

~~Morris~~
ML

Boonton

7 - Jan - 1980

Morris Cty Fair Housing v. Boonton

Deposition of Allen J. Dresdner

density and intensity of land use

pgs = 82

ML000416G

SUPERIOR COURT OF NEW JERSEY
LAW DIVISION-MORRIS COUNTY-
DOCKET NO. L-8001-77-PW

MORRIS COUNTY FAIR HOUSING :
COUNCIL, et. al..

Plaintiffs

DEPOSITION OF:

vs.

ALLEN J. DRESDNER

BOONTON TOWNSHIP, et. al..

Defendants

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Monday, January 7, 1980
Summit, New Jersey

A P P E A R A N C E S :

KENNETH E. MEISER, ESQ.

PUBLIC ADVOCATE

Attorney for the Plaintiffs

MESSRS. MATTSON, MADDEN & POLITO

BY: M. LYNNE MC DERMOTT, ESQ.

Attorney for the Defendant Passaic Township

MESSRS. VILLORESI & BUZAK.

BY: EDWARD J. BUZAK, ESQ.

Attorney for the Defendants Kinnelon and

^Washington Township

MESSRS. SACHAR, BERNSTEIN, ROTHBERG & SIKORA

BY DANIEL S. BERNSTEIN, ESQ.

Attorney for the Defendant Chatham

Karen Hansen Geisler

Certified Shorthand Reporter

Reporting Services Arranged Through:

ROSENBERG Sc ASSOCIATES

CERTIFIED SHORTHAND REPORTERS

769 Northfield Avsnue

West Orange, New Jersey 07052

(201) 678-5650

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25I N D E XNAMEDIRECT

Allen J. Dresdner

By: Kenneth E. Meiser

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E X H I B I T SNO.DESCRIPTIONIDENT.

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(Taken by and before Karen Hansen Geisler,
a Certified Shorthand Reporter and Notary Public of
the State of New Jersey on Monday, January 7, 1960
at the offices of Dresdner Associates, P.A.,
57 Union Place, Summit, New Jersey, at 10:30 A.M.
pursuant to notice.)

ALLEN J. DRESDNER,

57 Union Place, Summit, New Jersey,

called as a witness,

sworn,

testified as follows:

**DIRECT EXAMINATION .
BY MR. MEISER:**

**Q Mr. Dresdner, I'm Ken Meiser. I'm attorney
for the plaintiffs in this case.**

**I'm going to be asking you a number of
questions, and if there is any question that's not clear,
please ask me and I'll be glad to try to clarify it. If
your attorney should object, stop, and we'll work out
the objection and go on.**

**I'd like to begin, could I ask you is this
the resume that you submitted to us through Mr. Bernstein?**

**A My resume would be the first three pages you gave
me. The next three pages are John Thonet's resume.**

1 (Whereupon, MHTP-1, Resume of A. Dresdner,
2 and r4ETP-2, Resume of J. Thonet, are marked
3 for identification.)
4

5 Q Would you look at this, Mr. Dresdner, and
6 see if there are any updates on either the employment or
7 educational things listed on there?

8 A Well, there have been two subsequent judicial
9 and administrative proceedings, one had to do with a
10 case in Washington Township which, a copy of which
11 report has been submitted to the Public Advocate for
12 whatever purpose, and the other is a hearing where X
13 presented testimony before the West Caldwell Board of
14 Adjustment relating to a zoning variance to permit
15 increased density to some lands affected by flooding.

16 C Other than that, this is accurate?

17 A That is accurate, right.

18 Q Now, one of the things you list is a study
19 of land use and housing plan in West Caldwell, New Jersey.
20 Who **was** your client in that matter?

21 A The Planning Board of the Borough of West
22 Caldwell.

23 C What did they request you to do?

24 A They requested that I prepare a land use plan and
25 housing plan to update their Master Plan in accordance with

1 the then current Municipal Land Use Law, and still
2 current Municipal Land Use Law.

3 Q Have you completed that project?

4 A Yes, sir, I have.

5 Q The Master Plan is finished?

6 A The Land Use Plan.

7 Q The Land Use Plan?

8 A Yes.

9 Q Did you do anything on the Master Plan?

10 A No, the only thing that I was requested to update
11 was the Land Use Plan, and additionally prepared a housing
12 plan which they had not had before.

13 Q Do you have copies of that here?

14 A Yes, I do.

15 Q Could you get that. Which part of this did
16 you prepare?

17 A I prepared the entire report, this Dale and Moore's
18 name is on there because when I was selected as the planner,
19 I was employed by Dale and Moore at that time.

20 Q Does West Caldwell have public water or
21 sewer? */

22 A Yes, they do.

23 Q Now, what did you testify to before the
24 Board of Adjustment in West Caldwell?

25 A The reasonableness of the zoning ordinance as it

1 related to the densities on a particular 29 acre site and
2 the disposition of those densities on the site. The
3 contention - one of the contentions was that in the Master
4 **Plan**, and accordingly, in the Zoning Ordinance we restricted
5 construction of residential homes on lands that were not
6 in the flood plain and did not conversely permit
7 construction of lands within the flood plain. Additionally,
8 on a parcel that was divided into flood plain and nonflood
9 plain areas, we called the portion of the parcel nonflood -j
10 that was nonflood plain, the developable area, and placed
11 a maximum density that could be located on that
12 developable area.

13 Q Did the Zoning Board make a decision yet?

14 A No, their meeting - they may have made it on
15 Saturday, but I don't know.

16 Q What type of density were you recommending
17 for the properties?

18 A Well, the property as a whole was zoned for, and
19 we recommended that they maintain that zoning at 14,000
20 **square foot** lots, one family, 14,000 square foot.

21 We did recognize, however, that there were
22 some parcels which were inundated by flood waters and said
23 on those parcels, they could have on the developable
24 portion of the property a density not to exceed eight units
25 per acre, however, provided that the overall density of

1 14,000 square foot lots was not exceeded, which ever was
2 left is the way it worked out,

3 Q Do you have a copy of your testimony?

4 A Oh, no, the testimony was given Friday evening.
5 The court - the case started Thursday evening, continued
6 until 12:30 that night and started again at 9:30 Friday
7 morning and concluded 7:30 Friday evening.

8 Q I see. What was your involvement in
9 Washington Township?

10 A Washington Township was a zoning case where the
11 properties were zoned for five acres, and the plaintiffs
12 were demanding a reduction in lot size.

13 Q Who did you represent in that case?

14 A I represented the Township.

15 Q Has that matter gone to court?

16 A It has gone to court, and as Mr. Bernstein will
17 correct me if I'm wrong, the five acres was found to be
18 illegal - what would be the correct term?

19 MR. BERNSTEIN: Invalid.

20 A Invalid, and rezoning was remanded back to the
21 Township.

22 Q Are you doing any work on the redrafting of
23 the ordinance?

24 A No, sir, I'm not.

25 Q Have you done any other work for Washington

1 Township other than for this one case?

2 A Not for the Township. I represented some
3 individuals in the Township on a Merry Meeting Farm
4 zoning controversy where I represented the reasonableness
5 of the five acres zoning there, but it was for adjacent
6 lot owners.

7 Q Who was the applicant who sought to
8 challenge this five acres in Washington?

9 A A Mr. - Messrs. Lindabury and DeVenezia.

10 Q Do you know who their attorney was?

11 A Mr. Bernstein.

12 Q Who represents Washington Township?

13 N A Mr. Villoresi.

14 Q What is the Save the Black River Fund?

15 I see that represented -

16 A Save the Black River Fund was this Merry Meeting
17 Farm litigation that I referred to. They were the -
18 that's the organization that compensated me for my
19 testimony.

20/ Q What did you do in Montville Township?

21 I see there was a reference to a DIS or development
22 project.

23 A Yes, in Montville Township I prepared three
24 environmental impact statements, one was for a residential
25 subdivision of some fifty-two lots. The second was for a

1 small shopping center, and the third was for a warehouse.

2 Q Who was your client in these cases?

3 A In each case they were the applicants.

4 Q Who was the applicant for the residential
5 subdivision, do you recall?

6 A I don't recall the name, but I will have it here.
7 I'm sorry.

8 MR. BUZAK: Was it Merritt Development?

9 THE WITNESS: Yes, Jerry Sperella. Yes,

10 I just didn't recall his name.

11 Q Did you present testimony in that matter?

12 A Yes, I did.

13 Q Before who?

14 A Before the Planning Board.

15 Q What was the outcome of your testimony in
16 the hearing?

17 A Well, the outcome of the hearing was approval of
18 the subdivision, the thrust of my testimony was directed
19 towards the drainage implications of the subdivision, that
20 is the drainage plans as submitted by the applicant were
21 adequate and proper to meet the concerns of the environmental
22 conditions and additionally complied with and melded with
23 the Storm Drainage Plan for the community.

24 Additionally, I indicated that insofar as
25 zoning was concerned, no variances were being requested.

I Dresdner - direct

3

1 Q Do you have a copy of that report?

2 A Yes.

3 Q What about Howell, what did you do in
4 Howell?

5 A In Howell I prepared an environmental impact
6 statement for a developer, Howard Siegal.

7 Q What was he proposing to build?

8 A He was proposing a subdivision on several
9 hundred acres of land, single family homes. The acreage
10 was 184 acres.

11 Q Did you testify before anyone?

12 A Yes, I testified before the Planning. Board and
13 Environmental Commission, as I recall.

14 Q What was the outcome of the hearing?

15 A They approved his subdivision.

16 Q Is that your report there?

17 A Yes.

18 Q What about Hazlet?

19 A Hazlet was an environmental impact statement to
20 **accompany** a CAFRA application that was done for Howard
21 Siegal also and consisted, as I recall, of some twenty
22 to thirty homes. This was approved by CAFRA and they're
23 constructed.

24 Q What about Plattsburg?

25 A Plattsburg was an environmental impact statement

1 prepared for the City of Plattsburg to - as part of a
2 requirement for a UDAG grant. There was a proposal to
3 **construct** a major twelve or thirteen story residential
4 commercial and entertainment complex in the center of
5 the City of Plattsburg. Since it was located adjacent
6 to the Saranack River and indeed located on the Saranack
7 River, or otherwise would have a substantial impact on
8 the center of the City, I was requested by the City to
9 prepare an environmental impact statement.

10 Q What was the conclusion of your environmental
11 impact statement?

12 A . . . Well - what my conclusion was in terms of **the**
13 impact?

14 Q Right.

15 A That it would have a major impact both positive
16 and negative on the City, that in socioeconomic terms
17 it would be positive. In traffic terms and air quality,
18 there would be negative impacts.

19 On balance, I was of the opinion that the
20? **positive** impacts far outweighed the negative impacts.

21 **The downtown** area was a declining downtown area. It was
22 important for the economic future of the City that the
23 downtown area be rehabbed, and this was the cornerstone
24 to reconstruction.

25 Q Did you make any conclusions concerning water

1 pollution in that study?

2 A Yes, I did. The conclusion was that insofar as
3 surface water runoff is concerned, there would be an
4 improvement to the Saranack River. The reason for that
5 was currently all surface water on the site ran across
6 the existing parking lot directly into the Saranack River..

7 With the proposed development, there would
8 be pretreatment, not through a sanitary sewerage system
9 or anything like that, but rather through retention and
10 filtration, and the outfall of water would be improved.

11 Q Do you have a copy of that report?

12 A, Yes, I do..

13 Q What did you do for Pequannock Township?

14 A In Peauannock Township I was contracted by the
15 firm of Weiner, Newberger and Sike, who were consultant
16 attorneys to the Township, to review the implications
17 of 1-287 through - proposed I-28"⁷ through Pequannock
18 in terms of their past planning efforts.

19 Pequannock at that time and still is
20 **concerned** over the alignment of the highway, and they
21 **asked** me to review it in those terms.

22 Q What about the Environmental Assessment of
23 Community Development Programs in Morris County, what
24 did that involve?

25 A Morris County had some twenty to thirty Community

1 Development programs annually which are funded by the
2 federal government. Most of those Community Development
3 programs are of a service nature, for example, Meals on
4 Wheels, rehabilitation of a couple of homes, assistance,
5 other kinds of assistance to elderly and low and moderate
6 income families.

7 Each program requires an environmental
8 assessment to determine the significant - potential
9 significance of the impact. As is typical with the
10 programs, virtually none have a potentially significant
11 impact on the human environment in the context of **the**
12 federal legislation. Occasionally, there is one that
13 does require an environmental impact statement, in which
14 case the county then goes out, either prepares it them-
15 selves or has it prepared by a consultant.

16 Q Did you prepare any yourself of any of
17 these programs?

18 A Yes, I prepared one on a storm water outfall -
19 storm sewer, excuse me, a storm sewer plan for a portion
20 of Mount Olive Township located around Budd Lake.

21 - it was our judgment that it had a potentially
22 significant impact, and so therefore, recommended the
23 preparation of an environmental impact statement. The
24 County then contacted at least two, if not more, consul-
25 tants, and asked for proposals, and we were selected.

1 Q So did you then prepare the environmental
2 impact statement?

3 A Yes.

4 Q Do you have a copy of that also?

5 A It's in draft form now - well, I have a draft
6 copy.

7 Q Is it available?

8 A It's being retyped now.

9 Q We're going to be back, why don't you perhaps
10 next time.

11 Has Dresdner Associates prepared any
12 Master Plans for any municipality?

13 A Dresdner Associates Firm hasn't. I have. I've
14 prepared numerous.

15 Q Any in Morris County?

16 A I was responsible, before I left the firm, for
17 Morris Township, I believe that's the only one in Morris
18 County.

19 Q What years did you work on that?

20 A That would be in the late 1960s.

21 Q Did the Township adopt the Master Plan that
22 you had drawn up?

23 A Yes, they did.

24 Q Have you done any other Master Plans in
25 Morris County?

1 A I don't recall any, other than Morris Township.
2 I had an involvement in Morristown, but that was for
3 an element of the Master Plan of the Zoning Ordinance.
4 I just don't recall. It was so long ago.

5 Q What about the zoning ordinances, have
6 you prepared any zoning ordinances for any towns in
7 Morris County?

8 A Well, the Morris Township Zoning Ordinance, I
9 believe, again back in the late 1960s.

10 Q Besides your work in West Caldwell have
11 you prepared any other Master Plans in New Jersey within,.
12 let's say the last three or four years?

13 A No, I haven't prepared any Master Plans in north
14 Jersey in the last three or four years.

15 By way of correction, again in the middle
16 1960s or thereabouts, I prepared the Master Plan for
17 Mount Arlington.

18 Q Now, in preparing your report for Mendham
19 Township in this case what sources, references did you
20 utilize?

21 MR. BERNSTEIN: If I could make an objection
22 here, we sent to the Public Advocate a
23 significant list which contained all the sources,
24 most of which were used by Mr. Dresdner that
25 are attached to the Interrogatories, and I don't

1 want Mr. Dresdner to be circumscribed by this
2 answer that he's giving now from memory, since
3 we did supply the information to the Public
4 Advocate's office.

5 With this admonition, I have no problem if
6 he answers.

7 A Well, two varieties of source material were used,
8 the source material relating to the municipality itself
9 and source material relating to the general region. I
10 have a list here listing a wide variety of material. I
11 can either run through this or leave it with the **court**
12 reporter, however you like.

13
14 (Whereupon, an off the record discussion is
15 held.)
16

17 Q Now, as far as Mendham Township, what sources
18 specific with Mendam Township did you utilize?

19 A That would be the Master Plan, the Zoning
20 **Ordinance**, I don't think this is mentioned in there, the
21 **Chesters** and the Mendhams, a Natural Resource Inventory
22 of the area, those would be the three reports that deal
23 with Mendham solely.

24 Now, all of these reports relate to Mendham.

25 Q Did you review any other expert reports that

1 may have been submitted in connection with Mendham Township's
2 preparation for this case?

3 A I don't recall whether it was in reference to
4 Mendham Township, but I did review Alan Malick's report,
5 I believe that was the only other one that I recall.
6 However, I believe that was all.

7 Q Prior to preparing this report, had you
8 done any prep work in or for Mendham Township?

9 A Yes, I had done work in Mendham Township prior
10 to the preparation of this report. It was an environmental
11 impact statement for Mendham Commons located in the
12 Borough of Mendham.

13 Q What year approximately was that prepared?

14 A That was prepared in the early 1970s while I
15 was at Dale and Moore.

16 Q What is Mendham Commons?

17 A Mendham Commons is a garden apartment development.

18 MR. BERNSTEIN: Condos.

19 Q At whose request did you prepare the EIS?

20 A *Jfflell*, it was either by the developer or the
21 developer's attorney. The developer's attorneys were
22 Monica and, in Morristown, a Stewart Huddelswhere, and
23 developer was Ken Pizzo.

24 Q The first attorney was M-O-N-I-C-A?

25 A Yes, Ted Monica.

1 •MR. BERNSTEIN: Isn't that Ambrose and
2 Monica?

3 THE WITNESS: Ambrose and Monica.

4 Q What was the conclusion of the S.I.S. that
5 you did, do you recall?

6 A Well, it's less a conclusion than a statement of
7 facts, and you can call it concerns. We were primarily
8 concerned with the effects of erosion during construction
9 on downstream conditions and worked with the engineers
10 in developing a site plan intended to mitigate and reduce
11 the effects.

12 Q I see. Was that the only subject ~~that that~~
13 E.I.S. covered?

14 A Oh, no, it covered a broad range of subjects,
15 but this was the major and indeed the only issue of
16 substance that I recall.

17 Q Do you have a copy of that E.I.S. still?

18 A No, that I don't have.

19 Q Now, that was Mendham Borough. Did you
20 **have any** connection for Mendham Township at any time
21 **prior to** preparing this?

22 A No.

23 Q Did you do any field investigations in
24 Mendham Township in preparing this report?

25 A Yes.

1 Q What would that include?

2 A Well, it included essentially a windshield survey
3 through the community, in order to gain an understanding
4 of the distribution of development, the type of
5 development, the type and character - type and character
6 of road and the general environmental ambiance of the
7 community.

8 Q Do you remember approximately when this
9 was done?

10 A No, sir, I don't.

11 Q Besides this windshield survey, did you
12 have any other personal trips or studies in Mendham.
13 Township?

14 A I made other trips there to double check on an
15 area that I might not have been familiar with. I went
16 back, for example, to look at Brookside and the
17 Roxiticus Creek area.

18 Q Have you prepared any maps or charts your-
19 self for Mendham Township during your study?

20 A Well, we prepared some sketch maps and charts
21 for Mendham Township.

22 Q Are those included in your report or are
23 they different than those that are included in your
24 report?

25 A We did not include any maps or charts in our

1 report, and have not included any, prepared any final
2 maps.

3 Q What are the maps, sketches you prepared?

4 A The maps, our final drafts are with Catlin's
5 firm who are preparing them. This is a map prepared by
6 Catlin Associates showing the distribution of vacant
7 land. The base map is by Catlin Associates and on top
8 of the base map we have two sketch maps. One showing
9 a regional drainage pattern indicating that the Township
10 of Mendham is the headwaters, contains the headwaters for
11 three drainage basins.

12 The other one is another regional map
13 showing the distribution of wells - that's right, it
14 would be wells, reservoirs and, I believe, treatment
15 plants. This, the map that I'm just referring to is
16 taken from the state's Lords Study. This overlay of
17 drainage basins is taken from the county, Morris County
18 Drainage Map, drainage map.

19 Q I'm going to be asking questions about these.

20

21 (Whereupon, NLETP-3, Map of Township of
22 Mendham; M2TP-4, Base Map of Township of
23 Mendham; METP-5, Utilities Map of Township
24 of Mendham; METP-6, Drainage Map of Township
25 of Mendham; and MSTP-7, Geology and Water

1 Supply Map of Township of Mendham, are
2 marked for identification.)
3

4 Q A lot of your initial testimony speaks about
5 the Piedmont Province, the Highlands Province. Do we
6 have a map, an overview that might lay out what lands
7 you're referring to there?

8
9 (Whereupon, a short recess is taken.)
10

11 Q Could we identify what this map is?

12 A • . . . "This is a map prepared by the - what was thei*
13 the Department of Conservation and Economic Development
14 of the State of New Jersey. Now it's part of the New
15 Jersey Department of Environmental Protection, Bureau
16 of Geology.

17 MR. BERNSTEIN: Isn't it Department of
18 Community Affairs?

19 THE WITNESS: But this would be comparable,

20 J/ -this would ordinarily come out of the Bureau

21 of Geology of the Department of Environmental
22 Protection.
23

24 (Whereupon, MSTP-S, Geological Map of New
25 Jersey, is marked for identification.)

1 C Now, you referred in several places in your
2 report to the Piedmont Province?

3 A Yes.

4 Q Could you explain what you consider is the
5 Piedmont Province?

6 A The Piedmont Province is generally that area in
7 New Jersey that extends eastward of the Ramapo Fault and
8 westward of the Hudson River. It's a broad plain that
9 extends in a northeasterly-southwesterly direction from
10 the Hudson River to the Delaware River.

11 C And the Highlands Province?

12 A. - The Highlands Province, is a parallel band **that**
13 extends west from the Ramapo Fault system and east from
14 the Kittatinny Ridges, again extending from New York
15 State southwesterly to the Delaware River.

16 MR. ESRNSTEIN: Is it the brown band?

17 THE WITNESS: Largely this brownish-olive
18 band.

19 Q In Morris County, what municipalities are
20 **primarily** the Piedmont Province? Can you identify those?

21 A Yes, the communities that are primarily in the
22 Piedmont Province in Morris County are as follows:
23 Pequannock, Lincoln Park, Parsippany-Troy Kills, Hanover,
24 Florham Park, those are the essentially the communities,
25 Chatham and Madison Boroughs also, and I believe Hardy

1 and Passaic.

2 Q What about East Hanover, is that still in it?

3 A Yes, that would be in it also.

4 Q What about in the Highlands, what Morris
5 County Municipalities would primarily be in the Highlands?

6 A Those would be all of the western communities,
7 typically from - they would include Mendham, Randolph -

8 MR. BERNSTEIN: Wait a minute, is that
9 Mendham Township or Borough?

10 THE WITNESS: Mendham Township and Borough,
11 Randolph, Dover, Rockaway, Wharton, Jefferson,
12 Mount Olive, Roxbury, Washington, Chester., **about**
13 half of Morris Township.

14 Q What about Kinnelon?

15 A Boonton, Kinnelon, Montville, Butler.

16 Q Where does Denville fit in, which one?

17 A Denville would be in the Highlands Province.

18 Q Now, is there any major distinguishing or
19 distinguishing characteristic between land in the two
20 **provinces**, the Highlands and Piedmont?

21 A **Yes.** Yes, there is. The distinction sufficiently
22 is in elevation and in slope. The Highlands are higher,
23 and the hills are steeper than in the Piedmont Province.

24 Q What about as far as water?

25 A Generally speaking water sources are more abundant

1 in the Piedmont Province and less abundant in the Highlands
2 Province.

3 Additionally, the groundwater characteristics
4 are different, that is generally the groundwater supply
5 in the Highlands Province comes from Pre-Cambrian rock,
6 which is essentially from cracks and fissures in the
7 rock.

8 Groundwater supplies in the Piedmont
9 Province ordinarily come from buried sand and gravel beds.

10 Q Now, within this **broad area** of the Highlands,
11 is there uniformity in Morris County or is there **pretty**
12 much, variation on the heights in this, these areas **that**
13 you've specified as the Highlands Province, have you
14 done any investigation?

15 A I haven't done an investigation of the elevations
16 across the western portion of Morris County. Generally
17 speaking, they're higher, the peaks are higher as you go
18 in a northwesterly manner.

19 Q Now, on this map would you also identify
20 **what you** call the terminal moraine and explain what that
21 is.

22 A The terminal moraine is this orangish band that
23 extends in a northwesterly and westerly manner across
24 Morris County. It's the furthest extent of the Wisconsin
25 glacier, which is the last or the youngest of the glaciers

1 that moved south into New Jersey and then receded north.

2 Q Can you tell us what Morris County
3 municipalities would be on this terminal moraine on the
4 map?

5 A Madison Borough, Chatham Borough, a portion of
6 Morris Township, Morristown, Morris Plains, a portion of
7 Parsippany, then we would have Denville, Rockaway, Dover,
8 Wharton, a portion of Roxbury and Netcong,

9 It's very easy to figure out where the
10 terminal moraine is, you just follow the major transporta-
11 tion corridors and the older communities.

12 Q What are the reasons the transportation
13 was built along the terminal moraine?

14 A The terminal moraine is an excellent source of
15 construction material. The terminal moraine is an
16 excellent source of construction material which is one
17 of the reasons why many of the older communities located
18 on this land.

19 Additionally, it has somewhat better water,
20 groundwater resources as well as surface water lakes or
21 ponds.

22 Q Is there a reason for this geologically that
23 it has better water?

24 A Well, material is what is called unconsolidated,
25 which means there are larger fissures between the rocks.

1 pebbles, boulders, and gravel. These are interstices where
2 water can be stored.

3 Q What I'd like to get to now is some of the
4 **water** sheds that you referred to. Which map do you think
5 would be best to examine that?

6 A The Township of Mendham is outlined -

7 Q Referring to METP-6.

8 A The Township of Kendham is outlined in red.

9 Q Now, what do you refer to as the Upper
10 Passaic Watershed, what does that include?

11 A Well, the Upper Passaic Watershed includes a
12 very, very large area of western and "northern Jersey."

13 Generally, the Upper Passaic, as I recall,
14 starts at Little Falls and goes all the way back to the
15 headwaters.

16 Q Where approximately would Little Falls be
17 on that map?

18 A It wouldn't be on this map, and it would be out
19 of the county. This map shows the following watersheds or
20 **subwatersheds**, if you will.

21 Q All right.

22 A We have the Whippany River watershed, which is
23 shown by this green araa, a portion of the, a substantial
24 portion of the headlands or headwaters of the Whippany
25 are located in Mendham.

1 We also have the Passaic River watershed,
2 a portion of which is located within Mendham. Finally,
3 **we have** the north branch of the Raritan, approximately
4 **half** of the Township is within that particular watershed.

5 Q Now, in areas do you "know how many square
6 miles the watershed of the, let's take the Whippany, first
7 is?

8 A No, I don't have that number handy. No, I don't
9 have that information.

10 Q How is the boundaries of the watershed
11 determined?

12 A. • The boundaries of the watershed include all of
13 that land which, if a drop of water fell on it would
14 eventually find its way to the Whippany River, so one
15 follows the ridge lines that surround or bound the river
16 itself.

17 Q Do you know which municipalities have land
18 which is part of this watershed in Whippany?

19 A I can give you some of them, particularly the
20 **ones in** Morris County: Morris Township, Hanover,
21 **Parsippany**, possibly 3ast Hanover, and it joins the
22 Passaic River in Parsippany, it seems, and becomes part of
23 the Passaic River watershed.

24 Q Any other towns froir your observation of
25 the map?

1 A No.

2 Q What percentage did you estimate of the
3 **watershed** of the Whippany is in Mendham Township?

4 A I couldn't estimate it, it's a relatively small
5 percentage, albeit relatively important, that is it's
6 located in the headwaters area.

7 Q Referring to METP-6, can we see on there
8 what the headwaters area is? j

9 A The headwaters of the Whippany are primarily in
10 the Township of Mendham, except for a small portion which
11 is located in the community immediately north of **Mendham**,
12 which I believe would be Mount Olive — excuse me, it •
13 would be Randolph..

14 Q Now, does this map delineate where the
15 flood waters section of the watershed is?

16 A No, that's a judgment or an estimate based on the
17 total area, the kinds of lands that the streams originate
18 in.

19 Q What is your definition of a headwater section
20 of a watershed?

21 A That portion of a watershed where the surface
22 waters originate.

23 g Now, is it possible for you to lightly
24 delineate in pencil or in some way delineate what in your
25 judgment, what approximately that would be?

1 A Yas, well, the prime headwater area of the
2 Whippany would be north of Route 24, within Mendham and
3 to the north of Mendham to the end of the watershed.

4 Q The Whippany River starts where on this
5 map?

6 A The Whippany River originates at a point in
7 Mendham, perhaps half way between — about halfway
8 on Route 24 between where it enters Mendham from the east
9 and enters the Borough of Mendham on the west at about
10 a point perhaps two miles north of Route 24.

11 Q You're pointing directly above 24 on the
12 map?

13 A Yes.

14 Q Now, in determining which land is covered
15 within the area that you've referred to is within the
16 headwaters section, are there any standards or guidelines
17 for making that determination?

18 A There are none that I know of, other than including
19 those streams which feed into the main river north of
20 **its** — or upstream of its furthest extension, that is where
21 **the main**¹ river starts becoming other named streams.

22 Q Now, how much — where there is a stream,
23 how far west or east do you go to include land in this
24 headwater section, is there any guidelines for that?

25 A Not that I know of.

1 Q Do you know the names of any of these
2 streams here, can you identify them on the map?

3 A I have another map of the County showing all the
4 **named** streams.

5

6 (Whereupon, METP-9, Raritan River Basin Map,
7 and METP-10, Passaic River Basin Map, are
8 marked for identification.)
9

10 Q The streams we were talking about in Mendham
11 Township -

12 A Whippany, and you can see on this map* which is
13 P-10, that the Whippany River extends into Mendham
14 Township where it then breaks off into a number of
15 **tributaries.**

16 Q So this area to the left in Mendham Township
17 and going up into -

18 A Randolph.

19 Q The adjoining town are the head of it.

20 **What about** the north branch of the Raritan, can we see
21 **what** we're talking about there as the headwaters?

22 A Here again, the north branch of the Raritan is a -
23 is tributary to the Raritan River itself, branching off
24 in Bridgewater, going north from Eridgewater through
25 Bedminster, Peapack-Gladstone and then into Mendham

1 Township.

2 The extent of the North Branch begins or
3 **originates** in Mendham Township, and its headwaters are
4 in **Mendham** Borough, Mendham Township and Mount Olive.

5 Q Is it possible on one of these maps to
6 show the Mendham Township section of Mendham Township
7 which would be in the headwaters?

8 A Yes, on this map, which is P-9, Mendham,
9 I will outline Mendham Township with a light pencil,
10 and approximately one half of Mendham Township is located
11 within the North Branch watershed.

12 Q Is there a way of showing which you **consider**
13 that which is also in the headwaters area?

14 A This portion of Randolph north of the Township,
15 and a portion of Chester Township.

16 Q And what portion of Mendham Township are
17 we talking about?

18 A Is within this area?

19 Q Yes.

20 A A gross estimate would be 45 to 55 percent.

21 MR. BERNSTEIN: Of what is that, is that
22 the entire headwaters or of the town?

23 THE WITNESS: Of the headwaters.

24 Q Is there any way to make a rough approximation
25 of how much acres in Mendham Township might be covered within

1 this headwaters section?

2 A Very, very rough. The Township has approximately
3 **11,500** acres. If one half of that are located in the
North Branch watershed, that would total 5,750 acres.

5 Of that 5,750 acres in the watershed, I would consider
6 perhaps 60 percent of that in the headwaters area, which
7 would be about 3,000 acres, but that would be very rough.

8 Q We've looked up the Whippany. Is there
9 also part of Mendham Township in the Upper Passaic
10 headwaters?

11 A Yes, it is. We go back to P-10. As I mentioned,
12 the Whippany was part of the Passaic watershed, but there
13 is also the — what is commonly referred to as the Upper
14 Passaic. The Upper Passaic originates totally in the
15 Township of Mendham.

16 Q Now, is there any way of approximating what
17 part of acreage of the Township is covered within this
18 headwaters of the, I'm trying to get really a rough idea
19 of what fits into those three areas and which, if any, does
20 not.

21 A Okay. Well, all the Township fits into these
22 three areas. Just grossly, 50 percent is in the North
23 Branch watershed, 30 percent in the Whippany, and 20
24 percent in the Passaic, which means we would have 5,750
25 acres in the North Branch, 3,500 in the Whippany, and

1 2,250 in the Upper Passaic or the Passaic.

2 Q Now, this 2,250 rough acreage in the Upper
3 Passaic, how much of that would you approximate to be
4 in the headwaters?

5 A Well, that would be all essentially the
6 headwaters, because that's where the Passaic originates.

7 Q What about for Whippany, what would be your
8 rough approximation?

9 MR. BERNSTEIN: You're talking about for
10 the headwaters area?

11 MR. MEISER: That's correct.

12 A. That would be the headwaters within the Township
13 of Mendham.

14 Q What we're trying to specify of what percent
15 you would approximate to be in the headwater areas —

16 A Two-thirds, about 2,000. In the Raritan also
17 about two-thirds.

18 Q Two-thirds of the land in Mendham Township
19 watershed you'd consider to be in the North Raritan
20 headwaters?

21 A Correct.

22 MR. BERNSTEIN: We have the North Branch,
23 the Whippany and the Passaic, which is the —
24 how does the Raritan come in?

25 THE WITNESS: That's the North Branch of the

1 Raritan.

2 Q For the moment, that completes my questioning
3 on that map. Do you know what the present population of
4 Mendham Township is, by the way, where did you get your
5 population figures? I noticed there were a few in your
6 report. Did they come from any one source?

7 A Well, let me see which ones we have, and I'll tell
8 you the sources.

9 Q Fine.

10 A Well, the current population for the Township of
11 Mendham is about 4,000.

12 Q As of what date?

13 A Current.

14 Q What is your source for that?

15 A The source is the Population Estimates for New
16 Jersey.

17 Q When is that dated?

18 A This is 1976, but 1973 hasn't changed. I have
19 1978 in there somewhere.

20
21 Q Do you know what the population was for any
22 of the years from 50, 60 or 70?

23 A Not offhand, I have the information here. If
24 you'd like me to get it, I can.

25 Q That's not necessary. Did you do any
studies or make any inquiries as to what Mendham Township's

1 population would be in full growth in the present zone,
2 if the town was fully developed in the way that the
3 present zoning allows?

4 A No, I haven't.

5 Q In your report you mentioned that over
6 nine percent of the town is for agricultural use. What
7 type of crops are grown on these agricultural lands in
8 Mendham Township, do you know?

9 A No.

10 Q Do you know of this nine percent how much,
11 if any, is woodlands, rather than farm?

12 A No.

13 Q Do you have any idea as to what the
14 percentage of agricultural use was in any of the previous
15 years, 1960, 1950?

16 A No.

17 Q Now, in your report, let me refer you to the
18 page, you referred to this agricultural land as being
19 settled land.

20f A Ah hum.

21 Q Could I ask you what you mean by that?

22 A As I recall I was auoting.

23 Q I think it's page six, I believe.

24 A Page six, right.

25 Q At the bottom of the page, "Predominantly

1 settled."

2 A Those are lands which are worked in an agricultural
3 sense, that is either planted or used for husbandry as
4 opposed to raw woodland.

5 Q But you said you didn't "know how much of
6 the acres was agriculture and how much was woodland, is
7 that correct?

8 A Well, I can pull it out of the Master Plan, if
9 it's there.

10 Q If your only source is there, you don't have
11 to go through it.

12 A Yes, that would be my only source. I'm sorry,
13 on page seven we have approximately 1,132 acres or
14 .8 percent of the township is devoted to agricultural
15 use.

16 Q Do you know what the land and agriculture
17 in Mendham Township is zoned as far as residential,
18 whether any type of residential housing can presently
19 be built on there?

20 A Oh, yes, residential housing would permitted
21 there, I don't know at what density.

22 -Q Do you think that any agricultural lands
23 should be included as potentially developable land?

24 A Right, insofar as the state's expression of that
25 term, potentially developable, they exclude prime

1 agricultural lands, so I would exclude primary agricultural
2 lands from potentially developable.

3 Q What do you mean by prime agricultural land?

4 A Those are a land capability class that represents
5 high fertility, moderately - moderate to good internal
6 drainage and slopes less than eight percent, based on the
7 soil type, and these have a classification of Roman
8 Numerals one through eight, and as I recall, Roman
9 Numerals one, two and three, with some modifications,
10 are considered prime agricultural land.

11 Q Who makes this classification, do **you** know?

12 A Well, the classification of Roman Numerals **one**
13 through three comes from the Soil Conservation Service,
14 and they also classify it in terms of prime.

15 Q Did you do any checking to see of the
16 farmland in Mendham Township is considered prime
17 agricultural land?

18 A Not specifically. I do know that prime
19 agricultural lands are located in the general, that
20 **portion** of the Township which is located south of Route
21 24, **and** that reflects a band of prime agricultural lands
22 that extends from Mendham through Chester into Washington.

23 Q That includes Mendham Borough as well?

24 A It would include the southerly portion of Mendham
25 Borough, yes.

1 Q The Soil Conservation Service you're
2 referring to, is this a county or a state thing?

3 A Well, it's the United States Department of
4 Agriculture Soil Conservation Service. There is also
5 a county district.

6 Q Now, did you do any calculations as to
7 what percentage of the agricultural land in Mendham
8 Township is, has areas with slopes over twelve percent?

9 A No, we do calculations as I recall of slopes
10 over twelve percent on vacant lands.

11 Q You did not do the calculation for
12 agricultural?

13 A No.

14 Q To your knowledge is there any farmland
15 in Morris Township which does have slopes over twelve
16 percent?

17 MR. BERNSTEIN: Mendham Township?

18 A Yes, **absolutely.**

19 Q **Would** that land then not be considered
20 **prime agricultural** land according to your definition?

21 A That's correct.

22 MR. BERNSTEIN: Wait. I'm going to object
23 to the comment "according to your definition."
24 I think the witness already said that the
25 definition was from the Department of Community

1 Affairs, and he was just repeating their
2 definition.

3 Q Did you do any computation as to whether
4 any agricultural land is in a floodplain or wetland?

5 A No.

6 Q Do you know whether there is any in the
7 Township? The reason I'm asking is you have those
8 asterisks on page eleven of your report.

9 A I have a more current copy of that, where we
10 do have the numbers. Perhaps we can both work from this,
11 and I'll make a copy of it for you.

12 Q What calculations would it take to determine
13 what percentage of the agricultural land has slopes in
14 excess of twelve percent?

15 A We would overlay a slope map on a land use map,
16 and those agricultural land uses which also have slopes
17 in excess of twelve percent would then be accordingly
18 measured.

19 Q Now, there is a reference in your report,
20 I believe, to existing estates. It says 561 acres, I'm
21 reading from page eleven. Do you know how many estates
22 there are in the Township?

23 A No, I don't.

24 Q Where did you get that figure from?

25 A The figure either came from Catlin Associates -

1 I believe it came from Catlin Associates.

2 MR. BERNSTEIN: I think it came from Cliff
3 Earl who's an appraiser who worked in conjunction
4 with Catlin Associates.

5 A We got it from Catlin Associates.

6 Q Now, your figure for 3,050 public and
7 semi-public, did that also come from Catlin Associates?
8 I'm looking at page 14.

9 A Yes.

10 Q Now, the Master Plan, page 27, notes that
11 several public and semi-public lands are for sale. Do
12 you have any idea which those lands might be?

13 A The one that comes immediately to mind is the
14 Sniff Reservation, the Boy Scout Camp, that's the only
15 one I would know of. I don't know whether that's what
16 they're referring to.

17 Q What is the status, has there been a sale
18 of that or do the Boy Scouts still own it?

19 A I believe there's been a sale.

20 Q Do you know who it's been sold to?

21 A Telephone Company.

22 MR. BERNSTEIN: A T & T.

23 Q Do you know what AT&T plans to use this
24 land for?

25 MR. BERNSTEIN: I would object. This is

1 totally speculative. If Mr. Dresdner has a basis
2 for making a judgment, I have no problem, but
3 if it's a lank guess -

4 MR. MEISER: The question was does he
5 know.

6
7 (Whereupon, pending **question is read** by
8 the shorthand reporter.)

9
10 MR. BERNSTEIN: Okay. I'll withdraw the
11 objection, if he knows.

12 A .. . No, I don't know.

13 Q Now, on page —

14 A Other than what's in the paper I happen to have
15 in my record here, A T St T Envisions
16 Microwave Tower.

17 Q What are you reading from?

18 A The Observer Tribune of April 12, 1979.

19 Q What was the date?

20 A April 12, 1979.

21 Q Now, on page, I believe it's eleven of your
22 report still, we're talking about, I believe, 333 acres
23 of flood plains and wetlands. Where did you get that
24 333 acres figure from?

25 A It would have been a measurement that was provided

1 to us by Catlin and Associates, I believe, probably taken
2 from the flood prone areas map.

3 Q Now, do you know how many of those 333
4 **acres are** actually in flood plains? It's listed flood
5 plains and wetlands,

6 A Flood plain would be the broader term and wetlands
7 would be inclusive within flood plains, so they would all
8 be within the flood plain. I don't know what percentage
9 of that would be considered wetlands.

10 Q Now your report says that there are 688
11 acres of vacant developable land. Was that again **taken**
12 from the Master Plan or where did you get that, **from?**

13 A That would have been provided us by Catlin.

14 Q Do you know where in the Township those
15 688 acres are located?

16 A I have an idea, it's generally scattered.

17

18 (Whereupon, an off the record discussion
19 is held.)

20

21 Q We've on here a vacant land map of the
22 Township -

23 MR. BERNSTEIN: I'd like to interject here
24 that Catlin's Office has prepared overlays of
25 maps which indicate the vacant land and overlays

1 indicating the environmental constraints and
2 ultimately settling down to the potentially
3 developable land.

4 Q Going through here, could you point out
5 which lands are - first of all, this map is the vacant
6 land map of -

7 A Yes.

8 Q - Mendham Township?

9 A Yes, and the vacant lands are shown in a blue
10 screen pattern on the map.

11 Q Now, the blue is the vacant land?

12 A Yes.

13 Q Which to your knowledge, where would the
14 688 acres be, that you list as vacant and developable?
15 You said you had a pretty good idea.

16 A Well, the vacant and developable blue areas-
17 would also be scattered throughout, except portions,
18 for example, in here that are within the flood plain
19 would be taken out. There are also some portions which
20 **are steep** slopes, probably up in the northeast portion of
21 **the** township, which would be taken out.

22 Q Apparently on page eleven you take out 919
23 acres for slopes and 333 for flood plains, so approximately
24 one third of the blue that is listed as vacant developable,
25 and I'm trying to find out if you can even approximately

1 identify which that one third would be?

2 A Not specifically, but a portion would be located
3 in the southwest corner of the Township, a portion in the
4 northwest, and a portion in the northeast.

5 Q Can you be any more specific than that as
6 to which you believe they are?

7 A No, I couldn't, not unless I had the other
8 overlays here.

9 Q I see. Basically then you just took that
10 figure from Catlin Associates without getting into which
11 lands were which, is that correct?

12 A That's largely correct. Again, if I had the
13 overlays, I would know specifically which lands were
14 which.

15 C Did you have anything to do with preparing
16 those overlays, or was that done by Catlin Associates?

17 A They're preparing the final overlays. We
18 prepared the draft maps which Catlin Associates are using
19 to prepare the final overlays. The information that we
20 **have from** the draft maps is based on other Catlin maps.

21 For example, the land use map, flood plain
22 maps, the steep slope maps, we spotchecked his flood
23 plain maps as well as the steep slope maps as to
24 reasonableness. They were reasonable, so we used them.

25 C We'll have to wait then until we take

1 depositions of Catlin or get those naps to do this.

2 In going back to the introductory of your
3 **report, II** is the page number, and it states: "High
4 **density** development in the Township could result in the
5 following," and it lists a number of factors. What are
6 you using as high density development there within that
7 sentence?

8 A Yes, that's the summary, and I want to go back
9 to the other section, but high density development is
10 generally considered in the context of the Township of
11 Mendham, oh, perhaps two units an acre or greater, **two**
12 to four units an acre or greater.

13 Q Now, you list at the bottom of page II-

14 A Right.

15 Q A number of possibilities that you say could
16 result, high density development in the Township could
17 result in the following. Was there any reason you used
18 the word could? Are you saying that's a possibility or
19 that that definitely would happen?

20 A It's a probability. Experience has shown that
21 **as densities** increase, the area that is paved increases
22 which results in a number of other environmental impacts.
23 They can be mitigated, very seldom eliminated.

24 Q Is there any way as a general basis to
25 quantify the amount of pollution, the types of factors you

1 list on III that are incurred by development without a
2 specific site or a specific development?

3 A No, you would have to - well, you would have to
4 **relate it** to, usually the amount of coverage and/or the
5 population.

6 There have been studies on this matter
7 which have generally indicated that the greater the
8 population, the greater the potential for pollution.

9 Q What studies are you referring to specifically?

10 A Well, Lt. General Whipple **had done** a number of
11 studies for Rutgers University as to the impacts of
12 development on storm water runoff.

13 Q Do you know the names of any of his reports?

14 A No, I don't have the reports handy.

15 O Now, you referred to three watersheds
16 earlier that were in Mendham Township. Are there other
17 watersheds in Morris County, or are these the three major
18 ones in the area?

19 A There are other watersheds, the North Branch of
20 **the Raritan** comes into a portion of Morris County, the
21 **Rockaway** River, the Pompton River, the latter two as
22 is with the Rockaway are subdrainage basins to the
23 Greater Passaic. These are two that come immediately to
24 mind - or three, rather, that come immediately to mind,
25 Lamington River, and I mentioned the Pequannock.

1 Q Now, do you feel that it is - is there
2 any circumstances under which it's appropriate or safe
3 in your opinion to zone for high density zoning near
4 headwaters of a watershed?

5 A Well, it's not only - it's not solely that
6 factor that mitigates against zoning for high density.
7 There are a number of other, you "know, factors that one
8 considers in zoning for higher density, the existence
9 of an infrastructure, the abilities of an infrastructure
10 to handle increased demands, whether it be in terms of
11 utilities or potable water, relationship to major
12 transportation facilities, relationship to employment
13 centers.

14 These are all, you know, factors that I
15 would consider.

16 Q Assuming that the infrastructure is there
17 for a moment, and it is near an employment center, are
18 there then environmentally safe ways to zone for high
19 density near the headwaters of a watershed?

20 A Theoretically, there are environmentally safe
21 ways of zoning for high density. However, the costs to
22 the builder or the developer are often - could be such
23 that in terms of economic feasibility, lesser densities
24 are more viable.

25 Q What would this engineering involve, if you

1 Q Now, pages 16 and 17 of your report, there
2 is, when you're talking about environmental characteristics
3 of Mendham Township, there is references to safe yield
4 principles for water supply. Is there a way of
5 quantifying what a safe yield area is for a certain place,
6 how would one go about doing that?

7 A Well, it was done in part by the state through
8 their Lords Study, whereby they came up to - came up
9 or developed safe yields for various types of geologic
10 structures which are mined for potable water.

11 In this area where you have the Pre-Cambrian
12 rock structure their estimate of the safe yield as
13 translated into minimum lot size was three to four acres,
14 if the water supply came from the site and there was no
15 sewer, public sewer.

16 C Did they make any assumptions if one of the
17 two was provided by other than sewer or well?

18 A Yes, well, the assumption would be if your water
19 supply came from an off-site source, that limitation would
20 be eliminated or reduced. I don't know - I don't recall
21 whether there was a limitation on sewer, but I assume
22 there would be, and if there were public sawers, that is
23 if there- were no septic tanks, there also the minimum
24 lot size would be of interest.

25 ^ Do you know if the Lords classified what t'r.-.:

1 minimum lot size should be if either one was done?

2 A No.

3 Q Did the Lords study give their methodology
4 as to **how** they reached that conclusion of three or
5 four acres?

6 A I don't recall whether the Lords study did.
7 I do know we had some studies and called State Bureau
8 of Geology to get additional information on it.

9 The Lords study does give some methodology,
10 and insofar as any Questions we had, we just called the
11 Bureau of Geology.

12 Q Do you know right now what their methodology
13 was for determining that, three or four acres?

14 A Well, I understand generally, surely, yes. Do
15 you want me to give my understanding?

16 Q Go ahead.

17 A It's based on the amount of rainfall that would
18 fall and infiltrate rather than runoff into the area, and
19 this catch of rainfall over the course of the year is
20 **what can** be withdrawn and be replaced without having a
21 **drawdown** of the stream.

22 Q So it's then a Pre-Cambrian area, in two
23 places which there were Pre-Cambrian had different
24 amounts of rainfall, then there would be different minimum
25 lot sizes, is that what you're saying, or there could be?

1 A Yes, theoretically if there — if the rainfall
2 was different, the Pre-Cambrian area occurs in northwestern
3 New Jersey, and they applied a general rainfall based on
4 experience and observations that reflected the conditions
5 in northwestern New Jersey.

6 Q Do you 'know what the rainfall that they
7 were referring to is in this area?

8 A No.

9 Q Is there, I guess what I'm trying to get
10 at is there a formula by which we can translate this
11 rainfall into a conclusion that results in three acres
12 rather than five acres or two acres or one acre?.

13 A Yes, there is a formula that they have, I don't
14 'know what it is.

15 Q I see.

16 A And it's expressed not as a formula, but rather
17 as text, but it could be formulated.

18 Q You're not aware of how they did it is what
19 you're saying?

20 A No, I am aware of how they did it, I just don't
21 have the numbers, the — I'm aware of the methodology.

22 Q Maybe you can explain the methodology to
23 me a little bit. Supposing we get this rainfall. How do
24 we arrive, what is the approach that we derive from that
25 to a number?

1 A A certain amount of the rainfall, and let's assume
2 50 inches over the course of the year falls on a ten mile
3 area.

4 Q Okay.

5 A A certain percentage of that runs off in streams,
6 okay. The remaining percentage filters into the ground.
7 A portion of that percentage that filters into the
8 ground is transpired through vegetation.

9 The remaining works its way down through
10 the soil and into the rock - into the fissures and
11 cracks of the Pre-Cambrian bedrock where it remains,
12 unless the fissure is filled with water and overflows
13 and continues falling along the top of the bedrock until
14 it eventually hits a point where it intersects with a
15 stream and then the groundwater is carried off.

16 Now, wells tap those fissures and draw the
17 water out. The Lords study states that in areas of
18 Pre-Cambrian formation enough water falls and percolates
19 through the soils into the fissures of the rock to permit
20 **the withdrawal** of .33 to - excuse me, 33 to 25 gallons
21 **per day per** acre, as I recall something like that, that
22 translates into one family per four acres - per three
23 or four acres.

24 Now, if that amount is withdrawn daily over
25 the year, rainfall will replenish the reservoir, the

1 groundwater reservoir.

2 Q What happens if that's exceeded?

3 A Well, the water is drawn down in the fissures and
4 **over** time the well runs dry.

5 Q Is there, I guess is there any way of knowing
6 over what period of time this takes, are we talking about
7 one year, fifty year or two hundred year process?

8 A There is really no way of knowing, because the
9 amount of water you can draw out of a well in the
10 Pre-Cambrian situation depends on not only the depth of
11 the well, but how many cracks you draw from and **how large**
12 those cracks are.

13 Q Now, the Morris Township Master Plan refers
14 to a number of different types of Pre-Cambrian —

15 A Excuse me, Mendham Township.

16 Q I keep saying Morris. Does it make a
17 difference which type of Pre-Cambrian we're talking about
18 or does all the Pre-Cambrian have the same water constraints?

19 A Well, Pre-Cambrian essentially has the same water
20 constraints. Pre-Cambrian means the — it's really an
21 **expression** of time, that is when the rock structure was
22 formed.

23 Q Let me just for a second refer to the
24 Master Plan, page four, I believe — all right. There was
25 references to, for example, marble and scarp, which they

1 identify as MSK, then there is **one** which they identify is
2 . various types of *GH*, all of these things, the HQ, all
3 have the same water constraints?

4 A Essentially the same, yes.

5 Q Are there sources of water in **Mendham**
6 Township other than wells?

7 A Well, there is a reservoir, but that's north of
8 **Mendham** Township, it's the Eorough's reservoir, but
9 that's located in Randolph. There may be an occasional
10 spring, I don't know the source of the Shiff Reservation's
11 water.

12 C What about the Morristown. reservoir, is
13 that in Mendham Township, the one that Morristown owns?

14 A I believe it may be, I believe it is.

15 C Do you have any idea what its capacity is?

16 A No.

17 Q Do you know whether they allow any residents
18 of Mendham Township to use it?

19 A No, I don't.

20 - MR. BERNSTEIN: I would just interject that
21 in the Answers to Interrogatories we mention
22 the amount of homeowners that tapped into existing
23 water companies. It was a small number.

24 Q So you have no idea whether there would be
25 any possibility for other future residents of the Township

1 to utilize —

2 A No, I don't. I don't know what the Morristown
3 Water Company's policy is, nor do I know whether they
4 provide residents, other residents from outside of
5 Morristown or Morris Township.

6 Q What percentage of Morris Township land
7 is Pre-Cambrian, do you have any idea?

8 A Eighty percent.

9 Q The rest is what, Cambrian?

10 A Cambrian or Ordovician or Triassic.

11 C What is the ability to get water through
12 wells from Cambrian, is it any different than Pre-Cambrian?

13 A No, it would be less so, I believe.

14 Q What about the other one that you mentioned,
15 the Ordovician?

16 A It's not substantially different than Pre-Cambrian.

17 Q And what about, I guess the last one?

18 A Triassic?

19 Q Yes.

20 A That's equally poor.

21 Q Now, I believe it's on page seventeen or
22 eighteen, you refer to the methodology proposed by Nisewander
23 and Pevsner. What are you speaking about there?

24 A They prepared a document. It's a carrying
25 capacity concept that is based in part on the Lords study,

1 and expanded to include air auality considerations. I
2 loaned out some of the information to some people who
3 **were** doing some zoning ordinances in another community,
4 and I contacted them on Thursday to mail back the
5 periodicals and material I sent them. I hoped to receive
6 it by this morning.

7 Q Now, the page eighteen of your report
8 indicates that normal year recovery rates for the
9 Pre-Cambrian rock types are in the neighborhood of
10 250,000 gallons per day per sauare mile. Where does —
11 where does that figure come from?

12 A This is the Bulletin 74 of the Lords, study, **and**
13 on page 44 of the report indicates the normal recovery
14 rates from rock types, and below that indicates the
15 recommended lot sizes for well and septic tank 10 acres.

16 Q Is what the 250,000 figure is?

17 A Yes, is that three, yes.

18 Q Now, going back to the Nisewand-Peyser
19 study, they are assuming a carrying capacity of less than
20 **one** percent per acre, that's assuming that there was
21 **wells**, is that correct?

22 A Yes.

23 Q Do they make any conclusion what would be
24 possible if there was a way of getting public water?

25 A I don't know.

1 MR. BERNSTEIN: I would object to this,
2 because as I understand the Nisewand study, it's
3 based on the limitation of groundwater, and if
4 you had public water, I don't believe the study-
5 would be pertinent.

6 MR. MEISER: We're at a disadvantage, because
7 he doesn't have the study before us.

8 MR. BERNSTEIN: You've got a copy in the
9 Public Advocate's office.

10 Q Do you have any opinion yourself as to what
11 type of development would be possible, if there were
12 public water available to the Township? • • •

13 MR. BERNSTEIN: I'd like to know when you
14 use the word possible, do you mean physically
15 possible, that is something that could physically
16 be done or something that Mr. Dresdner would
17 suggest as a planner and environmentalist?

18 I think either question is pertinent.

19 I just want to know the manner in which you use
20 • • • the word possible.

21 Q Without major environmental detriment, if,
22 for example, public water were able to come in the Township
23 do you have an opinion as to the density that could be
24 used in the Township without serious environmental
25 detriment?

1 A It's not only a question of public water or using
2 public water, but also a question of the land coverage,
3 because the greater the percentage of land you cover,
4 the greater the increase of surface water runoff, the
5 less the infiltration of water into the ground, which
6 means that during the dry periods, streams which
7 ordinarily run full, replenished by groundwater, run
8 dry, because the groundwater isn't there any more.

9 By groundwater I don't mean the very deep
10 stuff, but water that's tolerably close to the surface
11 that replenishes streams. My general opinion is that
12 Mendham, as is much of western Morris County, is **located**
13 in an area that is extremely sensitive and environmentally
14 that is part of the service system to Newark, Elizabeth,
15 those sections of eastern Hudson and Union Counties that
16 take advantage, if you will, and use the resources from
17 western Morris County in order to support the very high
18 densities that exist on the - on that portion of the
19 coastal plain.

20 6. In other words, they're borrowing from
21 an area in order to build up the densities that
22 exist now, so in my opinion, it's most important that the
23 environmental quality of western Morris County be retained
24 in order to maintain the infrastructure at least in terms
25 of water that is necessary for Newark and Jersey City and

1 so on and so forth.

2 Q You're talking about equitable distribution
3 of **the** region. What does region mean to you?

4 A Where do I say that, because not that I have
5 any qualms about answering that, I just want to make
6 sure.

7 MR. BERNSTEIN: The only question I have
8 is are we talking about equitable distribution
9 of low **and** moderate income people or something
10 else?

11 Q Let me refer him to, for example, **on page**
12 three of' your report there is a discussion of regional
13 planning regarding an equitable distribution of resource
14 and development, and we're talking about one community
15 should have high development and another commercial and
16 another open space. I'm curious what you see as the
17 region.

18 A In that case it would be a metropolitan region
19 that would extend from the Hudson to the Delaware from,
20 **say, the** Raritan north, really northern Jersey. To my
21 **recollection** I don't think I've ever related my sense
22 of the region to the housing sense of the region, whatever
23 that is.

24 Q So yours would include -- what counties
25 would it encompass?

1 A Zssex, Union, Bergen, indeed Hudson, Hunterdon.

2 C Is this —

3 A Sorrerset.

4 MR. E2RNSTEIN: Have you finished? It
5 seems there are more counties. Are you talking
6 about all the counties between —

7 THE WITNESS: In northern New Jersey as a
8 region.

9 Q What in your mind characterizes this as a
10 region, how do you, what factors are important to you in
11 making that decision?

12 A. Well, a Central, central city, which is **Newark**.
13 In fact — yes, Newark, Jersey City, Elizabeth, that's
14 the central city, and these are the hinterlands that
15 serve that central city, and the further out you go from
16 the central city, the less the pull, the weaker the
17 gravity.

18 Q Now, you've gone into a discussion of some
19 of the problems without public water of any source, and
20 you have-talked about some of the problems that could
21 exist still with degradation, even if it was public water.

22 I'm wondering is there any way to quantify
23 these probltS, for example, lot -?e give you *an* example
24 and see if there is any way wo c^n get a specific.

25 "•e hnd a vacant developable land raap 533

1 acres, if we took 100 acres of that in the Township, let's
2 say up in the north, northeastern section, instead of
3 **zoning** them one to the acre, zone then four, five, six
4 to **the acre**. How would we start quantifying in any way
5 what the difference is in the runoff, is there any way
6 to do that?

7 A Yes, you can quantify the difference in runoff,
8 you can also quantify the difference in the duality of
9 the runoff.

10 You can quantify the loss of recharge, you
11 can do all those things.

12 C What data would you need before **you could**
13 do that?

14 A Well, the first things you would need are the
15 assumptions, if you're talking about four units per acre,
16 we would make certain assumptions on the percentage, of
17 coverage, the difference between coverage now and
18 coverage then. From that, as well as the knowledge of
19 the soils, the slope, the vegetation, you can then come
20 **up with a** number as to the total volume of runoff that
21 **could be** expected in a twenty-five year storm, for
22 example, the peak, the change in peak rates of runoff,
23 the loss of infiltration, the quality of the anticipated
24 runoff, assuming that it's an **\fban** condition which four
25 units per acre would be, urban storm water has

1 characteristics that are different from agricultural
2 runoff. The hydrocarbons, for example, is higher, so that
3 all of this can be Quantified.

4 Q Now, would the closeness to the stream or
5 to water be a major factor in this?

6 A It would in certain respects, sure. I'm thinking
7 not as a water source, but rather as a potential for
8 degrading the stream..

9 Q The closer to the stream the more potential
10 for degrading it, is that -

11 A Yes.

12 Q Now, it's my understanding that there **are**
13 no public sewers in Mendham Township, is that correct,
14 as your understanding?

15 A As I recall there are no public sewers in
16 Mendham Township.

17 Q Have you ever represented in any way
18 a builder who wanted to use a package sewer treatment
19 plant?

20 A Probably.

21 Q Do you remember when?

22 A It would be before 1970.

23 Q What are the environmental disadvantages of
24 using a package plant in Mendham Township, if the
25 developer wanted to use higher density development?

1 A First there is the Question of capability of
2 the receiving stream. In order to use a package treatment
3 plant, you should have a stream with a certain volume,
4 year round volume of water. Now, if during the summertime
5 the stream becomes very low and the discharge from the
6 package treatment plant makes up most of the stream
7 flow, you've destroyed the chemical and biological
8 characteristics of the natural stream.

9 Recognizing that a package treatment plant
10 permits higher densities or would encourage higher
11 densities, that would be accompanied by increased **land**
12 **cover**. The increased land cover would increase storm
13 water runoff and reduce the retentive capacity of the
14 soils.

15 Therefore, during the low flow periods,
16 you wouldn't have recharge of the streams that you would
17 ordinarily have, and they would become in effect drier,
18 so by the combination of the package treatment plants and
19 higher density, you reduce the assimilative capacity of
20 **the stream** under conditions when you need every bit of
21 **that** assimilative capacity because you have treated
22 effluent, outfalling into the stream, so it's counter-
23 productive.

24 Q Have you ever been involved in submitting
25 an application for a package plant to the Department of

1 Environmental Protection?

2 A No.

3 Q Are you familiar at all, first of all,
4 **let** me ask you, does the Department of Environmental
5 Protection have to, to your knowledge, approve these
6 before they can be built?

7 A Yes, they would probably have to approve it on
8 two counts, one, the treatment plant, and two, the
9 stream encroachment permit.

10 Q Are you familiar at all with there procedure
11 for reviewing these?

12 A The stream encroachment permit, I am. . . .

13 Q What would the applicant have to show the
14 DEP on stream encroachment before he'd be allowed to do
15 it?

16 A He would have to show to the DSP that he was
17 not adversely affecting stream flow, that he was not
18 filling or dredging in a flood way, and he would have
19 to demonstrate that the peak -- the storm flood elevation
20 **would not** increase more than .2/10ths of a foot after
21 **the** proposed construction.

22 Now, that's for the stream encroachment
23 permit, not for outfalling sewerage effluent into a
24 stream. I'm less familiar with that.

25

1 (Whereupon, a lunchson recess is taken.)

2
3 Q Page seventeen of your report you speak of
4 offset areas. Now, is there many studies or any
5 determination of how much of a region should be
6 appropriately set aside as an offset area?

7 A No, not to my "knowledge, it's a, it's a concept
8 that I think is important that is generally recognized,
9 but it hasn't been applied specifically.

10 C Well, we've been speaking earlier about
11 western Morris County, supposing arbitrarily half of
12 that area was developed at higher densities and the
13 other half was kept at extremely low densities of much
14 less than an acre a person.

15 How would we know if we're setting aside
16 too much, too little offset areas, is there a way of
17 knowing this?

18 A I think a start would be to assume a density of
19 one unit per three or four acres for ail of the
20 Pre-Cambrian, and most of western Morris County is
21 Pre-Cambrian.

22 Now, since the Pre-Carrbrian sources —
23 since sources of water in Pre-Carrbrian rocV are really
24 isolated, rather than dispersed, that is you don't have
25 an underground river of stratified rock to stick a well

1 into and suck from a large area.

2 You're pulling the water out from relatively
3 **consolidated** areas. You really can't say the northern
4 **part of** the western naif will be high density and the
5 southern part will be low density, because the water
6 resources are limited.

7 However, within a community, you can make
8 **that kind of a distinction.**

9 Q Do you know **of any** places in northeastern
10 Jersey where there's been high density development built
11 on Pre-Cambrian developed lands, rocks?

12 MR. BERNSTEIN: I'd like to know if **the**
13 question is a source of water or not a source
14 of water?

15 MR. MEISZP.: First I have to find out if
16 he knows.

17 A Yes.

18 Q Where and under what circumstances has it
19 been built?

20 A I don't know. I know in passing I see higher
21 **density**, for example, taking Route 20 out I see higher
22 density on Pre-Cambrian rock, that's something that was
23 a project that came immediately to mind as I was out
24 there.

25 W What town are we talking about, where on

1 Route 30?

2 :* It would probably be in western Morris County,
3 possibly in -

4 i'IR. EERNSTSIN: Mount Olive?

5 A Mount Olive or Roxbury, Mount Olive or P.oxbury.

6 Q Now, we've referred to slope limitations.
7 When we're talking about a land with a twelve percent
8 slope, is that an average for the entire thing or is that
9 one point of the acre that has the twelve percent slope,
10 how do we usually determine what we mean by land with a
11 twelve percent slope?

12 A. . . That, that's generally an average, but reflecting
13 a vary, a relatively limited range below twelve percent,
14 that is we are talking about twelve percent or more.

15 If we're talking of twelve percent only,
16 then it would be an average. In this case we're talking
17 of twelve percent or more. In that case we start at
18 twelve percent and determine on the basis of the contour
19 interval what would be steeper.

20 Q Now, you gave a statistic, I believe it was
21 on page eleven, of slopes in excess of twelve percent.

22 A Yes.

23 C Did you indicate that you got that from the
24 Master Flan or do you know where you got that from?

25 A We-got that as we would have gotten everything

1 from Catlin's office. However, we did do our own
2 individual spotchecking to see whether it was reasonable
3 **and accepted** it.

4 Q When you say contour interval, how much
5 distance are we talking about there?

6 A Well, the contour interval would be a twenty
7 foot interval, vertical interval, because it's taken from
8 the United States Geodetic Survey Map.

9 Q Is it possible that land which has twelve
10 percent could have some parts ten percent, nine percent,
11 eight percent?

12 A Yes.

13 Q What is your feeling, is twelve percent
14 a reasonable place to draw the limit for high development
15 or should a slope be higher or greater than that?

16 A It depends on, you know, the density of development
17 that you're talking about. Twelve to fifteen percent
18 is generally considered a breaking point for steepness of
19 roads, specifically, and I don't know what the basis for
20 the Department of Community Affairs twelve percent break
21 **point is**, but twelve to fifteen percent is a reasonable
22 break point to consider as being steep, above which density
23 should be very, very low, if at all.

24 C Have you ever seen high density development
25 of lands at over twelve to fifteen percent in this area?

1 A Yes, I believe what I mentioned in Mount Olive as
2 an example of that. Of course, in California.

3 Q On Route 80, you mean?

4 A Yes.

5 Q What has to be done, if anything can be done,
6 to make this safe, is there a way of doing it?

7 A Oh, sure, it relates in part to foundation. The
8 foundations may require pinning at bedrock. More
9 important than the safety of the structure would be the
10 inherent hazard of the landscape form itself, that is
11 steep slopes are subject to slumps and slides, heavy
12 erosion, but the first two considerations are inherent
13 to steep slopes.

14 Q The first two being -

15 A Right, that's the slumping or sliding of degree -
16 of debris.

17 Q Is it possible that of these acres which
18 we have listed as twelve percent slopes, the 1900 acres,
19 that some of these acres could have a part or substantial
20 **part of** the area with less than twelve percent?

21 A I think there can be parts with less than twelve
22 percent, just as in the other areas there could be some
23 with more than twelve percent, because of the contouring.

24 Q But is there any way of knowing, what would
25 you have to do to find it out?

1 a Well, the contour interval we're using is twenty
2 feet, so the accuracy is limited to that. You can make
3 it more fine by getting a ten foot contour or a two
4 foot contour interval but that's unusual at the community
5 level.

6 Q Now, turning to the flood plains for a
7 moment, you refer on page nineteen to three areas which
8 have significant flooding, and one is on the North
9 Branch of the Raritan just upstream. How many acres are
10 we talking about there. Do you know?

11 A No.

12 Q Where did you get this information from?

13 A Got it from the Master Plan map of Flood Prone
14 Areas, and just upstream of its confluence with Burnett
15 Brook near the Roxiticus Road crossing would be in this
16 area..

17 Q Now, when they talk about primary flood
18 prone area and secondary flood prone area, where is the
19 basis for distinguishing the two, is there a standard
20 distinction?

21 A No, it's not a standard distinction.

22 G If you don't know off t'ns tope of your
23 head, we don't need to go into it.

24 So your information of what those lands are,
25 the three, the North branch Raritan river, Tingelly Road

1 would all be taken from this map?

2 A Yes.

3 Q Did you look at the HUD Flood Insurance
4 Map yourself?

5 A I was looking for the HUD Flood Insurance Map
6 over the weekend, but was not able to find one here,
7 which I would suggest there is not one or we've loaned
8 it out.

9 MR. BERNSTEIN: Could this be one of
10 the areas where John Thonet might have some
11 input?

12 A I could ask him.

13 G We don't need to call him in now. I may
14 have asked you this earlier, but let me ask you again.

15 Go back to page eleven. Are all the
16 flood plains and wetlands mapped on either this map or
17 another map in the Master Plan?

18 A Yes.

19 Q Which one, this one or —

20 A Oh, it would be this one in the Master Plan.

21 Q This one has all of the flood plains and
22 the wetlands?

23 h >~ell, it has all of the flood plains, & I don't
24 know where the wetlands would be, but let me check
25 through, & I see whether we have it in one of the other

1 maps.

2 C Did you find it, right away?

3 A There is no map in here that I c^an find that
4 would show it.

5 C You were talking about in your report
6 strearrs that are marked FW-2 in this state. First of all,
7 who has control, what agency in New Jersey designates the
8 classification of streams?

9 A Division of Water Resources of the Department
10 of Environmental Protection.

11 G Under what circumstances is a stream
12 classified pi-7?

13 A Well, there are three classifications for fresh-
14 water streams, FW-1, 7 and 3. Ti-7 covers nost of the
15 streams in western New Jersey and indicates a use
16 classification that that is it should be capable of
17 being used for certain considerations, -any of the
18 streams are not, whether due to - due either to limited
19 flow or to poor quality.

20 I have a definition, I believe, of 7K-?
21 **streams** in here - yes, on page °0, these ara fresh
22 surface waters approved as sources of public water
23 supply, and. they should also be suitable for the maintenance,
24 .Tiigration, that should be and propagation of the natural i
25 and established sidelines for prirravy contact recreation,

1 which is swirring, as well as for industrial and
2 agricultural water supply.

3 Q Does the DE? impose any restrictions on
4 **building** near a FW-2 stream?

5 A Only within the flood plain of the FW-2 stream,
6 and **for** any outfalls into the stream as they would for
7 any stream, one, two or three.

8 Q So they do not directly say what can or can
9 not be built near the stream other than what you just
10 set forth?

11 A That's correct.

12 Q Do they impose any restrictions **for either**
13 **FW-2 or FW-1?**

14 A Well, it would be the same "kind of restrictions.

15 Q Do you know which of the streams in Morris
16 County today, the FW-2 streams are in violation of the
17 state standards, did you do any research on that aspect?

18 A No, I didn't.

19 Q I think you mentioned earlier that some
20 **Were. What** was your basis for that?

21 A I'm sorry.

22 Q Did you have my basis, I think you said
23 earlier that some were in violation of the FW-2 standards.
24 Did I misunderstand you?

25 A I believe you might have misunderstood me, because

1 I don't "know which would be -

2 Q Do you have a position yourself as far as
3 **allowing** high density development near any FW-2 streams
4 **as what** you think environmentally should be done?

5 A Well, I don't have any problem whatsoever
6 generally with high density development being located
7 in proximity to any kind of stream.

8 I do think, however, it has to reflect the
9 environmental constraints that exist, as well as other
10 constraints that exist within the area.

11 Q You're saying it's rather how it's **built**
12 than the* fact that it's built? I don't, want to **put**
13 words in your mouth.

14 A Well, it goes back to something I had mentioned
15 before, that the distribution of land uses depends on
16 a number of factors, some of which relate to environment,
17 some of which relate to economics, some of which relate
18 to transportation, and it's only by putting all of these
19 together that I could come to a conclusion as to the
20 reasonableness.

21 Q So the fact that it was near a FW-2 stream
22 by itself wouldn't help you make that decision without
23 seeing these other factors?

24 A That's correct.

25 Q Does the state impose any additional

1 limitations or restrictions if a FW stream is trout
2 producing or for trout maintenance?

3 A Yes.

4 Q What are those additional restrictions?

5 A They relate to the duality of the point source
6 outfall into the stream, by that they're talking about the
7 height from a sewerage treatment plant or a factory, but
8 they wouldn't address densities in that respect.

9 Q If a sewerage treatment plant or a factory
10 was near there, they'd have to get continuing approval or
11 is this just approval for construction to build **near**
12 this trout producing stream?

13 A It's not the building, it's the outfall into the
14 stream.

15 Q Into the stream?

16 A Right, and they would require a construction
17 permit as well as an operations permit. The operations
18 permit would be accompanied by regular and periodic
19 stream monitoring, but that would be for whatever stream.

20 Q Now, on page 71 you refer to examples of
21 degradation of recreation facilities as a result of this
22 development projects adjacent to Randolph-Mendham Borough.
23 ~~>That~~ are those two developments ~~t\;nt~~ you're referring
24 to there?

25 A Well, in Randolph, I don't recall. in Mendham,

1 it's specifically the lake that Mendham had - the Eoroug¹-
2 of Mendham has used for swimming purposes and then was
3 **closed down** as a result of upstream development.

4 Q Have you --

5 A I shouldn't say as a result of upstream
6 development, but it was closed down.

7 Q Do you have any personal knowledge as to
8 why it was closed down or the factories that led it to
9 be?

10 A No.

11 Q On the Randolph thing, do you **remember what**
12 you were referring to in Randolph that you used **it** there?

13 A No, I would have to, I guess confer with John
14 Thonet on that.

15 Q Is there a problem when you've got streams
16 such as **FW-2** with pollutants from agriculture? I guess
17 I'm referring to fertilizers, chemicals, things like
18 that.

19 A Oh, yes, agricultural runoff is - contains a
20 **high** percentage of nutrients. It's less of a problem
21 to **the** stream and more of a problem to the lake downstream j
22 where such things occur. The high degree of nutrients |
23 increase bacterial action in the lake, in shallow lakes ;
24 or warr lakes, cause algae blooms and hasten trie :
25 eutrophication of lakes. In streams it has less of an

1 impact because you've got running water with considerable
2 aeration.

3 Q Is there anything municipalities can do to
4 **protect** these lakes from these nutrients that run off
5 from the agricultural land?

6 A One way which has been used is detention basins
7 which detain - retain nutrient related sediments. There
8 are two kinds of nutrients that are related to sediment
9 which, say, are pieces of dirt or water soluble
10 nutrients.

11 The water soluble nutrients, there is
12 virtually nothing you can do about them, but with
13 sediment related nutrients, those you can retain.

14 Q Can retention basins also be effective
15 when you're talking about high density housing?

16 A Sure, yes.

17 Q Is it also equally effective for sediments
18 as with agriculture?

19 A Yes.

20 Q Do you have any ideas to how expensive
21 **retention** basins are for a large complex?

22 A The retention basin is less expensive than the
23 land it uses and displaces from; retention building. The
24 loss really is in, building on that particular land.

25 U So that sort of the open space could be

1 used for retention **basins**, perhaps **rather than trees or**
2 some other raspects?

3 A Yes, to the extent that **detention basins are used,**
4 **that is the wisest and best use of it, to integrate it**
5 **with a landscaping plan.**

6 Q In page 22 of your report you discuss some
7 of the advantages of sanitary sewers. Is there any,
8 and I guess you listed the advantages of sanitary
9 sewerages over public sewer systems. Is there any
10 quantification of how much in a given instance or any
11 approach of savings these factors can be through
12 sanitary sewers?

13 A Septic tanks?

14 Q Yes.

15 A The essential difference between septic tanks
16 and public systems is that the water you pull out of
17 the ground for drinking, washing, cooking, sanitary uses,
18 goes right back in with the exception of perhaps ten or
19 fifteen percent which evaporates somewhere. There is
20 replacement of water taken out.

21 Once you institute a public system, all
22 of that water that is taken out of the ground is never -
23 is never returned, because it goes directly into a
24 stream, the stream in turn eventually ends up in the sea.
25 There is no recharge.

1 Q On page 23 you refer to developments of
2 Mendham and suburban densities were adversely affect
3 hydrological conditions in Morristown.

4 A What were you referring to there?

5 Q The base flows of the streams that provide
6 the water to the reservoir in Mendham that serves
7 Morristown would be reduced, perhaps more importantly,
8 the fluctuations of the Whippany River will be increased
9 and flooding conditions downstream on the Whippany which
10 passes through Morristown will be exacerbated.

11 Now, are you assuming in that development
12 of the entire Township or any part of the Township, **were**
13 you making any assumptions when you're talking about the
14 possible adverse affects on Morristown?

15 A Well, in this case it would be in the Whippany
16 River basin, which would be the northwestern portion.

17 Q Are you saying that any development of
18 the Whippany basin would have this effect?

19 A Any development in the Whippany basin would have
20 a **downstream** affect, depending on the magnitude of the
21 **development** and the mitigating factors that would result
22 in the effect on Morristown. The greater the development,
23 the greater the effect.

24 Q So in other words if we build one house on
25 a five acre lot that's going to have some possible effect.

I Dresdner - direct

1 if you were sophisticated enough, you could measure?

2 A Theoretically it would have an effect.

3 Q Now, is there any way that you could make
4 an estimate how large a development you'd have to get
5 before you get any substantial measurable results of the
6 type you're discussing?

7 A Yes, you can come up with quantitative figures,
8 it again would depend on the assumptions related to
9 population density coverage and total numbers.

10 C What about the Great Swamp, you are referring
11 on page 23 to effects on the Great Swamp. What **are you**
12 talking about there?

13 A That would be in the Passaic River basin portion
14 of the Township of Mendham, which includes part of the
15 Great Swamp. The surfacing groundwater regime of the
16 Great Swamp has to be maintained in order for it to
17 continue serving as a wildlife refuge. If the water in
18 the Great Swamp goes down, its role as a wildlife refuge
19 as well as a - no, its role as a wildlife refuge will
20 **decrease**. If the water in the Great Swamp increases,
21 **then its** role as a vast detention basin for the lower
22 Passaic will be lost.

23 Q When you refer to transportation, your
24 discussion of Route 24, did you do any study of the
25 road capacity of Route 24, how much traffic can be

1 absorbed?

2 A No.

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(Whereupon, the deposition was adjourned.)

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3 C E R T I F I C A T E
4

5 I, Karen Hansen Geisler, C.S.R.,
6 a Notary Public and Shorthand Reporter of the
7 State of New Jersey, do hereby certify that
8 **prior** to the commencement of the examination

9 Allen J. Dresdner
10 **was** duly sworn by me to testify the truth, the
11 whole truth and nothing but the truth.

12 I DO FURTHER CERTIFY that the foregoing . . .
13 is a true and accurate transcript of the testimony
14 as taken stenographically by and before me at the
15 time, place and on the date hereinbefore set forth,
16 to the best of my ability.

17 I DO FURTHER CERTIFY that I am neither
18 a relative nor employee nor attorney nor counsel
19 of any of the parties to this action, and that. I
20 am neither a relative nor employee of such attorney
21 or counsel, and that I am not financially interested
22 in the action.

23 L-C&L^ \ ^ Heiser

24 Notary Public of the State of New jersey
25