to be for their regions and for
5 their land uses.

6 MR. GOLDSTEIN: Excuse me, Doctor.
7 When you say NPDES, are you referring to the
8 National Discharge Pollution Elimination System,
9 for federal water permits?

10 DOCTOR PITT: Yes, but P is before
11 D, so it's the National Pollutant Discharge
12 Elimination System, yes.

13 THE COURT: When you use the terms
14 Phase I and Phase II, what do you mean?

15 DOCTOR PITT: Phase I was
16 established in the late 1980s and it was for the
17 largest communities in the nation. Initially

18 the first part of that was for communities with
19 greater than 250,000 in population. Several
20 years later than that the regulations were
21 imposed on smaller or medium size communities of
22 a hundred thousand population. Last March I
23 believe it was we have Phase II that was
24 implemented, this is for all urbanized areas, so
25 we are literally talking about any community

1 (STORM WATER ISSUE) 1879

2 including those such as this where they would
3 not have been included of course in the other
4 ones that's on the federal program. So the type
5 of information --

6 THE COURT: When you say any
7 community, you mean like the communities around
8 here such as Big Indian, Pine Hill,
9 Margaretville?

10 DOCTOR PITT: Right, any urbanized
11 areas. It wouldn't be a farming community
12 without a central community but even in urban
13 areas with a few hundred people living together

14 would have to incorporate certain elements of
15 these programs. Specifically, these are
16 addressing erosion control for development in
17 the town itself in addition to post construction
18 storm water management in the community also.
19 There are certain capabilities and financial
20 burdens, of course, that have to be recognized
21 and understood and those are some of the initial
22 aspects of those programs that have to be
23 straightened out on those communities. It's a
24 five-year cycle and generally those communities
25 work with the state governments to get their

1 (STORM WATER ISSUE) 1880
2 permits and understand what needs to be
3 accomplished. There is a lot of citizen
4 awareness and education that also occurs during
5 that time, but it's mostly looking at erosion
6 control programs and also ensuring that suitable
7 controls are used for new development for storm
8 water itself. And there are also various other
9 aspects such as ensuring that you do not have
10 any inappropriate discharges in the storm drain

11 systems in the communities.

12 So there are some six basic elements
13 that all urbanized areas will have to address
14 and again there is a lot of leeway and a lot of
15 ability for the local communities to develop the
16 program on their own, but they do have to get
17 the approval from their authority which normally
18 is the state itself. So what's what I meant
19 when I was talking about the Phase I, Phase II.
20 It's a very large national program and the EPA
21 is trying to assist the communities to be able
22 to meet those requirements. And part of that is
23 trying to learn from the bigger cities that went
24 before the smaller cities, that's one aspect of
25 this one project I am involved with is gathering

1 (STORM WATER ISSUE) 1881

2 their monitoring data together that they have
3 previously spent a lot of money obtaining and
4 trying to statistically present that for the
5 smaller communities to utilize in their area.

6 MR. GOLDSTEIN: Doctor Pitt, if you

7 want to just continue on your check list, that's
8 okay.

9 DOCTOR PITT: Sorry. So that's one
10 element of collecting data. Hopefully you may
11 have some regional data, not have to rely on
12 data farther away. Another very important
13 source information that's necessary is
14 precipitation data, rain fall information and
15 the snowfall information as appropriate. As an
16 example, in a community there may be a number of
17 choices of rain data that could be used for
18 doing a model analysis so there has to be a
19 certain evaluation of examining those data to
20 understand which one is most appropriate for
21 your study.

22 THE COURT: Can you be more specific
23 as to the sources. When you say sources, what
24 do you mean?

25 DOCTOR PITT: Right. These are what

1 (STORM WATER ISSUE) 1882

2 we consider standard NOAA, National
3 Oceanographic Atmospheric Administration rain

4 gauges. They are located mostly at regional or
5 major airports around the country and also at
6 different public facilities such as fire
7 stations may have a weather station or waste
8 water treatment plants as an example. The ones
9 that are part of a NOAA network have undergone
10 special quality control assurances that the data
11 is appropriate and that information is submitted
12 for publication and use nationally. So in an
13 area it's scattered and there may be a number of
14 choices of information. As an example, I did a
15 quick search for looking at weather station
16 records that may be available within 25 miles of
17 this area and there were something like 25 or 30
18 potential locations that had information. One
19 of the steps, as an example, would be to examine
20 those that had the longest records and the
21 closest locations and areas that looked like
22 were most suitable for this area. And as you
23 would then utilize that as part of the
24 information that drives the model.

25 Another set of information that you

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would need to gather would be site information.
You have to describe the characteristics of the
development, we have to understand the soils and
topography, we have to understand what the
existing conditions are and what the proposed
conditions are. Typically we break the area
down into subwatershed components so we can see
what's going on in different areas of the site
as necessary.

MR. GOLDSTEIN: Tell us what you
mean by a subwatershed, please.

DOCTOR PITT: A subwatershed would
be a component of the site. The drainage would
be divided based upon the topography of the
hillside itself where you would have water
flowing down one side of the hill versus another
so you would probably want to consider those
separately. You may have a portion of the site
draining toward one stream that may have
different objectives and criteria than another
stream. You also may have parts of the site

23 draining towards certain types of controls
24 versus others, so there is strategies you would
25 follow to separate the site into those

1 (STORM WATER ISSUE) 1884

2 components.

3 Then finally other site information
4 gathering that you would want to do would be
5 describing your storm water management options,
6 not the solution, you don't know what that is
7 yet, but you would be looking at what tools
8 might be available that could be applied to the
9 site for managing storm water and what types of
10 devices that you would want to include and you
11 would look at the design characteristics of what
12 you would want to utilize on that site that you
13 could then describe in the model so it can tell
14 you how effective those controls might be.

15 The next step after you collect that
16 data and understand what your objectives are is
17 going into the actual preparation of what we
18 call the files that we actually use in the model
19 itself to do the calculations. So you would

20 describe the site using different combinations
21 of this data you have gathered and then do the
22 analysis. Once you do the analysis, you likely
23 are going to have many different answers
24 depending upon the combinations of control
25 practices as an example that you want to

1 (STORM WATER ISSUE) 1885
2 consider, so you need to organize that
3 information. Then based upon other objectives,
4 mainly cost and suitability and how it fits onto
5 your site and fits your own objectives for your
6 overall plans you would select what you felt was
7 the most appropriate situation. You would also
8 want to compare your results with information
9 that is as similar as possible to what you are
10 predicting to ensure that the model is
11 functioning correctly. You would be worried if
12 the model was giving you very odd answers and
13 you would want to make sure that you did not
14 make an error or had assumptions that were
15 totally inappropriate. You would also want to

16 understand how the model is predicting the
17 benefits of different types of control packages
18 that you are looking at for storm water
19 management. You would want to compare those
20 with historical records and observations as
21 again as close and as similar to your site as
22 possible, but again to make sure you are in the
23 right ballpark in your predictions so you can be
24 confident of the results.

25 One of the important elements in

1 (STORM WATER ISSUE) 1886
2 this process is calibration and verification of
3 the model also where you would be collecting
4 site and regional data. And to build that into
5 the model you would have a set of local data
6 that hopefully was collected specifically with
7 this in mind and use that to adjust the model
8 parameters to get as close as possible for that
9 set of conditions. Once you have adjusted the
10 model based upon that one set of data, then you
11 would independently apply the model to another

12 set of data that you have collected to verify
13 that it's giving you the correct results. You
14 would want to do that process before you used
15 the model for a high level of application where
16 you wanted to reduce the air as much as
17 possible.

18 MR. GOLDSTEIN: Doctor, what happens
19 to your modeling results if you don't put in all
20 of the site specific location data such as that
21 which you have mentioned in section three on
22 your check sheet?

23 DOCTOR PITT: You would increase the
24 error in your results.

25 MR. GOLDSTEIN: Tell us what you

1 (STORM WATER ISSUE) 1887

2 mean by that.

3 DOCTOR PITT: Your numbers that you
4 are predicting in this case, they would be mass
5 loadings of a critical pollutant that you are
6 concerned about or the discharge volume or the
7 concentrations or loads. The answers you are
8 concerned about may not be as accurate as you

9 need them to be and so if you go through a
10 calibration verification process, you would
11 understand what the likely error is and you
12 would minimize that as much as possible. If you
13 use a regional data or more general default
14 information, the error is likely to be greater
15 than, of course, if you went through a
16 calibration and verification process.

17 MR. GOLDSTEIN: And in determining
18 when you would perform a more cursory analysis
19 using your model versus a more detailed model
20 analysis, would the size of the project and the
21 potential eco system disruptions of the project
22 point you in any one direction or another? How
23 would that impact whether you wanted to do a
24 more perfunctory analysis or a more detailed
25 analysis?

1 (STORM WATER ISSUE) 1888

2 DOCTOR PITT: Specifically we are
3 looking at what is considered a significant
4 project? In other words, what the level of

5 problems might be associated with having errors
6 in your model analysis. The highest level
7 analysis would be necessary in a watershed that
8 needs the highest level of protection and those
9 would require the more detailed calibration and
10 verification. If you are working with a
11 relatively small development that even under a
12 worse case situation would have minimal impact,
13 then you would be able to do a much more
14 simplified model analysis. But as the project
15 gets more significant, that can mean a lot of
16 things, but specifically as it gets very large
17 and as errors become very important and as our
18 ability to predict the results becomes more
19 important for decision-making, then we need to
20 minimize the errors as much as possible. It's
21 basically a cost issue and time issue on
22 developing that information that you have
23 available for doing the calibration and
24 verification. At what point is that investment
25 appropriate?

2 MR. GOLDSTEIN: And so based upon
3 your review of the DEIS and your awareness of
4 the size and scope of the project and the
5 potential impacts on the water supply both
6 locally and downstate, where would you assess
7 where this project should fall in versus in the
8 sort of continuum of cursory analysis or more
9 detailed analysis?

10 DOCTOR PITT: I would place this
11 near the top. You know the issues here are very
12 important. The value of this watershed is
13 extremely high. The size of the watershed and
14 the types of problems that could be produced
15 could be extreme and so again that's pretty
16 obvious to me that you would want to do the most
17 error free analysis as possible.

18 MR. GOLDSTEIN: One last question on
19 this point. Have you had an opportunity to
20 review the New York City DEP presentation charts
21 that are posted on the wall sort of summarizing
22 the City's view of the WinSLAMM model? Those
23 are I believe City Exhibits 9B and 9C, one
24 entitled WinSLAMM Water Quality Model and

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WinSLAMM Source Loading and Management Model?

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DOCTOR PITT: Yes, I have.

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MR. GOLDSTEIN: Can you tell us

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whether you think these charts are generally

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consistent with the use and application of the

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WinSLAMM model as you designed it?

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DOCTOR PITT: Yes, I do. The one

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exception and clarification and I have forgotten

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whether this is 9A or B, but the exhibit on the

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white board shows a dry and a flow path of the

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processes incorporated in the model coming off

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of the watershed. There is an arrow called

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runoff, then kind of a circular arrow of

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particulates before it goes into the pond. I

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would suggest another arrow be located there

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that would represent the dissolved pollutants

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beside just the particulate forms of the

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pollutants and similarly those would generally

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pass through the pond with minimal control. I

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would just add those components. The model

21 basically operates by tracking the particulates
22 and tracking the water and that drawing is just
23 a little bit short on showing how the dissolved
24 forms of the pollutants are moving through the
25 system and how the model addresses that.

1 (STORM WATER ISSUE) 1891

2 MR. GOLDSTEIN: For the record,
3 Doctor Pitt's most recent comments referred to
4 DEP Exhibit 9C. And other than that one
5 relatively minor modification, would you say
6 that both of these charts accurately present the
7 WinSLAMM model process?

8 DOCTOR PITT: Yes, I do.

9 THE COURT: Doctor Pitt, how long
10 has the WinSLAMM model been around?

11 DOCTOR PITT: Well, we started work
12 with it and utilizing it in our research in the
13 late '70s. It has gone through about four major
14 changes, the most recent one about seven or
15 eight years ago, finally we were able to get it
16 all converted into the Windows environment,
17 that's why the little window is in front of it

18 now. But we continually make modifications to
19 the model, and that's why the number one point
20 there is to go to our website, that lists a log
21 of changes we have made. We hope that we have
22 few bugs in the program at this point but every
23 once in a while the user will report some
24 unusual activity with the predictions. We try
25 to understand what is going on and will make

1 (STORM WATER ISSUE) 1892
2 appropriate changes. Most of the time what we
3 are doing is enhancing the model with continued
4 research that I am doing and my colleagues
5 around the country in storm water management.
6 People, as an example, may develop a new type of
7 storm water control and when we have enough
8 information and data to support incorporating
9 into the model we will make modifications to be
10 able to predict the benefit of that control.
11 Most of the time a lot of our modifications that
12 we are making are a response to users in the
13 regulatory community or in the construction

14 community, our development community, who want
15 some modifications in the output to try to
16 summarize the data somewhat differently. We do
17 makes change like that also.

18 THE COURT: With respect to rain
19 data, if I understand what you are saying, that
20 typically NOAA data is used, NOAA verifiable
21 data is used?

22 DOCTOR PITT: Yes, we normally do
23 that. As an example I have sets of CD roms that
24 I obtained from Earth Info out of Golden,
25 Colorado. It's very convenient for me. I have

1 (STORM WATER ISSUE) 1893
2 weather station data throughout the nation since
3 the late 1940s or sooner, if that's the case,
4 and we have utilities in the model that can
5 extract that information and prepare the correct
6 file in just a relatively few minutes.

7 THE COURT: Where the data
8 collection points for the NOAA rain data don't
9 lie on the site but may lie in areas near the
10 site, is there some kind of interpolation that

11 is done, is it just linear between two sites or?

12 DOCTOR PITT: No, it would not, it
13 would be specific for that one site. However,
14 when we do have rain data for the site we could
15 use that also, but normally that's a much
16 shorter duration. And we use a shorter duration
17 rain record that may be collected on the site to
18 compare with the regional data to try to find
19 which of the surrounding rain gauges tracked
20 best with that shorter period of data that we
21 may have on the site, then, of course, assuming
22 that it's close by, similar elevation, possible
23 similar exposures then we would feel most
24 comfortable using that information.

25 THE COURT: With respect to local

1 (STORM WATER ISSUE) 1894
2 storm water data, what would be the source of
3 that data?

4 DOCTOR PITT: Again, if we were
5 doing a calibration verification for an
6 important project, we would actually put out

7 monitoring equipment for maybe up to a year's
8 period of time, if not more, and collect our own
9 data for a significant project. There may be
10 again regional data available associated with
11 these storm water permit programs that have been
12 submitted to the state agency or to the federal
13 government.

14 THE COURT: As an aside and a
15 question to Staff, which I don't need an answer
16 to now, was the WinSLAMM model used at Belleayre
17 Ski Center for any of the development that was
18 done there? If it was, what was the rain data
19 that was used and storm water runoff data that
20 was used?

21 MR. GOLDSTEIN: Okay. Now let's
22 turn to your review of the DEIS as it relates to
23 the WinSLAMM.

24 THE COURT: I mean the current,
25 what's been done there, not future plans, what

1 (STORM WATER ISSUE) 1895
2 was we got lodges, parking lots, what was used

3 there. Go ahead, Mr. Goldstein.

4 MR. GOLDSTEIN: If we can turn now
5 to your review of the DEIS as it relates to the
6 WinSLAMM model, you identified several problems
7 with the way in which the Applicant used the
8 model. Can you describe them for us, please,
9 one by one, starting with your concerns about
10 the use of the model for predevelopment
11 conditions.

12 DOCTOR PITT: The Applicant used the
13 model for both predevelopment and for post
14 development projections. The issue on
15 predevelopment is that the site conditions are
16 really not similar to the information data that
17 was included in the model of parameter files
18 that were supplied with the model.

19 MR. GOLDSTEIN: Tell us what you
20 mean by that and what you mean by parameter
21 files, please.

22 DOCTOR PITT: Okay. Our parameter
23 files that are included with the model instruct
24 the model how to do the calculations and they
25 specifically include information on the rainfall

1
2 runoff process to enable the model to predict
3 the amount of runoff for different types of
4 rains. And that the model is set up to very
5 specifically look at the surfaces in an urban
6 setting dealing with different types of roof
7 tops, different type of pavement material,
8 different types of disturbed urban soils. And
9 we have a large variety of surfaces like that
10 and the model uses that information in
11 conjunction with the rainfall to predict the
12 amount of runoff. So that would be one of the
13 parameter files or runoff parameter files.

14 We also have a parameter file that
15 describes the sediment rating curve which
16 describes the concentrations of suspended solids
17 for different source areas such as a roof top,
18 parking lot, or landscaped area and how the
19 concentrations will vary for different types of
20 storm events, that's another parameter file.

21 Another one that's very important is
22 the pollutant probability file which describes

23 other constituents such as phosphorus or the
24 nitrogen compounds, heavy metals and others we
25 may have data for which relate those pollutants

1 (STORM WATER ISSUE) 1897
2 to the suspended solids if they are in their
3 particulate forms and they move with the
4 particulates or they give the concentrations in
5 dissolved form for those that move with the
6 water. So those parameter files were developed
7 based on an awful lot of observations we have
8 selected throughout the country and they seem to
9 be good places to start and for doing our
10 preliminary analysis.

11 MR. GOLDSTEIN: Are parameter files
12 the same as default files?

13 DOCTOR PITT: Well, the default
14 would be a description of those. The parameter
15 files are set up that way so that model users
16 can have access to those and to be able to make
17 changes to them to reflect site conditions with
18 the local calibrated data. We sometimes will

19 call them default files to label the ones that
20 are supplied with the model itself. It's kind
21 of a bad term unfortunately but it's kind of our
22 standard files that we start with but they can
23 be modified.

24 MR. GOLDSTEIN: So is what you are
25 saying that it was inappropriate to use the

1 (STORM WATER ISSUE) 1898
2 parameter files in the WinSLAMM model to
3 determine predevelopment conditions at the
4 project site?

5 DOCTOR PITT: Right.

6 MR. GOLDSTEIN: Why?

7 DOCTOR PITT: The undeveloped and
8 open space categories in WinSLAMM are for out
9 parcels in urban areas mostly. The objective of
10 that was to be able to consider relatively small
11 undeveloped areas in urban settings that have
12 already been their soils disturbed and also the
13 pollutant characteristics influenced by the
14 surrounding land uses. That type of information
15 is really not very applicable to a forested

16 hillside. The data associated with a forested
17 hillside in a wood area or agriculture are for
18 that matter would be substantially different
19 compared to the default files as submitted with
20 the model itself and therefore would need to be
21 modified to reflect those conditions.

22 MR. GOLDSTEIN: But the WinSLAMM
23 model would be appropriate to use to determine
24 post development conditions at this project
25 site; is that correct?

1 (STORM WATER ISSUE) 1899

2 DOCTOR PITT: In most areas except
3 for the wooded areas that are non developed, of
4 course, but as far as the building areas, the
5 parking areas, the roadways, those are all
6 similar to many of the urban components. You
7 know, within an urbanized area and we can deal
8 with that. The golf course areas it becomes
9 questionable. Sometimes we do have some golf
10 course information available reflected in the
11 data, but usually the construction of a golf

12 course itself, the soil structure is quite
13 different than we have in our typical urban
14 areas so there would possibly be need for making
15 some slight modifications to reflect those large
16 turf areas, but otherwise the surfaces that we
17 find with construction and development in this
18 type of development would be comparable to what
19 we are finding in a typical urban area.

20 MR. GOLDSTEIN: What could or should
21 the project applicants have done to determine
22 predevelopment conditions accurately?

23 DOCTOR PITT: The most accurate
24 procedure would be to collect local data to look
25 at the rainfall runoff processes that the

1 (STORM WATER ISSUE) 1900
2 current site is producing, in other words, how
3 much runoff was occurring for the precipitation
4 on record, and also to sample the runoff and
5 understand the quality of that data. We do have
6 some very specific procedures that are
7 straightforward to model users to be able to
8 take information like that and to adjust those

9 parameter files in the model to reflect those
10 actual current local conditions.

11 MR. GOLDSTEIN: Yesterday afternoon
12 although you weren't able to be here
13 representatives of the City Department of
14 Environmental Protection testified they have
15 collected data on such local conditions as storm
16 flow and base flow, total phosphorus, total
17 dissolved phosphorus, suspended solids, nitrogen
18 and a couple other things as well. If that kind
19 of data were available, could it be helpful in
20 determining predevelopment conditions for the
21 project applicant?

22 DOCTOR PITT: Yes, very much so. I
23 also understand they had precipitation data with
24 rain gauges at five or six locations in the
25 surrounding area if you didn't mention that too.

1 (STORM WATER ISSUE) 1901

2 So again as I mentioned earlier, looking at that
3 available existing data for the rainfall to
4 adjust the runoff files, then look at the

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DOCTOR PITT: Depends on how comprehensive that data was of course and how representative it was for the full conditions. If there is a large amount of data and the rain records during that period of time were similar to normal conditions, then that would be a very good measure of predevelopment conditions. That's what we are trying to model, of course. However, I would still like to use that to calibration verify the models because there are substantial areas on the site after development that won't be modified so to be able to accurately predict that base level condition it would still be wise to go through calibration and verification to be able to ensure any measures of before and after development are as accurate as possible.

MR. GOLDSTEIN: Now, as to rainfall data, what role does that play in assessing predevelopment conditions? How important is that?

DOCTOR PITT: It's one of the most

24 important features. If our rain record is
25 improper, then certainly our predictions will be

1 (STORM WATER ISSUE) 1903

2 in error. Again, we want to do as much as we
3 can to get the best set of rain records for the
4 site that we would want to use for the model.

5 MR. GOLDSTEIN: In the DEIS the
6 Applicant indicated that they had selected
7 rainfall data reported over several years from
8 Tannersville. Recognizing that you haven't
9 intensively studied all of the potential sources
10 for rain water data, can you tell us your
11 impression as to whether or not that's an
12 appropriate or sufficient choice to determine
13 rainfall data in predevelopment conditions?

14 DOCTOR PITT: It's hard to answer
15 that. I would hope that it would be. One of
16 the problems with the DEIS sometimes is a lack
17 of complete description of the rationale. Since
18 that's such an important element there really
19 should be a short description of the method used
20 to select that rain set. It may be quite

21 appropriate, it may be good. It's about a
22 four-years series so that normally would be an
23 acceptable period of time and it's not too far
24 away, so it's very likely but it would really
25 need to be evaluated and the description of how

1 (STORM WATER ISSUE) 1904

2 that selection process was made should have been
3 included in the report.

4 MR. GOLDSTEIN: And so in the DEIS
5 as it now stands did you find adequate
6 justification or rationale for the selection of
7 the Tannersville data to make you feel
8 comfortable with its choice?

9 DOCTOR PITT: Not really. I mean,
10 there was a few short comments about
11 availability and apparently suitability, but
12 there was no statistical analysis or comparisons
13 with the other data.

14 THE COURT: Which would be the
15 rationale you spoke of.

16 DOCTOR PITT: Right.

17 MR. GOLDSTEIN: More generally, what
18 factors should a project applicant consider in
19 choosing the most relevant rainfall data?

20 DOCTOR PITT: The most important
21 thing is the representativeness of that rainfall
22 period to a longer period of time. One of the
23 important issues with modeling is of course we
24 are in an era of rapidly expanding computer
25 capability so this used to be a much more

1 (STORM WATER ISSUE) 1905
2 serious problem than it is now. We used to
3 spend a great deal of time to try to identify a
4 relatively short period of rainfall that we
5 could use in computer analysis because it would
6 take the computer a relatively long period of
7 time to do the analyses. If we are doing a
8 large number of alternative analyses, it could
9 take more time than we wanted to spend, so we
10 would go through an analysis to look at as an
11 example a single year and try to identify a
12 single year that might be representative of

13 maybe a 40- or 50-year longer period that may be
14 available. So we would compare initially the
15 total amount of rainfall that occurred in that
16 one year compared to the average. We would also
17 look at the distribution of rainfalls per month.
18 I like to typically look at the number of events
19 to make sure there wasn't one big huge storm
20 that made up for most of that event and then
21 relatively simple things. However, nowadays
22 with computer capability we can easily run in
23 most situations a complete 40- or 50-year rain
24 period without much concern. It doesn't take
25 much time. As we get much more complex in the

1 (STORM WATER ISSUE) 1906
2 drainage area and options on the site, that
3 certainly will cost more time on the computer,
4 but generally we are able to do a complete
5 computer run in just a few minutes for each
6 option. So a lot of times doing a very complex
7 evaluation for a shorter period isn't as
8 important, as an example, making sure you have
9 the right location that represents the site. So

10 in that case I would, as an example, I
11 understand that there may be a year or more of
12 local rain records from several locations during
13 the monitoring on the site. I would like to see
14 that compared to the longer period record
15 stations and to see how those other areas
16 tracked the data that was on the site itself.

17 THE COURT: Can you be more specific
18 for me, tell me what records you are talking
19 about?

20 DOCTOR PITT: The DEP records that
21 were described yesterday, the actual monitoring
22 of the stream flow, they also this tipping
23 bucket rain gauge data at that sites. Again I
24 haven't had an opportunity to review those but I
25 was made aware that information was available so

1 (STORM WATER ISSUE) 1907

2 you would want to compare that to the
3 surrounding data stations. There are, as I
4 mentioned, about a half dozen that had maybe 40
5 or 50 years worth of data. There were many more

6 that had much shorter periods of data so I would
7 like to compare what these longer period
8 stations were reporting at the same time as the
9 shorter period on the site itself and again look
10 at how that was occurring. It would also be
11 possible to extrapolate rain records externally
12 to the model, then prepare some other type of
13 record that may be representative of conditions.
14 Obviously, we were looking at the topography
15 like we have in this valley with the hills
16 surrounding us, we can certainly expect
17 potentially wide variations in rainfall, so
18 there needs to simply be more information on how
19 the rain record was selected compared to the
20 rain data that is available out there and
21 especially now that there currently exists local
22 data that was obtained as part of the close-by
23 monitoring of the site. It would be an
24 excellent idea to utilize that also to help
25 select the best rain record.

2 MR. GOLDSTEIN: You stated in your
3 written comments that the Applicant used the
4 parameter or default files in place of actual
5 data on local conditions to determine post
6 development impacts. Can you tell us why the
7 use of those parameter files is a problem here
8 with respect to determining post development
9 impacts?

10 DOCTOR PITT: Again, we want to
11 modify the model to reflect local and site
12 specific as well as we possibly can. The
13 process of calibration and verification would
14 adjust the model to those site conditions. As
15 an example, we have mentioned the predevelopment
16 characteristics of the site and a lot of the
17 site after development would retain those
18 characteristics. The rest of the site
19 parameters generally would be a lot closer to
20 what will occur post development. But again,
21 monitoring data for a similar type of a
22 situation would be a worthwhile venture,
23 possibly to be able to enhance the model
24 performance.

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MR. GOLDSTEIN: Can you tell us, if

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(STORM WATER ISSUE)

1909

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you recall, for which of the parameter files,

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which the parameter files were, for which

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pollutants or which issues did the project

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Applicant simply apply the parameter files?

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DOCTOR PITT: Well, except for the

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rainfall file which is not really a parameter

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file but more of a data file and the site

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description files, all the parameter files that

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were used were the ones that were submitted with

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the model as are "default files," so none of

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them were changed to reflect local conditions.

13

There was no calibration, verification process

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involved at all with that.

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MR. GOLDSTEIN: Another set of

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concerns that you have just mentioned now refers

17

to the calibration and verification process.

18

Again, although we spoke about that briefly

19

before, can we take it from the top? Tell us

20

what is calibration. What do you mean by

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calibration, how do you calibrate the model?

22 DOCTOR PITT: We would calibrate the
23 model using data collected near the site under a
24 condition that we want to predict. We would
25 collect that information. We would run the

1 (STORM WATER ISSUE) 1910
2 model and compare the model results to what we
3 actually observed. It's going to be off,
4 nothing comes through perfect, of course, and we
5 would make adjustments to those parameter files
6 to come as close as possible over the range of
7 conditions we observed. Then we would also,
8 once we got to that point, we would take another
9 set of data that was not included in that
10 calibration set to compare with the model run to
11 verify that the model predictions were accurate
12 or as close as we would obtain.

13 MR. GOLDSTEIN: And why is it so
14 important to calibrate the model?

15 DOCTOR PITT: To minimize the error
16 from the predictions.

17 MR. GOLDSTEIN: And based upon your

18 review of the DEIS and the Appendixes, were you
19 able to determine whether this model was
20 accurately calibrated?

21 DOCTOR PITT: No. Again, they used
22 the regional rain file and they used site
23 descriptions, of course, but the parameter files
24 were not modified.

25 MR. GOLDSTEIN: Can you tell us,

1 (STORM WATER ISSUE) 1911

2 Doctor, what is verification and how do you
3 verify a model?

4 DOCTOR PITT: The verification would
5 be the final step in this process. After we
6 have calibrated the model as closely as we can
7 using substantial data set, we would run the
8 model under similar conditions to be able to
9 compare and to be able to give us our final
10 level of error. In other words, we would try to
11 minimize the errors during calibration for a
12 wide range of rainfall conditions and site
13 conditions. Once that was minimized we would

14 run it for a new test case to verify if it
15 performed adequately for our purpose.

16 MR. GOLDSTEIN: And based upon your
17 review of the DEIS and applicable appendixes,
18 were you able to determine whether the model was
19 accurately verified?

20 DOCTOR PITT: No, there was no
21 calibration or verification process conducted.

22 MR. GOLDSTEIN: Let's turn for a few
23 moments to the issue of storm water detention
24 ponds, which was the second issue that you
25 raised as an issue of concern in your written

1 (STORM WATER ISSUE) 1912
2 comments. Can you describe for us, of course
3 there is the DEIS proposals, there are a series
4 of storm water ponds elevations to collect
5 runoff flows in the hope of preventing major
6 runoff problems once the project is completed.
7 Can you describe for us your concerns with the
8 storm water detention basins as discussed in the
9 DEIS?

10 DOCTOR PITT: My major concern is

11 the assumption of the 80 percent level of
12 control of suspended solids and the 40 percent
13 control of the phosphorus using the micro pool
14 extended detention pond. I think that those
15 numbers are overly optimistic compared to
16 information that has been collected elsewhere.
17 And again I would ask if there was regional
18 database to support those high levels of control
19 and those should be presented to justify that.

20 MR. GOLDSTEIN: What do you believe
21 would be more accurate assessments of the
22 effectiveness of those detention ponds for
23 suspended solids and for phosphorus?

24 DOCTOR PITT: As an example, the
25 American Society of Civil Engineers, ASCE, has

1 (STORM WATER ISSUE) 1913
2 been funded by the EPA and other organizations
3 to develop a database throughout the nation
4 obtaining performance information for a broad
5 range of storm water control practices. Putting
6 that together they have been quite successful in

7 gathering data for a wide range of control
8 practices. They have about two hundred devices
9 that have been described including a handful of
10 extended detention micro pool systems that are
11 similar to proposed for this site. Their data
12 that's presented on that website that reflects
13 and describes these actual performance data show
14 levels of 0 to 65 percent for suspended solids
15 and the higher level of suspended solids were
16 associated with sites that had larger pools, not
17 micro pools, but larger pools and that had high
18 concentrations of suspended solids coming into
19 the pond itself. The numbers that were
20 presented in the DEIS were similar to what we
21 would expect to find on a well designed and
22 operated wet detention pond, a much larger
23 device with a much larger pool area normally.

24 MR. GOLDSTEIN: How about the
25 phosphorus, what are the likely best numbers on

1 (STORM WATER ISSUE) 1914
2 phosphorus based on your technical reviews?

3 DOCTOR PITT: It would be
4 approximately probably half of what was
5 presented.

6 MR. GOLDSTEIN: Half of what was
7 presented in the DEIS?

8 DOCTOR PITT: Yes. Instead of an
9 assumption of 40 percent, we would probably
10 expect to see closer to a 20 percent number.

11 MR. GOLDSTEIN: And the basis for
12 the numbers you have just given us again is this
13 ASCE database which is available on the Web. Do
14 you happen to have that website available?

15 DOCTOR PITT: The ASCE database,
16 it's -- I just type it in Google and it comes
17 up. The DRL is relatively long I believe it's
18 just BMP data. But it's available through EPA
19 and ASCE.

20 THE COURT: And what does ASCE stand
21 for?

22 DOCTOR PITT: America Society for
23 Civil Engineers out of the Westin, Virginia.

24 MR. GOLDSTEIN: For the record, we
25 would like to obtain the actual website if we

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can incorporate it by reference.

THE COURT: When you get it you can give it to me.

DOCTOR PITT: I'm sorry, actually you have it in front of you now. I forgot that it was included in the handout you have under Evaluating Model Output, my number five listed down about halfway down in that paragraph. The ASCE database URL is listed right there.

MR. GOLDSTEIN: Is the data on that website is the basis for your conclusions about the numbers?

DOCTOR PITT: Right, plus my own experience on monitoring detention facilities, wet detention ponds.

MR. GOLDSTEIN: Now, the DEIS numbers that were included in the documents for reductions were based on the state's storm water management design manual, weren't they?

DOCTOR PITT: Yes.

22 MR. GOLDSTEIN: What's wrong with
23 using the state's guidance numbers here?

24 DOCTOR PITT: The specific
25 information that's listed, and it's on page A-7,

1 (STORM WATER ISSUE) 1916

2 MR. GOLDSTEIN: Page A-7 of the New
3 York State Storm Water Management Design manual
4 October 2001 which we could enter if your Honor
5 chooses.

6 DOCTOR PITT: I have the whole
7 document if you need it. Table A-4 shows wet
8 ponds and it shows the 80 percent suspended
9 solids and 50 percent phosphorus. It's my
10 understanding that the micro pool extended
11 detention facilities were assumed to be similar
12 to the wet pond description there which is not
13 quite the same type of a device. They are
14 related but again the micro pool extended
15 detention usually has a much smaller pool of
16 standing water which minimizes the settling
17 opportunities of a particulate.

18 THE COURT: I can take notice of

19 that document but if you want to put in that
20 single page as an exhibit.

21 MR. GOLDSTEIN: We will do that,
22 your Honor. We will work on that.

23 So just to make sure that I
24 understand you, in what you are saying, is the
25 difference between the wet ponds and micro pool

1 (STORM WATER ISSUE) 1917

2 detention is the wet ponds have a much larger
3 area of moisture and that therefore that's why
4 they are able to get greater reductions.

5 DOCTOR PITT: Yeah, the larger pool
6 area compared to the detention volume itself
7 enhances the pollutant removal capability.

8 MR. GOLDSTEIN: You also expressed
9 some concern about the DEIS conclusions as to
10 the effectiveness of a series of ponds in
11 removing pollutants. Can you tell us about
12 those concerns?

13 DOCTOR PITT: Yes, also on page A-7
14 of the state manual that we just referred to

15 there is a formula to make a general calculation
16 for multiple ponds. It's a mathematical
17 expression to show how you combined the
18 efficiency of these devices. That's a
19 relatively crude approximation and it's very
20 appropriate for initial planning types of
21 assumptions. However, when we look at a series
22 of detention ponds, it's really the largest pond
23 in that series that controls the overall
24 performance. It's like having a series of
25 filters stacked one on top of the other. If the

1 (STORM WATER ISSUE) 1918
2 filters all have the same openings, the top one
3 would be capturing everything and the bottom
4 ones wouldn't have anything to do. And in this
5 situation if we had stacks of filters with
6 variable openings, the one with the smallest
7 opening would control the overall performance.
8 That's the better description of how a series of
9 wet detention ponds or ponds like this would
10 actually operate compared to taking the
11 mathematical expression like this to describe

12 it. The model actual can route the pollutants
13 through these series of ponds and you would get
14 a similar answer. There are some advantages of
15 having ponds series from a management
16 perspective. A lot of times we put a small pond
17 in front of a big pond as a forebay, as an
18 example, to be able to obtain most of our
19 particulate that will settle in that small area
20 just to clean it easier to clean it out so we
21 can minimize the cleaning problems in the larger
22 pond. Also if we had multiple ponds there are
23 advantages to minimize short-circuiting, but
24 those are not adequately reflected in this
25 overly optimistic expression.

1 (STORM WATER ISSUE) 1919

2 THE COURT: Is there a wet pond, is
3 there some minimum size that needs to be
4 qualified to be a wet pond into a volume or
5 area?

6 DOCTOR PITT: In my calculations
7 from my initial designs for ponds I like to see

8 a pond surface area that's equal to about three
9 percent of the paved area and about one-half a
10 percent of the non paved area that drains toward
11 that pond.

12 THE COURT: And anything smaller
13 than that would in your view would not be a wet
14 pond?

15 DOCTOR PITT: It would still be a
16 wet pond but operate at a much lower level of
17 effectiveness than the 80 percent value as shown
18 here.

19 THE COURT: Okay. But a series of
20 smaller ponds won't at some point give you the
21 same efficiency?

22 DOCTOR PITT: No, they don't. Again
23 it's like having the stack.

24 THE COURT: It's like having the one
25 little filter with the fine mesh is going to

1 (STORM WATER ISSUE) 1920

2 control what happens?

3 DOCTOR PITT: Right. That would be

4 the biggest pond. Again, there are certain
5 operational considerations, of course, and a lot
6 of considerations associated with the simple
7 layout of the area, but to actually describe the
8 overall performance it would not be as reflected
9 in this equation as was used on this calculation
10 in the DEIS.

11 MR. GOLDSTEIN: So in the DEIS the
12 project Applicant indicated that they believed
13 their projections here were conservative because
14 of the multiple ponds in a series. Do you agree
15 or disagree with that conclusion?

16 DOCTOR PITT: I would not if the
17 calculations were made with this formula. Again
18 if we are looking at just the largest pond, then
19 it would be conservative because there would be
20 minimal benefit operationally from those other
21 ponds, but having a string the ponds and using
22 this equation would certainly not be
23 conservative, it would be the opposite.

24 MR. GOLDSTEIN: Thank you. Your
25 Honor, we would like to introduce the New York

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State Storm Water Management Design manual, page A-7 -- table A-4, page A-7 as CPC Exhibit 58 I believe.

THE COURT: Are we ready to do that?

MR. GOLDSTEIN: I think we are ready to do that. If Marc is ready to do that, we are ready to do that.

MR. GERSTMAN: I am up, sir. We will provide copies tomorrow.

(Whereupon, CPC Exhibit 58 was marked and received.)

MR. GOLDSTEIN: Your Honor, at the risk of being scolded, I will point out we are making progress.

THE COURT: You know, I'm a nice guy.

MR. GOLDSTEIN: Doctor Pitt, in your written comments you also expressed concern about the DEIS conclusion regarding the 29 percent runoff volume loss projected from the ponds. What did the DEIS say on this point and

23 what's your concern?

24 DOCTOR PITT: Okay. I was troubled
25 on how that number was generated. The DEIS did

1 (STORM WATER ISSUE) 1922
2 not really describe where that came from. If
3 that appeared to be associated with pond
4 performance and that's a large volume of water
5 to lose out of a pond, especially as the DEIS
6 describes the ponds as being lined or and in
7 clay tight soils, and if that's the case we
8 normally find the only opportunity to lose water
9 is through evaporation and that's just a very
10 high number.

11 Elsewhere in the DEIS they do
12 describe the beneficial use of storm water for
13 irrigation which is certainly a very good idea
14 and that possibly may be where that has come
15 from. Again, I am confused, basically, because
16 I can't figure out where that number came from.
17 It was described in the report on page 2 and 3
18 of Appendix 10A, as an example, kind of out of

19 context if that was the case implying that it
20 was associated with standard pond operation and
21 that number would be extremely optimistic for a
22 standard operation. Again, it's possible, but
23 it's not, there is no description of where that
24 came from in their analysis.

25 MR. GOLDSTEIN: And if the rational

1 (STORM WATER ISSUE) 1923

2 for that loss of volume were that the water was
3 being used for irrigation, would that be a
4 number that would be constant or that would vary
5 from year to year?

6 DOCTOR PITT: Normally it would be
7 highly variable by season, of course, based on
8 the irrigation needs and would certainly vary
9 based on rainfall variability from year to year.
10 So it would be if that's the case a general
11 average number.

12 MR. GOLDSTEIN: So in your view is
13 the 29 percent volume loss reduction documented
14 in the DEIS in its supporting appendixes?

15 DOCTOR PITT: No, it is not.

16 MR. GOLDSTEIN: Would you say that's
17 likely to be a high or a low prediction?

18 DOCTOR PITT: I just cannot answer
19 that. If it was only from normal pond operation
20 and in a lined pond with tight soils, it's very
21 high. If that really incorporates pumping out
22 for irrigation, I have no clue. It certainly
23 could be low under that condition.

24 MR. GOLDSTEIN: But basically you
25 can't tell?

1 (STORM WATER ISSUE) 1924

2 DOCTOR PITT: Right, I can't tell.

3 MR. GOLDSTEIN: Based upon the
4 materials you have reviewed.

5 Now let's turn to snow melt for a
6 few moments. This is a third area of your
7 concern with the runoff characteristics of snow
8 melt. Can you please explain the reason for
9 your concern with snow melt discussion in the
10 DEIS.

11 DOCTOR PITT: I have been involved

12 in a number of snow melt projects in Canada and
13 also the upper mid west, and we find in our mass
14 balance calculations that the mass discharges
15 associated with snow melt can be very
16 significant for the total annual discharges. In
17 some constituents, especially with dissolved
18 constituents, it can be the overwhelming source
19 of storm water pollutants, runoff pollutants.
20 For some of the particulates it could be less.
21 Bacteria is typically smaller, but for others
22 it's higher. Again, without an analysis it's
23 difficult to understand the role of snow melt.

24 The important thing again that it
25 wasn't well described and it didn't appear to be

1 (STORM WATER ISSUE) 1925

2 included in the mass balance of discharges from
3 the site.

4 Generally the snow melt from an area
5 around a building complex with a lot of
6 automobile traffic would be heavily contaminated
7 and that would likely produce a significant

8 loading during the snow melt process into the
9 receiving waters.

10 MR. GOLDSTEIN: How about the
11 question of controlling snow melt as opposed to
12 storm water through the use of detention ponds,
13 is snow melt easier or more difficult to control
14 through detention ponds?

15 DOCTOR PITT: In my monitoring of
16 snow melt in ponds and the characteristics of
17 snow melt, I find that it's harder to control
18 compared to typical storm water for a number of
19 reasons.

20 One, is that most of the time the
21 water is very cold and depending on the amount
22 of de-icing salts that are used the settling
23 rates can be as much on some of my sites I have
24 noticed can be as low as one-half of what the
25 settling rates for the same particulates would

1 (STORM WATER ISSUE) 1926
2 be in the summertime, so that would require much
3 larger pond to give the same level of benefit.

4 The other problem that we typically

5 see is the particle size distribution of the
6 snow melt is typically much finer than it is
7 during storm water. Again, those would have
8 slower settling rate and require a larger pond.

9 MR. GOLDSTEIN: You refer in your
10 statement to a scouring problem. Can you tell
11 us what you mean by that?

12 DOCTOR PITT: In the twin cities
13 area a number of studies were done looking at
14 standard pond designs. They were unhappy with
15 what was occurring with their ponds during the
16 snow melt process and the annual mass balance
17 and trying to make modifications to those ponds
18 to minimize those issues. What they found was
19 that in many situations ponds were designed so
20 that snow melt was occurring underneath the ice.
21 The discharge was coming into the pond with a
22 sub surface entry point under the ice itself and
23 that was being pushed across the sediments and
24 it was in a confined layer and that produced a
25 lot more turbidity, plumes coming across and

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2 actually scouring of that sediment so it was
3 actually producing sediment compared to reducing
4 sediment coming in.

5 They have come up with a number of
6 modifications to the operations of ponds during
7 the summertime or during the wintertime to
8 minimize that problem. The most important one
9 is to be able to modify the outlet structure so
10 that the pond can actually be drawn down so that
11 the snow melt water would come across the ice
12 specifically to try to almost free solid.

13 Again, you can do that in Minnesota, you may or
14 may not be able to do that here. But basically
15 to seal the sediments for as long as possible
16 during that initial snow melt period so the
17 water came across the ice and the ice was
18 protecting the sediment.

19 Again, there was minimal settling
20 that was occurring under that scenario but at
21 least it would not produce sediment from
22 previously deposited material.

23 They have also another, sets of

24 other types of operational considerations. As
25 an example, they rely a lot on grass filtering

1 (STORM WATER ISSUE) 1928
2 of the snow melt water before it gets into the
3 pond to try to pretreat it. So it's a different
4 waste water than typical storm water and we find
5 that the control practices have to be modified
6 to reflect those unique characteristics and
7 unfortunately in almost all cases we find that
8 some of the critical pollutants can be
9 discharged in higher quantities during the snow
10 melt process even than during the storm water
11 process.

12 MR. GOLDSTEIN: Is there a
13 difference between end of season snow melt and
14 daily melt that occurs throughout the winter in
15 terms of runoff problems in your experience?

16 DOCTOR PITT: Yes. In Toronto,
17 Ottawa, for example, we found generally three
18 periods and three types of snow melting. In
19 Alabama we only have one. But in Canada there
20 are generally three types where we have a daily

21 melt that's occurring normally along the
22 roadways itself where the snow pack is covering
23 the gutter system and warmth of the earth causes
24 some tunnel flow and there is movement of water
25 fairly consistent that gets into the storm

1 (STORM WATER ISSUE) 1929

2 drainage system. That is relatively low flows
3 and composed of soluble pollutants. The
4 particular pollutants are not really moving well
5 under that low flow condition but that's a
6 fairly constant flow that occurs.

7 During the winter, of course, there
8 may be a few times when there is a January thaw
9 or whatever, I don't know what time it is here
10 when that possibly may occur, where there would
11 be a complete melting then snow pack would build
12 up again and that would be responsible for a lot
13 of the discharges that occur. However, what we
14 typically find in most of the cities that I have
15 worked in is the biggest problem is associated
16 when rainfall is on the snow pack in the early

17 spring period where we have rain falling on
18 literally frozen ground, we have a lot more
19 moisture in the snow, the rain does an awfully
20 good job of melting the snow, so we have a lot
21 of flooding problems at that time in addition to
22 effective pollutant transport with the higher
23 flow rates and also the movement of the
24 particulate pollutants snow packs out through
25 the system.

1 (STORM WATER ISSUE) 1930

2 So those which are relatively rare
3 at monitoring because of the harsher conditions
4 during the snow times are difficult on equipment
5 so we have minimal data in most areas but we do
6 find those three distinct periods usually in
7 most areas and the characteristics of the snow
8 does vary. So there are certain operational
9 changes and design changes that can be made to
10 the control practices to maximize the
11 performance of that but more importantly the
12 mass discharges need to be considered in the

13 calculations of the total discharges from a site
14 when you are doing a calculation such as on this
15 project.

16 MR. GOLDSTEIN: Based upon your
17 review of the DEIS and the supporting documents
18 did the project Applicant assess these different
19 impacts that would occur based upon the
20 different end of season versus throughout the
21 winter snowfall?

22 DOCTOR PITT: I did not find a
23 discussion on the mass discharges of the
24 pollutants for the snow melt but they did have a
25 discussion of the sizing of the pond for snow

1 (STORM WATER ISSUE) 1931
2 melt. Unfortunately, as far as I am concerned,
3 I guess they found that the ponds did not have
4 to be increased in size compared to the design
5 size that was appropriate for storm water.

6 THE COURT: Can you reveal the
7 specific section in the DEIS where that
8 statement is made?

9 DOCTOR PITT: I was just looking for
10 that page number.

11 MR. GOLDSTEIN: I believe it is
12 Appendix 10A, page 14.

13 DOCTOR PITT: I have section five of
14 Appendix 10A, so referring to that page.

15 MR. GOLDSTEIN: So the DEIS also
16 concludes there that pollution concentrations
17 from snow melt are often less than from storm
18 water. Do you agree with that or disagree?

19 DOCTOR PITT: I disagree with that.
20 Again it varies based upon the pollutant and the
21 most important thing is that the analysis has to
22 be made so you could make that conclusion but my
23 conclusion is that you need to consider that and
24 make the statement based upon actual information
25 for the site specific conditions.

1 (STORM WATER ISSUE) 1932

2 Again, generally for the dissolved
3 constituents it's going to be more important,
4 for the particulate pollutants it's going to be

5 less, for the bacteria it would be less, but for
6 the TDS, total dissolved solids, it's usually
7 quite a bit more.

8 MR. GOLDSTEIN: And based on your
9 review of the DEIS did you find those kinds of
10 analyses completed to enable you to determine
11 with some level of confidence the impacts of
12 snow melt versus storm water?

13 DOCTOR PITT: No, I did not.

14 MR. GOLDSTEIN: What are the impacts
15 of pond sizing in areas where there is a
16 considerable amount of snow?

17 DOCTOR PITT: Normally we need to
18 increase the size of the pond to consider the
19 increased effectiveness of settling during that
20 time, mainly because of the increased viscosity
21 of the water because it is so cold and because
22 many times the very high dissolved solids
23 concentration particles are settling much slower
24 than in the summertime. Also the particle size
25 characteristics during snow melt are generally

2 associated with much smaller particles than
3 during the storm water season so those particles
4 also naturally are settling slower too, so both
5 of those I found require an increased pond size.

6 MR. GOLDSTEIN: Has the DEIS
7 adequately accounted for snow melt in the sizing
8 of its ponds in your view?

9 DOCTOR PITT: I found that they did
10 a calculation based upon the guidance in the
11 state manual, but their conclusions were that
12 the ponds that were sized based on storm water
13 conditions were adequate and did not have to be
14 increased in size.

15 THE COURT: Specifically, you are
16 referring to the same pages in the DEIS you just
17 referred to before, page 3?

18 MR. GOLDSTEIN: I believe so, your
19 Honor. We will double check on that.

20 DOCTOR PITT: We will verify that.
21 I didn't write the page number down.

22 THE COURT: That's okay.

23 DOCTOR PITT: It's on 10A.

24 MR. GOLDSTEIN: Everything we are

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referring to is in Appendix 10A, but we will

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(STORM WATER ISSUE)

1934

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give you the precise pages shortly.

3

Finally on this point from the DEIS

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and its appendixes, can you tell whether storm

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water and snow melt runoff even with the ponds

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and other mitigation methods that have been

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proposed, will be greater, lesser or the same as

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predevelopment conditions?

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DOCTOR PITT: I believe that the

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discharges would be greater compared to site

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predevelopment conditions even with the best

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applications of the control practices. I found

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it very difficult to be able to develop a set of

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storm water control practices that would beat

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natural preexisting conditions, let alone meet

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them. We can approach it and we can do our best

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to get as close as we can, but again, how close

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we can get to that point is dependent on the

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site conditions and how easy it is to control

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the innovation of the control practices and of

21 course the investment people are willing to make
22 to get the highest level of control on the site.

23 MR. GOLDSTEIN: Thank you.

24 Your Honor, I have been informed
25 that the page in Appendix 10A, page 14, section

1 (STORM WATER ISSUE) 1935

2 five which relates to winter storm management,
3 that's the portion of the appendix Doctor Pitt
4 was referring to several moments ago.

5 Now if we could turn to storm water
6 runoff impact on trout streams. You have
7 expressed, Doctor Pitt, some concern about trout
8 stream impacts from storm water runoff. Why is
9 that?

10 DOCTOR PITT: They are small and
11 they are close and they are going to be the
12 conveyance of the discharges from the site
13 downstream and so they likely will be subjected
14 to a much greater impact than many other
15 considerations. The problems of temperature are
16 well known for the streams and the attempts to
17 mitigate temperature to acceptable conditions

18 is very difficult. The effects of the erosion
19 on the site, on the streams will be I feel
20 devastating under unfortunate conditions that
21 may occur and the standard post development.

22 THE COURT: You say unfortunate
23 conditions. What do you mean?

24 DOCTOR PITT: Again, those would
25 refer to unusual rain events that would cause

1 (STORM WATER ISSUE) 1936
2 failure of construction erosion practices that
3 exceed the design capability and there is a
4 likelihood that those will occur especially for
5 a long period such as an eight-year period of
6 construction. During that time frame there is a
7 much bigger likelihood of having highly unusual
8 very erosive rains that would occur that would
9 overwhelm many of the practices on the sight.

10 MR. GOLDSTEIN: Does the
11 mountainside geography of the site make you more
12 or less concerned about the impacts on local
13 streams?

14 DOCTOR PITT: It increases my
15 concern simply because of the difficulty of
16 providing adequate storm water management under
17 steep slopes and adverse soil conditions.

18 MR. GOLDSTEIN: If as DEP has stated
19 in the introduction to their written comments in
20 the legislative hearings, if the project is
21 removing 89,000 trees and 186,000 saplings,
22 would you be more or less concerned about the
23 impacts on streams as a result of those changes
24 to the land?

25 DOCTOR PITT: Obviously the

1 (STORM WATER ISSUE) 1937
2 conversion from a wooded hillside to a terraced
3 grass hillside will have significant impacts.
4 Normally we find that a wooded area has the
5 least storm water discharges and the cleanest
6 runoff compared to almost all other areas and
7 going to a turf area is certainly going to be
8 degraded compared to that condition, let alone
9 the other aspects of the development.

10 MR. GOLDSTEIN: Did the DEIS and the

11 appendixes adequately address the issues of
12 storm water runoff on trout streams in your
13 opinion?

14 DOCTOR PITT: No, I don't believe
15 that they did.

16 MR. GOLDSTEIN: What is it
17 specifically that they are missing?

18 DOCTOR PITT: The detailed
19 calculations and discussions of the types of
20 problems that storm water could cause on those
21 streams and the actual level of protection that
22 may be necessary to provide adequate use.

23 MR. GOLDSTEIN: We are entering the
24 home stretch, your Honor, I say with
25 trepidation.

1 (STORM WATER ISSUE) 1938

2 THE COURT: Well, it's about time.

3 MR. GOLDSTEIN: Doctor Pitt, can you
4 tell us your view about land clearing of 25
5 acres at one time as the DEIS envisions in terms
6 of what impacts that might have on storm water

7 runoff?

8 DOCTOR PITT: I am concerned about
9 large amounts of exposure at any one time.
10 Obviously comparing that to five acres is again
11 exposing yourself literally to a larger problem
12 that may periodically occur. If you had smaller
13 areas exposed at one time, that minimizes the
14 magnitude of the problems that may periodically
15 occur. It's really a function of the risk that
16 you are willing to take when you talk about the
17 amount of exposure that could be given at any
18 one time. In a similar way as the duration of
19 that exposure, those pretty much go hand in
20 hand.

21 MR. GOLDSTEIN: When you say
22 problems that may periodically occur, are you
23 referring to extreme weather events like floods
24 or those kinds of things?

25 DOCTOR PITT: Yes, highly erosive

1 (STORM WATER ISSUE) 1939

2 rain falls.

3 MR. GOLDSTEIN: And again, what

4 would be the impact of an extremely unusual
5 flooding situation or highly erosive rain falls
6 when you are working on 25 acres at a time,
7 disturbing 25 acres at a time?

8 DOCTOR PITT: The application of a
9 tool such as the Revised Universal Soil Loss
10 Equation is directly related to the land exposed
11 and the rainfall energy is directly related
12 normally to the kinetic rainfall intensity of an
13 event. So again when you have a long
14 construction period and long exposure periods,
15 the likelihood of highly erosive rains is
16 greater than if it was a shorter period of time
17 and the amount of land exposed at any one time
18 will result in a much greater discharge of
19 sediment from the site compared to if it was
20 smaller. In addition to the problems of
21 overwhelming the construction erosion practices
22 or other storm water control practices that are
23 developed to try to control the runoff from
24 those areas.

25 MR. GOLDSTEIN: From your review of

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the DEIS do you have any concerns about the project site soil characteristics as they relate to runoff?

DOCTOR PITT: I am concerned about the steepness of the sites, the shallowness of the soils, and the clay nature of those soils certainly all point to increased problems and hazards and extra effort that will be necessary in order to mitigate the effects of storm water or construction erosion.

MR. GOLDSTEIN: You indicated that your review of the DEIS and the appendixes was somewhat hampered. Can you tell us what you mean by that? What hampered your review?

DOCTOR PITT: There was certainly a great deal of information provided. It was difficult to find information that I was looking for in an organized manner and also to be able to tell the complete story and the background information for some of the decisions that were made. And I have pointed some of those out such

23 as the 29 percent volume reduction. There could
24 have been a very suitable methodology for coming
25 up with that value but it would have been

1 (STORM WATER ISSUE) 1941
2 appropriate to describe that. Similarly the
3 problems associated, not problems but issues
4 associated with the selection of the rainfall
5 data that was used. Again that would require a
6 more specific description and I think that there
7 is a lot of confusion on just looking at the
8 drainage patterns and the connectiveness of the
9 different types of storm water controls on the
10 site. It's a complicated project and it would
11 require I think greater care in describing how
12 these components fit together and how many of
13 these decisions were made.

14 MR. GOLDSTEIN: How about the storm
15 water controlling capabilities of the green
16 roof, for example, did you have enough
17 information to accurately assess the benefits of
18 that particular project element?

19 DOCTOR PITT: Again no. I was

20 pleased to see an example of an innovative storm
21 water control practice proposed for the site,
22 but there was very little discussion of the
23 likelihood of success or background information
24 showing that would work well for this region or
25 descriptions of other types of storm water

1 (STORM WATER ISSUE) 1942

2 controls that would be used as backup and
3 redundancy that would typically be utilized in a
4 situation where you are looking at something
5 that's innovative for the area. It's not that
6 we want to discourage innovation, of course, but
7 it's important to have it well described and to
8 make reviewers and others feel comfortable about
9 that situation.

10 THE COURT: When you say innovation
11 you are specifically speaking about what?

12 DOCTOR PITT: The green roof
13 proposal. It's a very large area of green roof.
14 Again, that's wonderful as a storm water control
15 option, but there is little information backing

16 up that it will function adequately in this
17 area.

18 MR. GOLDSTEIN: What do you mean by
19 that?

20 DOCTOR PITT: I'm not aware of other
21 large scale facility such as that in this area.
22 Hopefully there are and there could have been
23 additional information supporting that decision
24 and information describing how well that it
25 would work.

1 (STORM WATER ISSUE) 1943

2 MR. GOLDSTEIN: Are you suggesting
3 that that particular control strategy might be
4 more appropriate for a warmer climate or there
5 might be concerns about a colder climate?

6 DOCTOR PITT: There are certainly
7 concerns but I'm not saying that it's
8 inappropriate because there is a large number of
9 green roofs in north Europe. Sweden has a large
10 number of them. I suppose if they can work with
11 them there it would be suitable here too. But
12 again, no real good description what they are

13 doing to ensure that would work well or
14 specifically as I mentioned backup devices or
15 controls that would be used in case of failure
16 and hopefully repair periods so they could get
17 it to function correctly.

18 MR. GOLDSTEIN: Just one or two
19 other examples of places where you have
20 identified gaps or missing information that you
21 would have found helpful. Was one of those
22 places the document title CP 18 Sheet, the
23 building plans, construction plans, design
24 plans?

25 DOCTOR PITT: Yes, CP 18 was a very

1 (STORM WATER ISSUE) 1944
2 general description of some of the so-called
3 details of some of the control practices and it
4 was really a generic drawing of outfalls and
5 other features that was not really tied into any
6 of the specific devices and similar information
7 was not provided for all of the devices and
8 which would hinder me as an independent

9 evaluator from doing a more complete evaluation
10 without having those details.

11 MR. GOLDSTEIN: Just to kind of
12 bring us full circle, was there adequate data
13 supplied on issues related to the WinSLAMM
14 model?

15 DOCTOR PITT: No. Again, I had to
16 review each of the model runs that were provided
17 and to look at the parameter files that were
18 used in those and compare those with those that
19 were distributed with the file and that's when I
20 determined that there were no modifications made
21 to those. There were again just lack of
22 documentation or description of the assemblage
23 of the tool components so it made it difficult
24 to get a complete history of the effort and the
25 choices that were made.

1 (STORM WATER ISSUE) 1945

2 MR. GOLDSTEIN: Finally, Doctor
3 Pitt, have you had enough opportunity to review
4 the written comments of New York Watershed

5 Inspector General Jim Tierney and watershed
6 science Doctor Charles Silver?

7 DOCTOR PITT: Yes.

8 MR. GOLDSTEIN: That's, your Honor,
9 CPC Exhibit 56.

10 And can you tell us generally what
11 you thought of the quality of the work presented
12 in this document?

13 DOCTOR PITT: I found it very
14 informative and detailed in a lot of ways that
15 were lacking in the draft DEIS.

16 MR. GOLDSTEIN: Could you identify
17 for us several points which you thought were
18 particularly cogent or useful regarding storm
19 water based on your experience?

20 DOCTOR PITT: Yes. The descriptions
21 of the site soils and the topography that were
22 given on pages 5 through 11 plus the supporting
23 tables were very informative that adequately
24 describe the severity of the conditions on the
25 site and the published limitations of

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2 development of different characteristics on the
3 site soils. The site has, of course, very steep
4 slopes and poor soils and that leads to
5 excessive erosion potential from those areas and
6 that was adequately described and pointed out to
7 me for special consideration to minimize
8 problems associated with that.

9 The limitations, their descriptions
10 of the limitations of the erosion sediment plan
11 in the DEIS was also done well on page 13 and 14
12 and 17 through 19 as an example describing
13 additional information that would have been
14 suitable for description in the DEIS and also
15 their discussion of the problems associated with
16 the area of exposure. As an example, they
17 presented argument describing how the limitation
18 of five acres should not be expanded to 25 acres
19 but because of the problems on the site that it
20 actually should be restricted to less than five
21 acres at any one time.

22 They also had a good discussion in
23 here, again I pointed out just a few on page 20

24 and 23, on the need for bench and pilot scale
25 testing of the chemicals proposed for enhanced

1 (STORM WATER ISSUE) 1947

2 erosion control on the site. The soil cement,
3 the flocculants that are proposed, additional
4 information that they provided in this document
5 implies that there is some likely toxicity with
6 those compounds and it would require some
7 additional testing.

8 They also proposed the kind of a
9 test application a little bit larger than just a
10 pilot scale but if approval was to occur it
11 would be extremely limited to show documentation
12 that the full scale implementation would be
13 satisfactory with the minimum problems they
14 propose.

15 Also on page 22, finally, they
16 describe some of the problems that they
17 identified from the sheets that were presented
18 with the DEIS concerning discharging storm water
19 ponds on steep filled locations. Again that was

20 something I had missed going through the
21 descriptions and the documents but they pointed
22 out some problems on page 22 of their comments
23 that I think would require more detailed review
24 to ensure geotechnical instability would not
25 occur associated with that practice.

1 (STORM WATER ISSUE) 1948

2 MR. GOLDSTEIN: That concludes
3 Doctor Pitt's testimony, your Honor, although I
4 am sure he would be happy to answer any other
5 questions you might have.

6 THE COURT: Finally. No, I'm only
7 kidding. Just one question. The effects of
8 runoff depending on season of the year.

9 DOCTOR PITT: Yes.

10 THE COURT: Is that a factor? I
11 mean, the wintertime you have frigid
12 temperatures and the ability of the ground to
13 hold water, so on, so forth, you lose some of
14 that. You spoke about how ponds can freeze over
15 and not allow for any kind of settling and so

16 forth. Just is that a factor that gets cranked
17 into WinSLAMM that you need to look at your
18 numbers in the summer and you need to look at
19 your numbers in the winter? And if I can even
20 fine tune that. You expressed some admiration
21 for the proposed hotel at Big Indian, the roof
22 being green. It's not going to be green all
23 year. What difference does that make during the
24 winter months in terms of runoff?

25 DOCTOR PITT: Right. Those are all

1 (STORM WATER ISSUE) 1949
2 important issues and those are all great
3 examples on how you have to be careful when you
4 evaluate model results. A lot of those details
5 simply are not incorporated in the output. You
6 typically see what's happening on a seasonal or
7 annual total, but yet we don't appreciate some
8 of the issues that will occur seasonally. So we
9 have to interpret that. We have to look at
10 what's occurring during those times of the year.
11 Obviously when we look at the local streams we
12 are concerned with probably spawning times in

13 the early spring and we are also probably
14 concerned about small flows that will occur in
15 the late summer. The streams would be much more
16 sensitive at those periods of time. However,
17 discharges to the water supply reservoirs is
18 probably not that sensitive seasonally. So the
19 receiving water impacts would vary because of
20 seasons. And of course those examples you
21 reviewed that we talked about on performance of
22 the ponds and even the green roof will vary
23 quite a bit simply by the nature and
24 characteristics of the runoff, be it runoff or
25 storm water. Those are all considerations that

1 (STORM WATER ISSUE) 1950
2 might require more detailed discussion in the
3 Draft DEIS describing what's happening during
4 those times of the year, what types of problems
5 might occur, what types of operational
6 variations or changes might be necessary and
7 what types of things to look for in order to be
8 able to respond to problems that might occur.

9 THE COURT: And you didn't see any
10 of that in the DEIS?

11 DOCTOR PITT: No, I did not.

12 MR. GOLDSTEIN: If we are
13 understanding the Judge's question, and maybe we
14 are, maybe we are not, are those seasonal
15 factors calculated in WinSLAMM?

16 DOCTOR PITT: The information for
17 each season is presented there but you would
18 need to go in and look at that information
19 separately. Instead of looking at the bottom
20 line number as the total amount, you could go in
21 and sum the results for the different seasons
22 separately.

23 MR. GOLDSTEIN: So would you suggest
24 that one take a look at the seasonal numbers
25 that come out of WinSLAMM to make sure you are

1 (STORM WATER ISSUE) 1951
2 dealing with the worse case part of the problem
3 in these instances?

4 DOCTOR PITT: Right. As I
5 mentioned, you would have to look at times of

6 the year when the receiving water problems are
7 critical and to look at and focus on the
8 predicted model results during that time of the
9 year. As an example, the reservoir is for the
10 whole period. It's a mass balance water supply
11 issue. But the local streams are probably
12 critical in shorter and smaller periods of time,
13 so you would want to look at the model outcome
14 differently for some of the different problems
15 you may have. Again, that's part of the art of
16 using the model and again there is so much
17 information here it's just an awful lot, but
18 again that's something else that needs to be
19 done to be able to ensure you are minimizing
20 problems associated with proposed development.

21 MR. GOLDSTEIN: But in a project of
22 this size with these kinds of resources at stake
23 am I correct in assuming what you are saying,
24 you would want to take a look at the information
25 you get from the model at the season where it's

2 most likely to have adverse impacts on your
3 resource?

4 DOCTOR PITT: Yes, definitely.

5 THE COURT: Okay.

6 MR. GOLDSTEIN: Thank you, Judge.

7 THE COURT: Why don't we take how
8 much time, 10 minutes.

9 (A recess was taken.)

10 (Whereupon, Court Exhibit S was
11 marked and received.)

12 THE COURT: Mr. Gerstman.

13 MR. GERSTMAN: Thank you.

14 THE COURT: For the record you have
15 given me the curriculum vitae of Steven R.
16 Garabed?

17 MR. GERSTMAN: Yes, sir.

18 THE COURT: Which should be included
19 as part of Office of Hearing Exhibit 8, which is
20 your petition, right,

21 MR. GERSTMAN: Yes, the CV section
22 of that petition.

23 THE COURT: So I am not going to
24 mark this separately as an exhibit.

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MR. GERSTMAN: That's correct.

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(STORM WATER ISSUE)

1953

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THE COURT: Okay.

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MR. GERSTMAN: Judge, as we have already heard from our first expert on this matter, Doctor Robert Pitt, CPC's position is that there are substantive and significant issues that warrant adjudication here.

The DEIS does not contain sufficient information to be able to evaluate the true impacts, the actual impacts that this project will have on the New York City watershed and on the surrounding eco systems.

Further to that, we do not believe that the analysis of construction phase storm water impacts has been adequately addressed. We believe that there are significant questions that remain open in the record and that Commissioner could not issue findings either under SEQRA nor will the Commissioner be able to issue a SPDES permit in connection with this project.

22 Judge, I would like to introduce to
23 you Stephen Garabed.

24 Would you tell the Judge a little
25 about your educational background and

1 (STORM WATER ISSUE) 1954

2 experience.

3 MR. GARABED: Sure. Good afternoon.

4 THE COURT: Good afternoon.

5 MR. GARABED: Judge, my background
6 in terms of my degrees, I hold both a bachelor's
7 and master's degree in civil engineering from
8 the New Jersey Institute of Technology. I am a
9 professional engineer in the states of New York
10 and New Jersey. I have 13 years experience in
11 evaluating storm water, waste water, soil
12 erosion and water quality impacts. Just to give
13 you some idea of recent training which I have
14 had which is pertinent to this case, I have
15 recently or about a year ago attended certified
16 professional storm water quality review course
17 which is a review course for water quality

18 credentials. I attended, and Mr. Ferracane also
19 was one of the speakers there, DEC's storm water
20 pollution prevention plan last September. I
21 completed a number of SWPPs, storm water
22 prevention plans, since the inception of the
23 regulations last year and just to give you just
24 a little bit of experience with one of the
25 projects I was involved in which sort of

1 (STORM WATER ISSUE) 1955
2 pertains to this in a way I evaluated storm
3 water impacts for mount top mining operation in
4 west Virginia utilizing a GI S based program to
5 evaluate what impacts mount top mining and
6 logging had on the storm water in the area.
7 That is currently a class action lawsuit in west
8 Virginia. So that just gives you a little
9 understanding of some of my experience in this
10 area.

11 THE COURT: What did you think of
12 Mr. Ferracane's lecture?

13 MR. GARABED: I enjoyed it very
14 much.

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MR. GERSTMAN: That's it?

Could you tell me the scope of work that you were asked to perform in connection with the Crossroads Ventures Project.

MR. GARABED: I was asked to review and comment on the portions of the DEIS which pertained to the construction related storm water and soil erosion impacts. And as part of my analysis I reviewed a PDF version of the DEIS site plans focussing on those portions that dealt with soil erosion and construction related

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(STORM WATER ISSUE) 1956

storm water impacts.

Primarily I was reviewing the construction phase storm water quantity management plan and quality management plan as well as the storm water pollution prevention plan and the main body of the DEIS on a number of sections pertaining to both soil erosion and storm water that I also reviewed as well. I also reviewed the CP and PH series of plans for

11 the project.

12 MR. GERSTMAN: Based upon your
13 experience and your review, did you find that
14 the Draft Environmental Impact Statement
15 adequately dealt with the construction phase of
16 storm water management?

17 MR. GARABED: No, it did not.

18 MR. GERSTMAN: Can you tell us the
19 reasons why you have come to that conclusion?

20 MR. GARABED: During my review I
21 identified a number of problems with the DEIS.
22 My first major issue was with the Applicant's
23 request to waive the five-acre disturbance limit
24 during the construction. Every construction
25 site on which soil disturbing activities take

1 (STORM WATER ISSUE) 1957

2 place is subject to soil erosion and
3 sedimentation. To minimize these negative
4 effects of construction activities, the state
5 has adopted regulations limiting the area that
6 is allowed to be disturbed at one time.

7 THE COURT: Slow down.

8 MR. GARABED: To minimize the
9 impacts, the negative impacts of construction
10 activities, the state has adopted regulations
11 limiting the area that can be disturbed at one
12 time. In the current case the allowable area is
13 five acres. However, the DEIS proposes to
14 disturb up to 25 acres. Given the erodibility
15 of some of the project soils and the severely
16 mountainous terrain, the incomplete erosion and
17 sediment and control plans currently proposed in
18 the DEIS would likely result in extensive soil
19 erosion and sedimentation which could have a
20 significantly negative effect on the area's
21 waters.

22 MR. GERSTMAN: Mr. Garabed, may I
23 refer you to CPC Exhibit 38 which is the soil
24 erosion, I'm sorry, which is the steepness slope
25 map of the project areas. Are there particular

1 (STORM WATER ISSUE) 1958
2 areas within the project boundaries you were
3 referring to when you reviewed the DEIS?

4 Project boundaries are indicated by the green
5 outline.

6 MR. GARABED: Right. Well, I mean
7 the critical areas are those areas with the
8 severe slopes. Controlling soil erosion on any
9 site is difficult but when you have a site with
10 a severe mountainous terrain and erodible soils
11 that we have heard about today, it's even more
12 difficult, so.

13 MR. GERSTMAN: For the record,
14 Judge, some of the areas on the site as
15 indicated by -- not very good with color--
16 purple, where the slopes are indicated between
17 25 and 40 percent slope and some of them
18 actually are much greater where the darker
19 purple is.

20 MR. GARABED: The New York State
21 requires that any construction site have no more
22 than five acres of disturbed soil at any one
23 time without prior written approval from DEC.
24 However, in the DEIS the Applicant states that
25 no more than 25 acres are proposed to be

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2 unstabilized at any given time. And the
3 Applicant states that in these areas where up to
4 25 acres will be disturbed, what they call
5 enhanced erosion control measures will be in
6 place. However, no details on what these
7 enhanced erosion control measures are are
8 provided. In my review of the DEIS I found it
9 to be lacking in suffice detail and information
10 to justify the Applicant's proposal to disturb
11 up to 25 acres at a time.

12 MR. GERSTMAN: May I interrupt you
13 for you a second. You heard I believe Joe
14 Damarath's testimony, offer of proof this
15 morning and Professor Pitt's offer of proof this
16 afternoon concerning the potential difficulties
17 with disturbing 25 acres at a time. Do you
18 generally agree with their opinions concerning
19 potential severe impacts that would result or
20 potentially result from leaving 25 acres of soil
21 exposed at any one time?

22 MR. GARABED: Yes. I think
23 Professor Pitt said it best. The larger area

24 you have exposed, the greater risk you are at
25 having a major problem. So unless you have very

1 (STORM WATER ISSUE) 1960

2 well designed and backed up erosion controls in
3 place, to disturb a greater area you should not
4 be able to proceed in my opinion.

5 MR. GERSTMAN: So the greater the
6 area that's left undisturbed, you said in your
7 opinion that it's that much more essential to
8 have details concerning appropriate storm water
9 and erosion control plans in effect?

10 MR. GARABED: Absolutely. I want to
11 just go over a few of the examples of the
12 details that were missing from the DEIS.
13 Drawing CP-15 from the DEIS provides a table,
14 various erosion control technologies or
15 practices that could be used on site and they
16 were divided up based upon the percent of the
17 slope. For example, they would say that if the
18 area is, had a slope of one hundred percent or
19 greater, you could use 20 technologies or

20 practices in an area and then the Applicant
21 shaded different areas of this plan to show
22 which areas had various levels.

23 THE COURT: Which plan are you
24 specifically referring to?

25 MR. GARABED: Which slope? Which

1 (STORM WATER ISSUE) 1961
2 Plan? CP-15.

3 THE COURT: CP-15. That's in the
4 large sheet plans.

5 MR. GARABED: Yes, we do have a copy
6 here if you want to take a look at it.

7 THE COURT: Are you offering it?

8 MR. GERSTMAN: It is part of the
9 DEIS.

10 THE COURT: You are not going to
11 mark it up.

12 MR. GARABED: I just wanted to
13 reference it.

14 THE COURT: That's okay. I don't
15 need it.

16 MR. GARABED: The Applicant does not

17 show exactly which specific technology will be
18 used in an area. Since we don't know which
19 practice will be used, we can't evaluate whether
20 what's been proposed is adequate or not.
21 Therefore, the DEC, the DEP, the local
22 government, the public are not given the
23 opportunity to review and comment upon what is
24 being proposed because we are not fully sure
25 what is being proposed. We just know a list of

1 (STORM WATER ISSUE) 1962

2 20 different things could be in a certain area
3 but we don't know which one.

4 The Applicant proposes the use
5 potentially, one of the technologies listed
6 within that table is the use of gabions. I
7 don't know if you are familiar with those, they
8 are the baskets filled with the riprap of fresh
9 rock or retaining walls at the site. And these
10 are structural controls and they require
11 engineering design. Applicant does not show
12 where these controls will be used nor provide

13 any supporting calculations. Applicant should
14 be required to show exactly where these and any
15 other devices requiring engineering design where
16 exactly they are going to be and also provide
17 the backup calculations supporting that design.

18 Also on page 2-37 of the DEIS it
19 states that a number of locations have been
20 identified as being suitable for stock piles and
21 that these stock piles will be stabilized by
22 enhanced erosion and sediment controls.
23 However, the Applicant never shows on any of the
24 project plans where these soil stock piles are
25 going to be located or what the proposed

1 (STORM WATER ISSUE) 1963
2 enhanced erosion and sediment controls will be.
3 All stockpile areas along with these enhanced
4 erosion and sediment controls must be shown on
5 the plans.

6 Another deficiency is that the soil
7 erosion plan does not utilize the map symbols
8 required by DEC. These symbols aid the reviewer
9 in understanding what is proposed for an area

10 and they tie the construction sequence schedule,
11 of which we heard a little about before and I
12 will talk about later, with the project plans.

13 I also found that there were
14 inconsistencies between the plans. For example,
15 the PH series of project drawings, which were
16 the phasing and erosion control plans, are
17 seriously lacking soil erosion device detail yet
18 they are listed as being erosion control plans.

19 THE COURT: What kind of detail is
20 missing?

21 MR. GARABED: What kind of detail?
22 There is, first of all, there is various
23 inconsistencies between those PH series and CP
24 series. The one PH series will show one set of
25 erosion control or portions of erosion controls

1 (STORM WATER ISSUE) 1964
2 and the CP series will show additional erosion
3 controls. Now, I understand that we have got
4 the PH series is three sets of drawings covering
5 a fairly large area and the CP series is a

6 little more detailed plans. I realize you can't
7 show every single, all the same things, that's
8 why they broke them into more detailed
9 construction plans. However, the major
10 components that are shown on both plans should
11 be consistent. I found that they weren't. On
12 one plan you find silt fence down only in a
13 portion of the site, in another plan you find
14 silt fence all the way around. Again those PH
15 series of plans would not show many of the
16 erosion control devices that were on the CP
17 series. I understand you are going to lose some
18 of the detail because of how small the PH series
19 was. What I was saying, there needs to be some
20 consistency and I found that there wasn't.

21 MR. GERSTMAN: Is it your
22 professional experience that the types of plans
23 that you would ask would be required in this
24 DEIS are commonly required in other projects of
25 this magnitude for storm water and erosion

1 (STORM WATER ISSUE) 1965
2 control?

3 MR. GARABED: Yes. What I am
4 saying, we are missing detail. I mean, when I
5 would do a plan, I would have to show
6 everything. I would have to show exactly where
7 I am going to put my scope protection. If I
8 designed a retaining wall, I would have to show
9 it, I would have to provide supporting
10 calculations. That's what I am asking for. I
11 am saying these plans should provide enough
12 detail to know what is going where. That's what
13 every other project would be required to do. I
14 know this is a massive project, but it's
15 extremely critical that we know exactly what's
16 planned for. At some point they are going to
17 have to buy all the materials to construct this
18 site if everything moves forward. Somebody is
19 going to have to know what they are buying.
20 Somebody is going to have to design it and put
21 it on the plans. And what I am asking for, that
22 should be done now. We should know what is
23 going to be out there. That's typical, that's
24 what we do. When we are designing a soil
25 erosion plan we have to list all the controls

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and even how much of the controls. Again, when we speak about the construction schedule we are supposed to list how much of a specific, again using silt fences as an example, we are speaking about installing silt fence in an area, we are supposed to put down the quantity of silt fence we are going to use. It's supposed to be there. We're supposed to have drawings that show the exact length of silt fence and all the details to scale so everything is clear and concise. That's not what we are getting here. We are missing a lot of detail in areas. So we don't know what is going to happen in certain areas. So the potential impacts are very great. We need more detail so we fully know what's happening so we know everything is thought out and planned.

There are other deficiencies I found in the DEIS. I will go over those in more detail in my testimony later when I start

22 talking about the storm water pollution
23 prevention plan.

24 Given the large scale of the
25 Applicant's proposed open earth operations and

1 (STORM WATER ISSUE) 1967
2 the steep slopes and the soils, the soil erosion
3 and sedimentation is difficult to control on any
4 construction site. However, controlling soil
5 erosion on 25 acres of open swaths of silty
6 soils on mountainsides is extremely difficult.
7 The Applicant's proposal to disturb up to 25
8 acres could have disastrous impacts on the
9 area's water quality. Inadequate or improperly
10 maintained erosion controls could allow the
11 discharge of storm water with high sediment
12 loads to area waterways. Sediment contained in
13 the storm water can settle out in the waterways
14 in areas with low velocity thereby filling
15 streams and lakes. Further, the soil particles
16 in the storm water can cause increased turbidity
17 in the receiving waters and decrease water
18 quality, thereby affecting the stream and

19 aquatic health. Furthermore, two of the
20 receiving waters in the area, the Esopus Creek
21 and the Ashokan Reservoir, are listed on the
22 2004 edition of the 303(d) list of impaired
23 waterbodies as being impaired for silt and
24 sediment. So it's even more critical that the
25 erosion controls are properly designed for this

1 (STORM WATER ISSUE) 1968

2 site.

3 In my opinion the Applicant has not
4 provided sufficient information to justify a
5 waiver of the five acre disturbance limit. In
6 fact, the proposed soil erosion and sediment
7 control plan is so incomplete the DEC, DEP, the
8 local government and the public cannot fully
9 understand what erosion controls are being
10 proposed for use.

11 MR. GERSTMAN: Let me interrupt you
12 for a second. Under SEQRA if the Commissioner
13 were to find that five-acre disturbance would
14 still result in significant adverse impacts to

15 the environment if not adequately mitigated, she
16 can impose a lesser acre disturbance limit based
17 upon the specific environment conditions found
18 at this site, some of which you have mentioned
19 already, the steep slopes, the location,
20 potential impacts to the surface waters,
21 sensitive surface waters, and also due to the
22 location proximity near the Ashokan Reservoir.
23 Would you say that there could be situations on
24 this site that would require less than a
25 five-acre disturbance limit as I believe I heard

1 (STORM WATER ISSUE) 1969

2 offers of proof earlier today?

3 MR. GARABED: There very likely is.
4 I can't say specifically that this one area, I
5 couldn't identify the area I have not looked at
6 it in detail, but there are very possible there
7 are areas on this site where it would be very
8 prudent to only allow or allow a lesser
9 disturbance than the five acres to protect a
10 sensitive or critical area. Like I said, I have
11 not looked at that specifically, I couldn't tell

12 you I believe that a certain area requires that
13 level of protection, but I am just saying it's
14 very likely there are areas on this site that do
15 require that level of protection.

16 MR. GERSTMAN: Given the soil,
17 sorry, given the slope map that we have looked
18 at before CPC 3-A and there are obviously very
19 steep slopes on the site, would it be reasonable
20 to assume some of those steep slopes might
21 require greater protection than might otherwise
22 be applied based on the five-acre limit?

23 MR. GARABED: That's correct, they
24 could. In my opinion this is what I think
25 should be done or the Applicant should do or be

1 (STORM WATER ISSUE) 1970

2 required to do:

3 The Applicant should complete a
4 detailed phasing and soil erosion and sediment
5 control plan for the entire project, not just
6 Phase II of the Big Indian Plateau project.

7 The Applicant should show all

8 proposed soil erosion and sediment control
9 devices on the detailed site plans and provide
10 the associated design calculations so we can
11 review everything and have the opportunity to
12 comment on them.

13 I would like to see the Applicant
14 make the soil erosion plans or PH series of
15 plans consistent with the construction phasing
16 or CP series of plans.

17 The Applicant should make the soil
18 erosion and sediment control plans comply with
19 New York guidelines for Urban Erosion and
20 Sediment Control because there are areas where
21 it does not comply.

22 For each and every area where the
23 Applicant proposes to disturb greater than five
24 acres at a time, they should be inquired to
25 provide a narrative stating why the five acres

1 (STORM WATER ISSUE) 1971
2 should be exceeded; complete an alternatives
3 analysis why a lesser area couldn't be
4 disturbed; and provide extremely detailed soil

5 erosion and sediment control plan showing the
6 enhanced erosion control measures that will be
7 used; and Applicant should provide all of the
8 calculations supporting this erosion control
9 design.

10 MR. GERSTMAN: In your evaluation of
11 the DEIS you are stating this has not been done?

12 MR. GARABED: No, it has not been.

13 My next issue with the DEIS is that
14 the Applicant has undersized the sediment
15 basins. Just to go into a little background,
16 the primary purpose of a sediment basin is to
17 intercept sediment laden runoff and trap and
18 retain the sediment in order to protect
19 drainageways and properties below the sediment
20 basin. A secondary benefit to a sediment basin
21 is runoff control.

22 Properly designed and maintained
23 sediment basins can be effective in preventing
24 sedimentation of downstream areas, but as we
25 heard today these devices are not perfect. They

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2 do not provide you with a crystal clear
3 discharge by any means, they just aid in
4 removing some of the heavier sedimentation.
5 They also help by reducing pollutant loads
6 associated with sediments. Because sediment
7 basins also retain water, they may help recharge
8 the ground water. Depends on its design, its
9 construction, its maintenance, as well as the
10 type and concentration of particles coming into
11 the basins and the rate of flow into the basin.
12 A sediment basin must be designed to contain
13 both storm water and the sediment contained in
14 the runoff. The State of New York in its Blue
15 Book, or erosion and sediment control standards,
16 has created certain criteria for sediment
17 basins.

18 The Applicant proposes the use of
19 temporary sediment basins to capture and hold
20 sediment laden runoff from various subcatchments
21 or drainage areas during the construction phase
22 of the project. Although the proposed basins
23 are designed to store the runoff associated with

24 the 10-year storm, the basins' current design
25 only provides sufficient storage volume to hold

1 (STORM WATER ISSUE) 1973

2 the storm water and not the sediment that's
3 carried in the runoff.

4 MR. GERSTMAN: Let me interrupt you
5 one more time in terms of you weren't here
6 yesterday when New York City DEP was identifying
7 some of the deficiencies in the calculation of
8 the size of the sediment basins and assumptions
9 that were used in the HydroCAD model so you
10 didn't do an analysis of the input or
11 assumptions used in this model; is that correct?

12 MR. GARABED: No, I did not.

13 MR. GERSTMAN: So your analysis was
14 assuming that the information in the DEIS were
15 true. Just for the purpose of argument, even
16 assuming that information in the analysis was
17 not, would it be adequate?

18 MR. GARABED: Correct. I just used
19 the number they provided. I did not do an
20 independent analysis of the use of the HydroCAD

21 and whether it was appropriate and all the
22 appropriate assumptions were utilized. But just
23 to give an example, the drainage area or
24 subcatchment for subcatchment 211 indicates that
25 the runoff for a 10-year storm will generate

1 (STORM WATER ISSUE) 1974

2 1.07 ac-feet of water. The runoff from this
3 subcatchment is directed to sediment basin 211
4 which has a peak storage capacity of 1.7
5 ac-feet.

6 THE COURT: You are quoting from a
7 particular page of the DEIS. Do you know where
8 that is?

9 MR. GERSTMAN: We will provide a
10 reference.

11 MR. GARABED: This example just
12 shows that what the Applicant is calling a
13 sediment basin is really only sized to hold the
14 runoff for the storm water. There is no -- the
15 HydroCAD does not consider sedimentation, it
16 just predicts how much runoff is coming off the

17 site. My argument is that you should utilize
18 the method found in the Blue Book for estimating
19 the sediment storage volume that's required for
20 the subcatchment. Calculating the sediment
21 storage volume for this subcatchment based upon
22 its area and the method in the current Blue Book
23 you would have the need for an additional .124
24 acre feet of storage for sediment within this
25 basin. Therefore, what the Applicant has

1 (STORM WATER ISSUE) 1975

2 proposed thus far is undersized. In other
3 words, like I am saying, he has only provided
4 for storm water storage, he has not provided for
5 sediment storage in the basin.

6 MR. GERSTMAN: Let me interrupt you
7 one more time. You heard Mr. Damarath's
8 testimony concerning the mechanism for I believe
9 the pump out of some of these sediment ponds?

10 MR. GARABED: Yes.

11 MR. GERSTMAN: He stated that he did
12 not believe that that methodology is found on
13 the New York State standards or the guidelines;

14 is that your understanding?

15 MR. GARABED: That is true.

16 Typically the flow out of the sediment basin
17 would occur, it wouldn't typically be pumped
18 out. I don't know whether that means you
19 couldn't do it. I understand why they are doing
20 it here, but it is not typical. You typically
21 have an outlet for a sediment basin. But it did
22 raise a good point. When pumping out a sediment
23 basin, you are only going to be able to draw
24 that basin down so low before you start sucking
25 in the sediments that have been settled out.

1 (STORM WATER ISSUE) 1976

2 You start to get sort of a mucky mud or slurry,
3 if you would. So these basins will probably
4 never be able to be pumped all the way down. In
5 other words, after the rainfall event occurs,
6 after the flocculant is added to the sediment
7 basin and they start, there is a discharge from
8 the basin to draw it down, you would likely
9 never be able to drain that basin all the way

10 down to the bottom and get the originally
11 designed storage volume because you will never
12 be able to draw it down right to the bottom.
13 There will always be the storm water slurry on
14 the bottom of the basin. So what that means is
15 once these basins are put into practice they are
16 not going to be able to handle the 10-year storm
17 once there is sediment and storm water going to
18 them because there is going to be a portion of
19 that basin that cannot be dewatered. Hopefully
20 I am making myself clear on that.

21 THE COURT: Let me ask you this. So
22 in your understanding the size of the detention
23 pond is equivalent to what the volume that would
24 be associated with what kind of storm?

25 MR. GARABED: A ten-year storm.

1 (STORM WATER ISSUE) 1977

2 THE COURT: And it's no bigger than
3 that?

4 MR. GARABED: Right.

5 THE COURT: So going back to
6 something Doctor Pitt said earlier, that there

7 needs to be a quantity of water in order that
8 the quiescence state occurs such that settlement
9 can occur, does that mean the pond should be
10 doubled in size or increased in size? That's
11 what's called for in the DEIS to allow it to
12 occur, plus the pumping down that you are
13 speaking of, is that what we are talking about?

14 MR. GARABED: It would work. What
15 you are saying, we get to the point where we are
16 saying what's the proper design for this basin.

17 THE COURT: Which you are saying is
18 in your view the DEIS design proposed is not
19 adequate?

20 MR. GARABED: I didn't say the
21 design is not adequate. I said the Applicant
22 has not designed the basin to also hold the
23 sediment load. The basin is designed to hold
24 storm water that's going to be to a certain
25 depth, but there is also going to be sediment in

1 (STORM WATER ISSUE) 1978
2 there that has to be accounted for.

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THE COURT: And it's not?

MR. GARABED: It's not. Also once you start pumping down the water you can only draw it down so low. First, there is a swimmer device with only a certain depth, can only go so low and you are also going to start sucking in the sediment from the bottom, so you will never be able to fully drain that pond and therefore you are always going to have some water in there, therefore, you are not going to have the protection of being able to hold a 10-year storm. You are going to automatically once you start putting water in there you are going to reduce the volume of that pond. And so you might then at a storm less than a 10-year storm you could overtop the basin.

MR. GERSTMAN: Let me ask you a question about a 25-year storm. Using these basins what would be the result?

MR. GARABED: If you sized the basins say based on a 25-year storm event, you would provide greater protection to any of the downstream areas. It means if you get hit with

1
2 a larger storm you should be able to handle it.
3 Mr. Pitt raised a very good point. This is a
4 very long project. A 10-year storm may occur in
5 that eight-year period that the project is going
6 to be taking place during. So designing for a
7 25-year storm is not a bad idea. I don't know.
8 I'm not necessarily disagreeing with the 10-year
9 storm, I am saying a 25-year storm would
10 definitely provide you with a level of
11 protection that should probably be considered.

12 THE COURT: But to do what the
13 Applicant proposes to do without sucking up the
14 muck when you pump out the pool the volume of
15 those ponds needs to be greater than the volume
16 of the pond that would be associated with a
17 10-year storm?

18 MR. GARABED: You have a storm water
19 and sediment storage volume. Then if you have a
20 swimmer device to pump it out you are always
21 going to have a certain working level of water
22 in that basin.

23 THE COURT: So the basin should be
24 working level plus 10-year storm volume?

25 MR. GARABED: Plus sediment load.

1 (STORM WATER ISSUE) 1980

2 MR. GERSTMAN: Let me go back to the
3 25-year storm event to get an understanding what
4 the result would be if such an event happened,
5 what the impacts would be to the site and to the
6 erosion control mechanisms which are based on a
7 10-year storm. Could you explain that to me?

8 MR. GARABED: If you got a 10-year
9 storm and all that storm water flowed -- I'm
10 sorry, a 25-year storm or something greater than
11 a 10-year storm, all that water is directed to
12 the basin designed for a 10-year storm. What
13 would happen, let's assume the volume and
14 everything is sufficient to hold. The larger
15 duration storm is going to exceed the capacity
16 of the basin and it's going to discharge. It's
17 going to discharge somewhere likely down the
18 side of the mountain and could cause

19 catastrophic damage. It's just, again, it's we
20 have certain design storms. We take a certain
21 amount of risk whenever we do this. We design
22 structures for various size storms. We always
23 know that certain things can be exceeded. In
24 this particular case it might make sense to
25 design for a 25-year storm just because of the

1 (STORM WATER ISSUE) 1981

2 long duration of the project.

3 MR. GERSTMAN: Could you remind me
4 again how you would define a 25-year storm
5 event?

6 MR. GARABED: How would you define
7 it?

8 MR. GERSTMAN: What's the definition
9 of a 25-year storm event?

10 MR. GARABED: It's the probability
11 of occurring once in a 25-year period, I believe
12 that's the correct definition. Also as a side
13 note, there are Draft New York Standards and
14 Specifications now for erosion and sediment
15 control that are currently out for public

16 review. And in that draft document they have a
17 new method for sizing sediment basins. They
18 actually double the size of the amount of
19 sediment you should store. So if those
20 regulations were followed, you would double the
21 size of the sediment storage in the basin. I
22 just wanted to point that out. So essentially
23 by undersizing the sediment basins they will not
24 provide the level of protection to downgradient
25 waterways that would be provided by a sediment

1 (STORM WATER ISSUE) 1982
2 basin designed using the state's methodology.
3 Again, I recommend that the
4 Applicant redesign his basins and that they be
5 designed in accordance with the New York
6 Guidelines for Urban Erosion and Sediment
7 Control that are in effect, whatever those are
8 at the time. I don't know whether the draft
9 regulations or standards will become effective
10 soon or not, but they do provide increased
11 protection because they require additional

12 sediment control.

13 MR. GERSTMAN: Again, let's go back
14 to the particular circumstances surrounding this
15 project, its location on steep slopes and its
16 proximity to sensitive surface waters and
17 terminal reservoir of the New York City system.
18 Would it be reasonable to require extra
19 protection against for instance a storm greater
20 than a 25-year storm event?

21 MR. GARABED: It would definitely be
22 reasonable, yes. As I previously stated, one of
23 the overriding problems with the DEIS is the
24 outright deficiencies and the lack of details,
25 and that's probably my biggest criticism of the

1 (STORM WATER ISSUE) 1983
2 proposal. The DEC requires that a storm water
3 pollution prevention plan be created for the
4 project. And a storm water pollution prevention
5 plan or a SWPPP is a plan for controlling the
6 runoff and pollutants from a site both during
7 and after construction activities. One of the
8 components of the SWPPP is the construction

9 schedule which provides details on the
10 activities which take place both during and
11 after construction. This schedule will list the
12 proposed activity, for example, installing silt
13 fence around the perimeter of the site. It
14 requires you to put the number or quantity of a
15 specific erosion control or storm water device.
16 And, for example, it would be like the number of
17 length of silt fence you are going to put in.
18 It requires that you tie the schedule to a map
19 utilizing map symbols that are listed by the
20 DEC. It also requires you to list the duration
21 that the specific activity will take place
22 during with a start and end date and any
23 maintenance actions that are required. For
24 example, using silt fence as the example, remove
25 sediment from the device when the sediment depth

1 (STORM WATER ISSUE) 1984
2 is at 50 percent of the height of the silt
3 fence. The Applicant has provided a
4 construction schedule but I find it incomplete.

5 The Applicant does not provide any proper start
6 and end date for the activities listed in the
7 table. They simply state a phase, like a Phase
8 I or a Phase II. They should be providing
9 enough detail to know a start month and an end
10 month because some of the activities that take
11 place during construction are critical and need
12 to be done during certain times of the year. I
13 don't think it's sufficient to just say Phase I.
14 The Applicant does not list the quantity or
15 number of erosion control devices that will be
16 used. They don't provide the map symbols and
17 they don't provide any maintenance details for
18 any of the various activities. DEC has guidance
19 documents to help you do all this and it was
20 just not followed and the Applicant should be
21 required to complete the SWPPP in accordance
22 with the DEC instruction manual.

23 MR. GERSTMAN: Let me interrupt you
24 again, I know this is getting to be a habit, but
25 let me see if I can clarify some things. You

2 mentioned issues concerning environmentally
3 sensitive areas. You are going to speak to
4 those issues?

5 MR. GARABED: Yes, sir.

6 MR. GERSTMAN: I will interrupt you
7 after that.

8 MR. GARABED: Okay. The SWPPP must
9 also include a discussion on the existence of
10 any environmentally sensitive areas.

11 MR. GERSTMAN: I knew it was coming.

12 MR. GARABED: Specifically, the DEC
13 instruction manual states that environmentally
14 sensitive areas that will be protected from
15 disturbance should be defined, and the manual
16 also requires that critical and environmentally
17 sensitive areas such as highly erodible areas,
18 steep slopes, natural resource conservation
19 areas and wildlife habitats be identified for
20 the project. The Applicant did not provide a
21 proper discussion about the existence of any
22 environmentally sensitive areas. In my opinion
23 the Applicant should have mentioned at least the
24 Giggle Hollow Brook and Esopus Creek as

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environmentally sensitive areas in addition to

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(STORM WATER ISSUE)

1986

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steep slope areas and any areas of highly

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erodible soil areas.

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MR. GERSTMAN: Would it be wrong to

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say that the reason for doing that is so that

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your construction schedule can avoid the

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potential impacts to those sensitive areas, as

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Doctor Pitt was suggesting in late spring during

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trout spawning or potentially during late summer

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where there might be a late flow in a particular

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area which might be more sensitive to

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sedimentation vis-a-vis the trout habitat?

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MR. GARABED: I think that's part of

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it. I think the reason they need to have a

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storm water pollution prevention plan clearly

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marked because this plan is used by the

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contractors working on the site. A contractor

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is required to review their plan. This is

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information they should know. They should know

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where the environmentally sensitive areas are

21 and hopefully avoid those areas. You have to
22 tell them where they are or otherwise they
23 wouldn't know. I know of cases where out in the
24 San Diego area where it's not always clear, they
25 have rare and endangered plant species. There

1 (STORM WATER ISSUE) 1987

2 are many documented cases where construction
3 workers going to work on a sewage line totally
4 mowed down these areas just because they didn't
5 know, weren't educated. So the plan includes
6 that information so that the contractor is fully
7 aware of what's out there on the site.

8 MR. GERSTMAN: And potentially to
9 work in those areas where the potential risk as
10 I suggested might be to a particular area at a
11 particular time of the year?

12 MR. GARABED: I think the
13 construction schedule would better control that
14 because the construction schedule says you can
15 do certain activities at a certain time of year,
16 the purpose being to protect maybe the spawn or
17 something, then I think that construction

18 schedule needs to be very specific to what
19 activities can take place.

20 MR. GERSTMAN: I want to go back to
21 something you talked about because I'm not great
22 at numbers or percentages. We talked about a
23 25-year storm and you defined it as a storm
24 that's expected to occur once in 25 years in a
25 particular given area; is that fair sort of a

1 (STORM WATER ISSUE) 1988

2 skimpy definition?

3 MR. GARABED: Yes, I remember, yes.
4 There is a probability associated with it.

5 THE COURT: Charlie Olson testified
6 about it. What's a 25-year storm, Charlie?

7 MR. OLSON: A 25-year storm is a
8 storm that has a four percent probability of
9 recurrence in any one year. It's based on the
10 frequency distribution of the rainfall record
11 for the region.

12 MR. GERSTMAN: I hate to ask this
13 because it will show my ignorance, I'm not going

14 to admit it anyway. It's a four percent
15 probability of occurring in an area generally
16 speaking. Are there areas that --

17 THE COURT: And how much rain that
18 is will be a function of the precipitation in
19 that particular area.

20 MR. OLSON: Right, for the rain
21 gauge for that particular area. Again, there
22 are generally, there are published text on this.
23 I believe the one that's most commonly used is
24 put out by the Soil Conservation Service that
25 has diagrams, isopleths is the term I used

1 (STORM WATER ISSUE) 1989
2 yesterday, that shows what the rainfall amounts
3 would be for a given area with the given
4 recurrence frequency of one year, 10 years, 100
5 years.

6 MR. GERSTMAN: That's a probability
7 number?

8 MR. OLSON: Pardon?

9 MR. GERSTMAN: That's a probability
10 number?

11 MR. OLSON: It's based on the
12 frequency distribution for the precipitation
13 record for the area. So whatever record you
14 have, you would rank it, right record the
15 rainfall, 24-hour rainfall, that's usually when
16 people get a recurrence frequency, so for the
17 24-hour period of record from the lowest value
18 to the highest value and then there are
19 percentiles associated with that then record,
20 right, so the 50th percentile would be the
21 two-year storm.

22 MR. GERSTMAN: I think I got it all;
23 didn't read the book.

24 THE COURT: Charlie, Charlie,
25 Charlie, you are not done yet.

1 (STORM WATER ISSUE) 1990

2 MR. OLSON: I'm sorry.

3 THE COURT: With precipitation in
4 this area what would a 25-year storm be? 6.3
5 inches in a 24-hour period.

6 MR. GERSTMAN: That's a 10-year?

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THE COURT: 25. Thank you for the cooperative effort, very collegiate. Okay.

MR. GARABED: The SWPPP must discuss any of the chemicals that will be stored or used on a site and how these chemicals will be controlled to prevent storm water pollution. The Applicant states that petroleum for fueling the construction vehicles will be stored on site. The SWPPP further states that secondary containment or Convault tanks will be used to store the fuel. And those are all good things. However, the Applicant does not provide any secondary containment for the area where the vehicles will be fueled, or the fuel transfer area. Fuel transfer areas are a potentially major source of pollutants as fuel is routinely dripped and spilled on these areas. And during if during filling operations there is a major spill, it's a potential source for a major

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(STORM WATER ISSUE) 1991
release as well.
In my opinion there needs to be a

4 fuel transfer area designed for this project.
5 If you are going to be refueling vehicles on the
6 site, you should create one and it doesn't have
7 to be a very sophisticated or expensive device.
8 But fuel transfer area is a typical BMT used on
9 many, many sites and one is I believe required
10 here.

11 The Applicant's SWPPP also states
12 that surface water monitoring will be completed
13 both above and below the project area. And
14 presumably this data will be used to assess the
15 effectiveness of the storm water and erosion
16 control practices during construction. However,
17 it's unclear how the Applicant will determine
18 when a change in the water quality is due to
19 naturally occurring conditions, or due to the
20 project. I think the Applicant should be
21 required to develop a plan to evaluate the water
22 quality data, to determine what these natural
23 fluctuations are, and come up with that action
24 level to say, when this level is exceeded, it is
25 because of a problem on the site, and detail

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what actions will be taken. Otherwise, just collecting data over the course of the project will likely be of very limited value in terms of deciding whether the site is making an impact.

MR. GERSTMAN: So let me understand what kind of action plan you would, example of an action plan you might be recommending would be in place during one of these periods where values are assigned or a permit would be exceeded?

MR. GARABED: My certain is this. You go out and say, you have a high value. You got this one data point for this one time you go out you have a bad sample, it shows what everyone would probably believe would be a high value. What caused that? Was it natural fluctuation? Was it the project? We don't know. Well, what I am saying is we should do the analysis first. We should say, let's see what existing water quality is like. I believe a lot of this data is available, I have seen

23 some of it today. So create a plan. Say, look,
24 these are the natural fluctuations that are in
25 the area for various parameters and then develop

1 (STORM WATER ISSUE) 1993

2 a plan. Say, if these natural levels are
3 exceeded, set the action level. This is the
4 action level for suspended solids. This is the
5 action level for phosphorus, for whatever, and
6 at least know if that level is exceeded that
7 something has got to be done on the site. This
8 way there is not a fight at the time the sample
9 is taken where someone is saying this is natural
10 fluctuation, someone else is saying the
11 construction site is causing it. Have a plan
12 set up so you know when you are going to act and
13 that's what I am trying to get at here.
14 Otherwise this data will be collected and it
15 will never be able to be effectively used
16 because everyone will be pointing fingers
17 saying, it's natural fluctuation, other people
18 will be saying it's from the site.

19 MR. GERSTMAN: Could you tell me if

20 you can, can you tell me what the types of
21 activities or actions that would be appropriate
22 for such an action plan?

23 MR. GARABED: You mean like repair
24 actions if you were to come up with --

25 MR. GERSTMAN: I assume it would

1 (STORM WATER ISSUE) 1994
2 include an investigative aspect of it and some
3 sort of action level. What else, is there
4 anything else, subsequent sampling to make sure
5 the levels are achieved?

6 MR. GARABED: Certainly all these
7 things they could be part of it. I'm not
8 designing a plan. I am just saying you should
9 have a level at which time you know once you
10 exceed this level this is what's going to
11 happen, there is going to be an investigation,
12 or you are going to stop work, or I'm just
13 saying there are various levels of activities
14 that could take place.

15 MR. GERSTMAN: Including stop work?

16 MR. GARABED: It could be, sure,
17 sure. If that would make the difference, yes.

18 Anyway, again, due to the lack of
19 detail in the SWPPP and the DEIS, the public
20 cannot evaluate the potential impacts of this
21 project. In my opinion the Applicant should be
22 required to provide a SWPPP for the entire site
23 that is in compliance with the requirements in
24 the DEC and it must provide the necessary detail
25 to allow the public and all interested parties

1 (STORM WATER ISSUE) 1995
2 to fully understand how the Applicant plans to
3 control the runoff and pollutants from this site
4 during the construction phase of the project.

5 MR. GERSTMAN: To use the inverse,
6 without that information it's the CPC position
7 Commissioner can't issue findings pursuant to
8 SEQRA based upon the potential impacts to the
9 environmentally sensitive areas and steep slopes
10 and also the Department cannot issue the
11 appropriate permits?

12 MR. GARABED: The data is not there

13 to fully understand what is being proposed. In
14 my opinion I don't know how it can be ruled on.
15 As an engineer I need to see more to understand
16 what is happening on this site.

17 The next issue I wanted to talk
18 about was potential toxicity due to the use of
19 the proposed flocculant which is called
20 Chitosan. A flocculant is a compound used in
21 water, waste water, and storm water that allows
22 particles to stick together and settle more
23 rapidly. At the resort the Applicant proposes
24 to use a flocculant which is made from a
25 shellfish derivative called Chitosan and is

1 (STORM WATER ISSUE) 1996
2 called Chitosan acetate is what it is marketed
3 as under the trade name Storm-Klear. It's sold
4 for the treatment of storm water.

5 The Applicant proposes to treat the
6 storm water captured in the sediment ponds with
7 this flocculant to aid in the reduction of
8 suspended solids, and then they are going to

9 pump the water out of the sediment basins via
10 the level spreaders and discharge them to the
11 site.

12 The Applicant has characterized
13 Chitosan as being environmentally friendly and
14 claims it has a very low aquatic organism
15 toxicity. They have provided some supporting
16 documents in the Water Treatment Chemical Usage
17 Notification Requirements for SPDES permit which
18 is Appendix 2 of the DEIS.

19 In there it says that a study
20 performed by an engineering firm suggests that
21 the proposed dose of one to two milligrams per
22 liter is not toxic to rainbow trout. However,
23 we have found a study by the Freshwater
24 Institute and the U.S. Geological Survey that
25 found there was rainbow trout mortality after

1 (STORM WATER ISSUE) 1997
2 exposure to Chitosan concentrations as low as
3 .075 milligrams per liter.

4 MR. GERSTMAN: We will put it in.

5 THE COURT: Or give me a reference

6 where it is.

7 MR. GERSTMAN: We will provide it.

8 MR. GARABED: We will get the
9 reference for you.

10 MR. GERSTMAN: We will actually make
11 copies available to the parties unless it's too
12 big.

13 MR. GARABED: Since the receiving
14 waters from the resort are Giggle Hollow and
15 Esopus Creek and these streams currently support
16 rainbow trout spawning, therefore, the discharge
17 or release of Chitosan at lethal concentrations
18 into these trout streams could provide an
19 adverse impact obviously to these trout. Since
20 there is conflicting information, in my opinion
21 what we need to do is to evaluate the use of the
22 Chitosan.

23 THE COURT: Let's take a break
24 because I think that's a phone call for me.

25 (A recess was taken.).

2 THE COURT: Okay. Mr. Gerstman.

3 MR. GARABED: To properly determine
4 the suitability of using chitosan as a
5 flocculant in the Belleayre Resort project, it
6 must be evaluated under site specific
7 conditions. Given the conflicting data
8 surrounding the toxicity of Chitosan, the
9 magnitude of the proposed project, the steep
10 slopes and the environmental sensitivity of the
11 receiving waters, in my opinion DEC should
12 require the Applicant to complete site specific
13 toxicity testing on the proposed Chitosan
14 discharge before issuing the required SPDES
15 permit for the stormwater discharge from the
16 site. The toxicity testing should simulate the
17 anticipated discharge under worse case
18 conditions. In other words, the highest
19 expected Chitosan concentration and saturated
20 soil conditions. This way we can figure out
21 once and for all whether under these conditions
22 the Chitosan will have a toxicity to the trout.

23 MR. GERSTMAN: Let me ask another
24 question I am questions, faced by the 25-year

25 storm event, four percent probable of occurring

1 (STORM WATER ISSUE) 1999

2 in one year.

3 THE COURT: Very good.

4 MR. GERSTMAN: Memory, I don't
5 understand what it means.

6 In terms of the Chitosan and
7 potential impacts on receiving waters, if there
8 were a 10-year storm event which would be -- and
9 Chitosan was applied and a 25-year storm event
10 following or immediately before there is a pump
11 out of these sediment ponds, would you expect
12 greater discharges of Chitosan in the receiving
13 waters or would that have an impact?

14 MR. GARABED: The sediment basin is
15 full, you treat it, then you get a big storm
16 event.

17 MR. GERSTMAN: Immediately
18 following.

19 MR. GARABED: You are going to wash
20 a lot of water out of the sediment basin. It
21 will run down the mountain and reach the

22 receiving waters. Yes, it could provide
23 toxicity to the waters, sure.

24 MR. GERSTMAN: So that could be one
25 of the scenarios you would identify as a worse

1 (STORM WATER ISSUE) 2000
2 case condition that should be evaluated? Am I
3 putting words in your mouth? If I am, please
4 say so, inform the Judge.

5 MR. GARABED: At that point any
6 erosion control, if you get a 25-year storm and
7 you have only designed for a 10-year storm, any
8 device such as that would fail. Once you exceed
9 your design storm, your device fails and, like I
10 said, there is a certain risk inherent when you
11 make a design. You decide what risk you can
12 take. Yes, sure it could happen. Especially
13 over the long duration of a project like this
14 it's more likely you will experience a large
15 scale or larger storm event.

16 MR. GERSTMAN: Thank you.
17 Mr. Garabed, have you reviewed the comments

18 submitted by the New York State Attorney
19 General's Office and the New York State Water
20 Inspector General which I believe is CPC Exhibit
21 56?

22 MR. GARABED: I did review some of
23 the comments of the Attorney General's Office
24 but I limited my review again to those comments
25 that pertain to the construction related storm

1 (STORM WATER ISSUE) 2001
2 water impacts.

3 MR. GERSTMAN: Did you also have an
4 opportunity to review the comments submitted by
5 the New York State Department of Environmental
6 Protection concerning the project vis-a-vis the
7 area that you are referring to?

8 MR. GARABED: Yes.

9 MR. GERSTMAN: In general, would you
10 say that you endorsed the evaluation of the DEIS
11 related to storm water impacts during
12 construction phase of the project that are set
13 forth in those two documents?

14 MR. GARABED: I did on a number and

15 I can look at those specifically and tell you
16 which ones I was in agreement with.

17 MR. GERSTMAN: Would you do that?

18 MR. GARABED: The Attorney General's
19 Office commented that the DEIS should include a
20 detailed storm water pollution prevention plan
21 for the entire project. I fully agree with that
22 and that's little been a large part of my
23 testimony that the SWPPP, first of all, only
24 addressed a portion of the site and really needs
25 to address the entire site. I have also stated

1 (STORM WATER ISSUE) 2002
2 it's lacking in sufficient detail to allow a
3 proper review. So yes, I do agree with that
4 comment.

5 I also agree with the Attorney
6 General's comment that the limited SWPPP
7 contains numerous deficiencies with the proposed
8 program to address both erosion and sediment
9 controls. And the comment also further went on
10 to talk about storm water controls but that's

11 not a subject that I looked at so I don't agree
12 with that or I have no comment on that part.

13 I agree the SWPPP contains numerous
14 erosion and sediment control deficiencies and my
15 previous testimony on this topic supports this.

16 The Attorney General's Office also
17 commented that overall the SWPPP must include a
18 much, much greater detail. Again, this is the
19 same thing we are talking about, a lack of
20 detail with the plan. I fully agree.

21 The Attorney General also commented
22 the construction phase discharges should be no
23 greater than current discharges to avoid further
24 impact. What they were saying is that there was
25 an analysis done where they said during

1 (STORM WATER ISSUE) 2003
2 construction there would be a greater release of
3 storm water from the site than I guess during
4 predevelopment conditions. This should not
5 happen. When you do a design, you almost always
6 match predevelopment and post development peak
7 runoff rates. And from this comment it appears

8 as though that was not done during the
9 construction phase. So during the construction
10 phase there would likely be greater storm water
11 runoff from the project site.

12 THE COURT: Which comment is this?

13 MR. GARABED: Comment number 8.

14 THE COURT: That's the Watershed
15 Inspector General's report?

16 MR. GERSTMAN: Yes.

17 THE COURT: That's not a reference
18 to the DEIS itself or is it?

19 MR. GERSTMAN: I'm sorry?

20 THE COURT: Is that some page in the
21 DEIS?

22 MR. GARABED: I didn't have it
23 listed here. I just had it referenced their
24 comment.

25 The Attorney General's Office also

1 (STORM WATER ISSUE) 2004
2 commented that a sediment removal plan is needed
3 and that a detailed plan for clearing and

4 grubbing waste disposal is needed. I agree with
5 this.

6 The storm water pollution prevention
7 plan requires the inclusion of a waste
8 management plan to address how wastes generated
9 at the site will be handled to prevent storm
10 water pollution. The Applicant has provided
11 some information on the management of wastes at
12 the site but information on the handling of
13 sediments and clearing and grubbing debris is
14 needed. The SWPPP needs to discuss how these
15 waste materials will be stored on site and the
16 on site controls planned to reduce pollutants
17 from these materials, including storage
18 practices to minimize exposure of the material
19 to storm water.

20 The Attorney General's Office also
21 commented that a detailed plan is needed for
22 soil stock piles. Again I agree with this and I
23 provided previous testimony where I also stated
24 areas of soil stockpiling have not been shown on
25 any of the project plans.

1
2 Finally, the AG's Office also
3 commented that a revised grading and excavation
4 schedule is needed. I agree with this. And as
5 I discussed earlier, the construction phasing
6 schedule in the storm water pollution prevention
7 plan must be revised and it must be accurate.
8 It must show exactly when certain activities are
9 going to take place so that impacts can be
10 minimized. The grading and excavation schedule
11 should also be included in that.

12 I also looked at the comments raised
13 by the DEP and I do agree with a few of those
14 comments as well.

15 DEP stated that it was their
16 position that many of the temporary erosion
17 controls are undersized and in some cases
18 inappropriate. They further state it would be
19 catastrophic to the city water supply if several
20 areas that has been previously stabilized fail
21 resulting in significantly more than 25 acres of
22 unstabilized soil and a potential for a
23 significant release of sediment and nutrient

24 load into the streams and reservoirs. I agree
25 with this.

1 (STORM WATER ISSUE) 2006

2 In my previous testimony I discussed
3 the fact that the post sediment basins don't
4 provide the adequate storage. Therefore, they
5 are undersized, and I agree that if you have
6 areas that were previously stabilized and they
7 become unstable, you know, that's feasible you
8 can get greater than 25 acres of exposed soil
9 and that that would cause a significant sediment
10 and nutrient discharge from the site and it
11 would likely reach the area waters.

12 The DEP also stated that the DEIS
13 does not adequately evaluate the potential
14 erosion associated with the very steep portions
15 of the on site roadways. I think this goes
16 again toward the lack of detail. We can't
17 really assess what is being provided or acquired
18 or going to be done in certain areas. Again, I
19 think that detail is missing from this plan, so

20 I agree that it doesn't adequately address the
21 erosion control with the steep slopes and the
22 roadways.

23 So just to conclude what I have gone
24 over here today, first and foremost, I don't
25 think the Applicant has provided the detail and

1 (STORM WATER ISSUE) 2007
2 information necessary to justify the granting of
3 a waiver from the five-acre disturbance limit.
4 They have not provided sufficient detail to
5 allow the public to fully understand what is
6 really being proposed in terms of erosion and
7 sediment controls for this site.

8 The Applicant has incorrectly sized
9 the sediment basins proposed for use on the site
10 and those basins will not provide the level of
11 protection for downgradient waterways that would
12 be provided by properly sized sediment basins.

13 The Applicant's storm water
14 pollution prevention plan does not meet the
15 requirements of the New York DEC and the
16 Applicant should be required to provide a storm

17 water pollution prevention plan in accordance
18 with the DEC requirements. That SWPPP must
19 provide the level of detail necessary to fully
20 understand how the Applicant is going to control
21 the runoff of pollutants from all areas of the
22 site during the construction.

23 Given the conflicting data
24 surrounding the toxicity of the Chitosan, the
25 magnitude of the proposed project, the steep

1 (STORM WATER ISSUE) 2008
2 slopes and the environmental sensitivity of the
3 receiving waters, the DEC should require the
4 Applicant to complete site specific toxicity
5 testing on the proposed Chitosan discharge
6 before issuing the required SPDES permit for the
7 storm water discharge from the site.

8 In my opinion the current DEIS the
9 Applicant has provided has failed to provide the
10 sufficient information, has not completed the
11 analyses necessary to require the requirements
12 of SEQRA.

13 MR. GERSTMAN: Mr. Garabed said that
14 he agreed with components of the DEP and the
15 Attorney General's comments and he was, as he
16 said, restricted in his scope to those issues
17 involved in construction phase storm water
18 impacts. He wasn't suggesting that he was
19 disagreeing with the other comments but he was
20 restricting his comments to those issues.

21 Judge, as we will brief after the
22 briefing phase of the Issues Conference, we
23 don't believe that the Applicant has met its
24 burden to show that the project will not result
25 in significant adverse impacts. We believe

1 (STORM WATER ISSUE) 2009
2 there are substantive and significant issues
3 which must be adjudicated here concerning the
4 potential impacts. Based upon Mr. Garabed's
5 offer of proof and Doctor Pitt's offer of proof
6 we believe that there are material permit
7 conditions that would be imposed as a result of
8 those issues or that the Commissioner must deny
9 the permit based upon the lack of information

10 and faulty analysis of storm water impacts.

11 If you have any questions for
12 Mr. Garabed, Judge?

13 THE COURT: No.

14 MR. GERSTMAN: Thank you very much.

15 THE COURT: Mr. Gerstman, do you
16 anybody else? Okay.

17 Mr. Young, did you want -- this is
18 the first 15 minutes?

19 MR. YOUNG: Do I have a specific
20 ending time?

21 THE COURT: You asked me for 15
22 minutes yesterday, then you said that there was
23 somebody else you might want to have that would
24 also take 15 minutes. I am trying to figure
25 which 15 minutes this is.

1 (STORM WATER ISSUE) 2010

2 (Whereupon, Watershed Exhibit 3 was
3 marked and received.)

4 MR. YOUNG: Your Honor, Watershed
5 Community 3 is being offered only on behalf of

6 Delaware County. It's a side issue and I wanted
7 to raise because the issue came up in CPC
8 testimony.

9 We have heard I think three of CPC
10 witnesses reference testimony comments of the
11 Attorney General's Office. Delaware County has
12 submitted to you a letter dated February 26,
13 2004 in which we objected to the Attorney
14 General taking an independent position on this
15 project, that is, the Attorney General's Office
16 represents the Agency and if whatever decision
17 this Agency makes in this proceeding, will have
18 to be defended by the Attorney General. The
19 Attorney General's office to take policy
20 decisions such as saying no net increase or to
21 specify the level of detail appropriate. At
22 this level of the proceeding we think this
23 creates a conflict of interest between the
24 Agency and Attorney General's Office, so this is
25 a letter here which spells that out.

1 (STORM WATER ISSUE) 2011

2 Your Honor, this proceeding and the

3 way it's going on this particular issue is the
4 exact thing that we fought against when we
5 negotiated the MOA. This proceeding and the way
6 in which the position is taken by the DEP and
7 CPC is basically putting such obstacles into a
8 large project that we would never have a large
9 project in this watershed. I will get into why
10 we depend upon a few large projects to survive.
11 I want to get to what I understand the issue is
12 and how that issue is generally handled
13 throughout the state, how it was handled by the
14 Staff in this particular case and what's being
15 proposed by the Proponents to the project.

16 I understand this is an Issues
17 Conference and there are two issues you are
18 trying to address. The Proponents have to show
19 there is sufficient doubt about whether the
20 Applicant can meet the statutory or regulatory
21 criteria. To me that means there has got to be
22 significant doubt as to whether or not the
23 Applicant can meet the storm water restrictions
24 in the Environmental Conservation Law which in
25 some sense in this case are identified in a

1
2 SPDES Draft SPDES permit which are also
3 identified in the Phase II General Storm Water
4 Permit. That's to me the criteria. The issue
5 to be adjudicated is whether or not there is
6 substantial doubt as to whether or not he can
7 meet that criteria.

8 The other issue is whether or not
9 there is enough in the record for the DEC to
10 issue its findings under SEQRA. I take it the
11 finding that you need to issue under SEQRA with
12 respect to storm water is whether or not a
13 project such as this which is in compliance with
14 the General Permit, Draft SPDES Permit, whether
15 that adequately mitigates the storm water
16 impacts. I think that's the standard. Whether
17 the project, consistent with the Draft Permit,
18 consistent with the Phase II Permit, adequately
19 mitigates the adverse effects for storm water.
20 And what the Staff did in this particular case,
21 is what we do throughout the state. It's not an

22 issue that is alone to DEC. Every planning
23 board, every zoning board has to address the
24 issue regarding storm water plans at this point
25 and how those storm water plans interact with

1 (STORM WATER ISSUE) 2013

2 SEQRA.

3 What we have is we have two draft
4 permits that are the subject of this proceeding,
5 one for Wildacres and one for Big Indian
6 Plateau. And the draft permit for, just take
7 Wildacres, pretty much the same, identifies the
8 phosphorus loading from storm water at 21
9 kilograms a year. It then requires, it then
10 requires as a section which requires each
11 detention pond to be sampled once a month or
12 upon discharge. It requires acute toxicity
13 testing in each detention well, in five of the
14 detention ponds, on an ongoing basis, toxicity
15 testing for pesticides three times a year. It
16 requires an EMP plan, in terms which addresses
17 the issues the witnesses have been talking
18 about, best management plan as to how you are

19 going to address any kind of toxicity, where you
20 are going to store your fuel, how you are going
21 to make sure fuel you are storing doesn't get
22 into the water. So that's part of the standard,
23 part of all SPDES permits. It requires no water
24 treatment chemical be applied without coming
25 back to the DEC and getting approval. So the

1 (STORM WATER ISSUE) 2014
2 issue of whether to add or not add, you still
3 have to go back to DEC. It requires stream
4 monitoring, upgradient of the site and
5 downgradient of the site, monitoring of the
6 Woodchuck Hollow Brook, Giggle Hollow Brook,
7 Lost Clove Brook, Birch Creek, tributary two
8 into Amery (sic), tributary three into Amery to
9 map phosphorus both upgradient and downgradient
10 of the site. It requires ground water
11 monitoring on both sites on a regular basis for
12 pesticides. It requires annual reporting of all
13 these, all this testing, including an evaluation
14 from both Wildacres and Big Indian whether or

15 not they had any impact on the TMDL for Ashokan.

16 It also then says specific
17 restrictions on irrigation, when you can do
18 irrigation, how you do irrigation, can't do
19 irrigation within two hundred feet of any water
20 source, and reporting of all the data. It has
21 specific restrictions on the application of
22 fertilizer use incorporating the plans that were
23 set forth in the DEIS as to how fertilizers were
24 going to be applied; same thing is true of
25 pesticides.

1 (STORM WATER ISSUE) 2015

2 And then when it gets to the storm
3 water pollution prevention plan, that's what
4 this hearing is about, storm water pollution
5 prevention plan. It does what we do in every
6 other case, it says that, well, it actually does
7 more than we do in every case. The Applicant
8 has to submit a storm water pollution prevention
9 plan consistent with the permit, consistent with
10 the appendixes of the DEIS, and consistent with
11 the Phase II Permit. Which means that all the

12 information we have been talking about today,
13 all that type of information, and yesterday, is
14 what goes into the storm water pollution
15 prevention plan and with that very much detailed
16 level of information. We look at the table of
17 contents, look at what the guidelines say, all
18 those calculations about preexisting conditions,
19 post construction conditions, overloadings and
20 all that very much in detail goes into the
21 pollution prevention plan that has to be
22 submitted. Normally just has to be submitted to
23 DEC and wait 60 days or five days, depending
24 where you are, you don't even need an approval,
25 just go ahead. In this particular case it has

1 (STORM WATER ISSUE) 2016

2 to be submitted to DEC and approved before
3 construction can start.

4 Also, in the watershed regulations
5 1997, unfortunately I think now, we agreed to
6 allow the City to issue an individual permit for
7 approving of storm water permits, so the City of

8 New York has to approve the storm water
9 pollution prevention plan also. When they
10 review the storm water pollution prevention
11 plan, they review it consistent with the Phase I
12 permit, that's what regulations says and that's
13 when DEC reviews the storm water pollution
14 prevention plan, they review it consistent with
15 the Phase II plan. That happens before
16 construction, that's the way it happens. We
17 get -- and that's the way DEC staff addressed it
18 in the Draft Permit and the way it is addressed
19 throughout the state. If I am on a planning
20 board, and I get a site plan application, I
21 don't make the Applicant submit before I make my
22 SEQRA determination the detailed storm water
23 pollution prevention plan. It's like impossible
24 because that prevents me from changing the whole
25 idea of site plan which is yet to have occurred

1 (STORM WATER ISSUE) 2017

2 here. It is for the local community to decide
3 how this thing should look. Do we want the golf
4 course over here or do we want it over there?

5 Do we want to change, decrease the size of this?
6 More parking over there? Those details are
7 decided in a site plan process. You can't do
8 it. It's a waste of time to do a detailed storm
9 water pollution prevention plan at this stage.
10 And if you do, you are taking away from the
11 local community the ability to really specify
12 the site plan, how they want the site laid out
13 because now the Applicant has invested his
14 millions of dollars and gone through all these
15 calculations and details of every little pipe
16 for storm water. That's just not the way it's
17 done. If we are going to do that in this
18 proceeding in the watershed, then we hope only
19 you do it in the rest of the state because we
20 don't want to be the only ones where no one
21 wants to indulge because of the obstacles.

22 I just want, I also want to put into
23 perspective, we hear it's constantly made like
24 such a special impact, such a significant
25 impact. The phosphorus load of storm water at

1
2 the Wildacres is 21 kilograms a year, that's
3 what it's estimated. Maybe it's double. Maybe
4 it's 42. In the compacture where that's going
5 the TMDR is 79,167 kilograms. The point source
6 contribution to that from all the waste water
7 treatment plants, this is from DEC's Phase II
8 TMDL report which was prepared by the City of
9 New York, point source contribution is 388
10 kilograms. 277 of that 388 is the City's
11 Margaretville waste water treatment plant. What
12 the Applicant -- what the storm water from this
13 project is 21 kilograms. It's less than .005 of
14 the available load. The available load when you
15 take out point sources and non point sources,
16 the available load according to DEP's numbers
17 37,327. This additional load from storm water,
18 whether they are off by a factor of 10 is not
19 significant in the overall database. If that
20 amount of phosphorus is significant, the City of
21 New York could do something about it by reducing
22 the permit limit at the Margaretville plant to
23 .5 which is what the permit level is, to .2

24 which is what the Delhi facility is which is
25 owned by the municipality. If they want to cut

1 (STORM WATER ISSUE) 2019
2 it in half, they can. Big Indian, which is
3 going in the Ashokan, the Ashokan TMDL is 60,532
4 kilograms a year. The point source contribution
5 there is 264 kilograms a year. 52 percent of
6 that is the City's Pine Hill plant, which is 139
7 kilograms. Again, storm water here I think is
8 estimated at 48 kilograms a year, less than .1
9 percent of the actually available load. The
10 available load here is 27,699. So we have heard
11 a lot of talk about phosphorus. We heard the
12 City in its comments say watershed rules and
13 regulations through the incorporation of the
14 General Permit require that the proposed storm
15 water pollution prevention plan not generate
16 more phosphorus discharge in post development
17 stage than pre development condition. So the
18 City in their comments, I think it was repeated
19 during their testimony, page 19 of 62, says that
20 under the General Permit as they interpret it,

21 which is their permit, Phase I, we are not in a
22 phosphorus restricted basin, but in any basin
23 there can be no net increase of phosphorus from
24 pre development to post construction. You heard
25 Doctor Pitt say that that was impossible. He

1 (STORM WATER ISSUE) 2020
2 said it's impossible to reduce post development
3 levels to below pre development levels. When I
4 look at the General Permit, your Honor, there is
5 nothing in this General Permit that requires
6 that. There is nothing that I know requires
7 that. And but that's, we have made a big deal
8 of phosphorus, but one of the issues we want
9 clarified in this proceeding that the
10 interpretation of DEP's General Permit is wrong,
11 that the General Permit, Phase I General Permit
12 issued by DEC 93 does not require a no net
13 increase in phosphorus pre development to post
14 development.

15 Finally, your Honor, just the way in
16 which when DEC issued these General Permits they

17 went through SEQRA and both general comments say
18 that if you are going to -- both General Permits
19 authorize discharge of storm water from
20 construction sites. If that's the only permit
21 that you need, you don't have to go through
22 SEQRA. Why? Because the agency has decided
23 that's a non discretionary act, in other words
24 going submitting an NOI. In other words, they
25 have decided, they have proven by issuing these

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(STORM WATER ISSUE)

2021

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permits and going through SEQRA that discharges
3 in accordance with these permits are adequately
4 mitigated to the extent practicable, except as
5 they do reserve under these permits the right to
6 require an individual permit.

7

The point I am trying to make,

8

that's the way it's done 99 percent of the time.

9

This storm water pollution prevention plan is,

10

should be done at the end of the process when we

11

know exactly what the project is. The decision

12

that you have to make or that DEC has to make at

13

this point in time is whether the Staff is

14 correct that there is a way to do a storm water
15 pollution prevention plan consistent with the
16 Phase II permit. If there is, then SEQRA
17 satisfies it.

18 THE COURT: Very, very interesting
19 15 minutes there, Mr. Young.

20 City?

21 MS. MELTZER: Your Honor, I don't
22 disagree with Mr. Young's characterization of
23 what the question is here. As he mentioned, at
24 the beginning of the City's testimony, we agree
25 that this is a proceeding about whether or not

1 (STORM WATER ISSUE) 2022

2 the Applicant has met the burden of
3 demonstrating that managing storm water from the
4 site during and after construction of the
5 proposed project is feasible. We believe that
6 we have demonstrated through the offer of proof
7 from our experts, most particularly from
8 Mr. Damarath, that the Applicant has not
9 demonstrated the feasibility here.

10 I would like to address a few of the
11 specific points Mr. Young made. Again, as we
12 maintained from the beginning, this is not a
13 proceeding about the City's watershed
14 regulations or about our regulatory review of
15 this project. This is a proceeding about the
16 SEQRA review and about DEC's review of the
17 project in the context of its obligation to
18 issue SPDES permits. That's the standard we are
19 applying, that's the standard that Joe and
20 others have been providing testimony has not yet
21 been met.

22 Mr. Young also talked about what the
23 appropriate standard of review of storm water
24 plans at the SEQRA stage is and he used the
25 example of what the standard that would be

1 (STORM WATER ISSUE) 2023
2 applied by a planning board would be and talked
3 to you about the discretion a planning board
4 needs and should have in reviewing an
5 application for site plan approval. The
6 planning boards for the towns of Shandaken and

7 Middletown are not the lead agencies for this
8 project. As everybody in this room knows, there
9 was quite some contention about who the
10 appropriate lead agency for this project should
11 be. Ultimately the lead agency for this project
12 is DEC Region III, for a number of reasons that
13 we don't need to get into. But this project is
14 being reviewed under SEQRA for the SPDES
15 permits, not for the site plan, and for the
16 SPDES permits DEC ought to be looking at and we
17 believe is looking at a level of detail in the
18 storm water pollution prevention plans that
19 would allow DEC to make the determinations it
20 needs to make in order to issue a SPDES permit.
21 This is particularly true given the structure of
22 DEC's review of the Wildacres SPDES permit, the
23 fact that DEC has required an individual permit
24 for the storm water discharges from Wildacres.
25 That means this is the moment when DEC needs to

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(STORM WATER ISSUE)

2024

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be looking at the storm water pollution

3 prevention plan for this project. It's not
4 something that DEC can put off. In issuing a
5 SPDES permit for Wildacres and as we argued the
6 same should be true for Big Indian, DEC needs to
7 be able to determine the requirements of the
8 General Permit have been met, not that they will
9 be met, but that they have already been met.
10 And again as we believe we have demonstrated
11 through our offer of proof, there is not
12 currently a record on which that determination
13 could properly be made.

14 I also want to remind everybody of
15 the scope of the Environmental Impact Statement
16 for this project. It's an unusual scope. It
17 goes into a lot of detail about what needs to be
18 included regarding the erosion control plans for
19 this project and the storm water pollution
20 prevention plan for the operational stage of
21 this project. That's unusual. I agree with
22 Mr. Young that by and large looking at a storm
23 water pollution prevention plan in the level of
24 detail that some of the witnesses who have made
25 offers of proof would be premature at the DEIS

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stage because often, as Mr. Young says --

THE COURT: We don't know what the project will look like.

MS. MELTZER: We don't know what the project is at this stage at that level of detail. That's not what is going on here and that should not be allowed to happen here given what the scope is for the environmental review for this project.

The final point I want to respond to, Mr. Young suggested that because the storm water permitting structure in New York State generally relies on a General Permit, that suggests that DEC has decided that if a General Permit is the only permit for a project that's required, SEQRA is not required because there is no discretionary approval. That has never been DEC's position. I don't want to speak for DEC although I do in fact have an affidavit I can produce for the record here from DEC from a number of years ago soon after the first general

23 permit was issued saying that in DEC's view the
24 general permit is a discretionary permit and
25 does trigger the need for discretionary review.

1 (STORM WATER ISSUE) 2026

2 Thanks.

3 THE COURT: Interesting 15 minutes.

4 MR. GERSTMAN: Can I add to the 15
5 minutes?

6 THE COURT: Certainly may. Take
7 your own.

8 MR. GERSTMAN: I did not hear
9 whether Mr. Young was speaking on behalf of the
10 coalition of watershed towns of Delaware
11 County--

12 MR. YOUNG: I was speaking on behalf
13 of everyone, all my four clients, five clients.

14 THE COURT: Exhibit 3 came in only
15 as Delaware County.

16 MR. YOUNG: Exhibit 3 came in on
17 behalf of Delaware County. The comments related
18 to Exhibit 3 related only to Delaware County.

19 MR. GERSTMAN: Your Honor, this is
20 an issue that we clearly would have to brief.
21 We think fundamentally SEQRA requires,
22 especially for a project of this magnitude with
23 potential impacts associated with this project,
24 an early analysis of all of the environmental
25 impacts. We think Mr. Young is wrong on the law

1 (STORM WATER ISSUE) 2027
2 with respect to SEQRA and with respect to the
3 responsibility of DEC to review that, but we
4 reserve our right to brief this later.

5 MR. RUZOW: Your Honor, since I
6 don't want to sit here quietly, just off I agree
7 with Mr. Gerstman, we want to brief these
8 issues, but I want to respond to both his last
9 comment about what SEQRA requires in terms of
10 the issues.

11 SEQRA does indeed require that we
12 assess the potential impacts of storm water and
13 we have done so. The question that we are
14 arguing over is the degree of detail that is
15 necessary at this stage of the project's

16 development in order to comply with DEC we are
17 back at the adjudicatory hearing question here.
18 This is a process that is unique to DEC and we
19 are here arguing in part not only the SPDES
20 permit question, but the question of SEQRA's
21 applicability to how we protect storm water, and
22 that is a unique process here before DEC and
23 doesn't occur anywhere else.

24 Again, there is lots of things we
25 have heard today that if the determination was

1 (STORM WATER ISSUE) 2028
2 made there are no issues to be adjudicated, that
3 would be very valuable in fashioning both
4 responses to comment and indeed ultimately the
5 final design that they are asking for of a
6 SWPPP. We have heard lots of things both
7 suggesting the inapplicability of certain models
8 in terms of yielding useful information. We
9 have heard from Mr. Young today in terms of the
10 relative significance of some of these numbers.
11 We will hear more tomorrow from us about our

12 view of, the Applicant's view of how all this
13 plays out and efforts made to address those
14 substantive SEQRA issues that we were asked to
15 address. But in any event, the unique DEC role
16 with regard to the SPDES permit and
17 determination as to whether or not major
18 modifications to the Draft Permit as it is
19 proposed or issues that could result in denial
20 of the SPDES permit is ultimately the narrow
21 question that you and the Commissioner have to
22 address in the first instance.

23 With respect to -- and we will
24 address those issues and tomorrow we think we
25 will help the record's understanding to address

1 (STORM WATER ISSUE) 2029

2 both what we think is unfortunate confusion on
3 the part of some of the commenters about what
4 the DEIS and the plans provide as well as a
5 response to the significance of some or all of
6 these issues.

7 With respect to Ms. Meltzer's
8 comments on the scope, I just want to say for

9 the record that the scoping that occurred in
10 2000 was a tool for purposes of preparing a
11 Draft Environment Impact Statement. It doesn't
12 have a life onto its own. Its purpose is to
13 provide the Applicant with direction as to what
14 should be included in the DEIS so the Department
15 as lead agency has a method for evaluating
16 whether or not a DEIS has been prepared that is
17 adequate and complete for public review. That
18 has occurred. The DEIS is now the controlling
19 document, the Department having determined that
20 its adequate. And beyond that, the commentary
21 that comes in from the public not only in this
22 room but the other documents that are there, and
23 the response to that in the final EIS whether
24 done through your office or Department Staff
25 ultimately will be a very large document. If

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(STORM WATER ISSUE)

2030

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the complaints we had about the scale of this

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document as a draft were valid, God help us all

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with regard to the scale of the final EIS.

5 THE COURT: Are you saying the
6 scoping documents such as it is, whatever life
7 it has, that life ends when the DEIS is accepted
8 by the Department?

9 MR. RUZOW: I believe that to be the
10 case. And its reference is simply as a tool.
11 It is -- it doesn't determine anything. The
12 process by which it is developed which allows
13 for public comment into the Agency optionally,
14 it's a discretion on the part of the Agency.
15 Here we had a very long scoping comment period
16 as well as session. There is no response to it
17 as a document. It's not analogous to a DEIS.
18 It's simply a tool and indeed it was a useful
19 tool to flush out many of the issues that we are
20 confronting today in terms of the scope of
21 studies. Obviously people interpreted its
22 requirements differently both from the
23 regulatory agencies that are involved agencies
24 here as well as the public, and CPC is a member
25 of the public. So the DEIS is the controlling

25

device is appropriate, what's the bases for your

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(STORM WATER ISSUE)

2032

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model. That's the give and take of regulatory

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agencies. The fact that the citizens and the

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CPC as represented by Mr. Gerstman is not

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satisfied with the level of detail, they are not

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the regulator. They may be an interested member

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of the public and there is a certain level of

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information that is appropriate for them to

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inquire, they can FOIA information, they can

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write letters that will be considered, but they

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are not the regulator. At the end of the day

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their rights and interests are not being

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adjudicated in this proceeding. It is the

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Applicant's entitlement to a permit that's being

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adjudicated here. In their role they can choose

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or not choose to participate in subsequent

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activities associated with this project. The

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choice with DEC and DEP is different. They are

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regulatory agencies. They have a continuing

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role, so their involvement in the review of

21 within their jurisdictional frameworks are
22 different. SEQRA doesn't change any of that.
23 All it is is a process to allow opportunities
24 for public comment and review and it's a
25 continuum. With that I will end and present

1 (STORM WATER ISSUE) 2033

2 tomorrow.

3 THE COURT: Staff?

4 MS. KREBS: Thank you, your Honor.

5 It has been an interesting 15 minutes or so of
6 discussion, but I don't think we have anything
7 to add to this right now. We will go into a lot
8 more detail tomorrow about the actual details.
9 There are some points that need to be clarified
10 certainly. Thank you.

11 THE COURT: Thank you.

12 MR. YOUNG: May I respond?

13 THE COURT: Sure.

14 MR. YOUNG: The issue as to whether
15 or not SEQRA applies, I mean, just Phase II
16 permit references two technical standard
17 documents, one is New York State Storm Water

18 Management Design Manual which is supposed to be
19 the technical standards for developing. The DEC
20 Phase II storm water permit incorporates two
21 design manuals, one is this Blue Book right
22 there, one is this White Book right here. And
23 the White Book is the almost more of the gospel,
24 the Blue Book describes what erosion technical
25 standards are. The White Book describes the

1 (STORM WATER ISSUE) 2034
2 storm water management design manual. I think
3 that's kind of what a lot of these witnesses
4 were referencing. But section page 3-10 says,
5 projects for which only a general permit is
6 needed are not subject to SEQRA. So it's not me
7 saying that, it was DEC in the Phase II storm
8 water permit which is incorporated in -- which
9 this document is incorporated in.

10 The last thing I want to raise, the
11 General Permit itself contemplates situations in
12 which something, there be other permit which
13 would trigger SEQRA, and the General Permit has

14 a section, I am going back to the 9306, I found
15 it quicker, the same thing is in the current
16 one, has a section which says if more than one
17 permit -- let me just read it. New storm water
18 discharges from construction activities which
19 require any other uniform procedure act permit
20 must submit the information specified in
21 Appendix G. So this is what you must submit
22 with respect to storm water at the time you
23 submit your application for those other permits
24 and start the SEQRA process. Appendix G, right
25 on the back, I think the new permit has the same

1 (STORM WATER ISSUE) 2035
2 exact Appendix G, I think it's called Appendix
3 B, the location and nature of the construction
4 activity, the total area of the site and the
5 area of the site that's expected to undergo
6 excavation during the life of the permit,
7 propose measures including best management
8 practices to control pollutants and storm water
9 discharges during construction, including brief
10 description of the applicable state and local

11 erosion control and sediment control
12 requirements propose measures to control
13 pollutants in storm water discharges that will
14 occur after construction operations have been
15 completed, including a brief description of the
16 applicable state and local erosion and sediment
17 control requirements. An estimate of the runoff
18 coefficient of the site and the increased
19 impervious area after construction addressed in
20 the permit application is completed, the nature
21 of the fill material and existing data
22 describing the soil and the quality of the
23 discharge and the name of the receiver.

24 I think in this particular case DEC
25 Region 3 as lead agency required a lot more

1 (STORM WATER ISSUE) 2036
2 information than that, but that is what the
3 General Permit requires as part of the initial
4 submission on a project under SEQRA.

5 THE COURT: Okay.

6 MS. MELTZER: I just like to point

7 out in the section of the manual Mr. Young is
8 referring to it says projects for which only a
9 General Permit is needed.

10 Mr. Young pointed to a page 3.10 of
11 the New York State Storm Water Management Design
12 Manual and to a sentence saying, projects for
13 which only a General Permit is needed are not
14 subject to SEQRA. Just continuing in that
15 section it does say that if a project may have a
16 significant environmental impact, an
17 Environmental Impact Statement will be required.

18 I think from all of the testimony in
19 all sorts of directions that have been presented
20 about this project it's pretty clear this
21 project has the potential to have a significant
22 environmental impact.

23 THE COURT: No?

24 MR. GERSTMAN: Fifteen minutes is up
25 notwithstanding I disagree with Mr. Young,

1 (STORM WATER ISSUE) 2037

2 Mr. Ruzow, it's appropriate for briefing.

3 THE COURT: With that we will

4 conclude for today I think.

5 We will convene tomorrow morning

6 9:00.

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9 (Whereupon, proceedings in the above

10 matter were adjourned to June 24, 2004 at 9:00

11 a.m.)

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21 (Volume 9 begins on page 2047.

22 Pages 2040 through 2046 left blank

23 intentionally.)

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I N D E X O F E X H I B I T S

CITY EXHIBIT	DESCRIPTION	PAGE
23	Soil Survey	1794
24	Map	1794
25	Map	1813
26	Guidelines for Erosion/Sediment Control	1813
CPC EXHIBIT		
57	WinSLAMM Check Sheet	1872
58	Page A-8 of NYS SWM Design	1920
WATERSHED COMMUNITIES EXHIBIT		
3	Delaware County Letter dated 2/26/04	2009
COURT EXHIBIT		
S	CV of Dr. Robert Pitt	1951

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(STORM WATER ISSUE)

2039

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C E R T I F I C A T I O N

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I, Donna V. Meo, Official Court

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Reporter and Notary Public in the State of New

8

York, do hereby certify that I stenographically

9

recorded the foregoing proceedings at the time

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and place as noted in the heading hereof, and

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that same is true and accurate to the best of

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my knowledge and belief.

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Donna V. Meo

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