

TOWNSHIP OF WEST ORANGE
DEPARTMENT OF PLANNING AND DEVELOPMENT
MONDAY, NOVEMBER 10, 2025
6:30 P.M.

RE; PB-24-01 WEST ESSEX HIGHLANDS, INC.

BOARD MEMBERS:

ROBERT BAGOFF, Chairman
JERRY GUARINO, Vice Chairman
SUSAN McCARTNEY, Mayor
LEE D. KLEIN
WILLIAM B. WILKES
KEN ALPER
JOHN CARDOZA
LORI KAPFERER
SUSAN SCARPA, Councilwoman

JORDAN RIZZO, Engineer
MALVIKA APTE, Planner
JAMILET BAQUERIZO VITE, Board Secretary
GENIECE GARY-ADAMS, Zoning Official

WITNESS:

SAMUEL N. KLEINBERG, Engineer

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O-31 LETTER FROM MAYOR DAVIES

0-32 RESOLUTION ADOPTED NOVEMBER 7, 1987

O-33 AGREEMENT - APRIL 1987

O-34 ORDINANCE - AUGUST 18, 1987

0-35 LETTER - MARCH 9. 2006

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

HUTT, SHIMANOWITZ & PLOCKER, ESQS.
BY BRYAN D. PLOCKER, ESQ.
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459 AMBOY AVENUE
WOODBIDGE, NEW JERSEY 07095
Appearing on behalf of the Applicant

GACCIONE & POMACO, ESQS.
BY DIANA P. MCGOVERN, ESQ.
ONE BOLAND DRIVE, SUITE 102
WEST ORANGE, NEW JERSEY 07052
Appearing on behalf of the Board

BRUCE I. AFRAN, ESQ.
10 BRAEBRUN DRIVE
PRINCETON, NEW JERSEY 08540
Appearing on behalf of the Objector,
We Care NJ Corp.

CHAIRMAN BAGOFF: The application before us,

PB-24-01 West Essex Highlands, Inc, Block 179 Lot 32
Zone IH-1 Warner Road. The applicant is proposing to
develop a 496 unit inclusionary multifamily residential
development on a vacant 120-acre property in the
northwest corner of the Township of New Jersey.

And we now have our expert, Diana, do you want to swear him in.

MS. McGOVERN: Do you swear to tell the truth the whole truth nothing but the truth.

THE WITNESS: I do.

MS. MCGOVERN: Please state your name for the record.

THE WITNESS: Samuel N. Kleinberg. I am a professional engineer registered in the State of New Jersey.

CHAIRMAN BAGOFF: Could you give us a little bit of your background, sir. Is you license active in the State of New Jersey at this time?

THE WITNESS: It is active in the State of New Jersey at this time. I graduated from Stevens Institute in 1973. I have been -- I have a master's degree from New Jersey Institute of Technology in 1980 and specialize in soil mechanics and foundation engineering.

5 1 CHAIRMAN BAGOFF: Who do you work for now, 2 sir? 3 THE WITNESS: I work now for CME Associates. 4 We are consultants to the Planning Board. 5 CHAIRMAN BAGOFF: Thank you. 6 Do any members of the board have any 7 questions? 8 Go right ahead, sir. 9 A. Okay. The purpose of our services, as we 10 understand this particular task, was to review both the 11 applicants engineer report and the objectors engineer 12 report and assist the Planning Board with an opinion as 13 to the validity of the, of the statements in each 14 report. We went through the development plans focusing 15 on the area of Building D, which is on the top of the 16 slope that's in question at this time. The subsurface 17 investigation was performed by the applicants engineer 18 Langan Engineering and the explorations on the slope, 19 which are to the east of -- primarily to the east of the 20 Building D, were done by Langan. 21 The applicant also did investigations for the 22 Best Management Practices of the storm water infiltration 23 systems. They were done by an engineering firm called 24 by Shore Engineering and we also, because their 25 explorations were in the same area, we reviewed the	7 1 the site just about at the boundary between the basalt, 2 the harder rock, and the sandstone. 3 The site was included, as is shown in the Langan 4 report, in a Landslide Hazard Study for Essex County and 5 there was a zone map for that area. We were unable to, 6 while the mapping is shown in the Langan report it's 7 shown to be very close to the building in the area of 8 the investigation. While the mapping is shown it 9 appears to relate to the sandstone formation, which is 10 about the middle of the slope, not up near the top of 11 the slope where most of the explorations were concerned 12 and we were unable to determine, to get the basis of the 13 classification as a landslide hazard. We anticipated 14 it's due to possibly higher groundwater level and 15 seepage levels that could be close to the ground 16 surface. 17 So, so, in the conclusion -- the -- Langan did do 18 an investigation that included assuming, while they were 19 unable to identify groundwater in their explorations on 20 the downhill slope, they didn't, reportedly didn't 21 encounter, they don't, and it's their opinion that it 22 doesn't occur. They, they did assume a groundwater 23 level at the top of the decomposed rock, which is about, 24 on their mapping, about two feet above that mapping and 25 those -- and the stability analysis that were performed
6 1 results of their explorations as well. 2 We reviewed the calculations and a detailed 3 description -- 4 CHAIRMAN BAGOFF: Did you provide a report 5 to the board? 6 THE WITNESS: Yes, we did. It's a report of 7 October 28, 2025 and I was the principal author of the 8 report. 9 CHAIRMAN BAGOFF: Go right ahead, sir. 10 A. The, the subsurface conditions on the slope were 11 characterized by Langan Engineering for the applicant. 12 Our review, based on review of the geological mapping, 13 indicates that their findings conform to the official 14 geology as indicated on the USGS map for this area and 15 that is -- means the sands and the, dense sands, the 16 medium dense sands and the topsoil layers that were 17 described in the report. 18 The -- we found that Langan had characterized the 19 bedrock formation on the site as being uniform under the 20 site and being related to the basalt formation. 21 Actually the basalt formation ends near the middle of 22 the site and so the rock changes, the bedrock changes 23 from basalt to sandstone when you get to the middle of 24 the slope, roughly around where the sewer easement for, 25 that the town, that the township has there runs across	8 1 for that case didn't indicate that there was a 2 significant impact on stability. 3 They had contacted our firm after reviewing this 4 report and they indicate that they do have analysis that 5 assume a conservative groundwater level near the 6 surface, but we haven't seen those, those results at 7 this time. 8 The, the two consultants differ in the 9 interpretation. I think the objectors principal 10 concerns were that the descriptions of conditions 11 encountered primarily in the test pits did not address 12 mottling and I think the applicants engineer reports say 13 that they didn't -- they don't describe mottling because 14 they didn't notice any mottling in their exploration. 15 That's our understanding of the response in the Langan 16 rebuttal report. 17 The -- both of the consults differ in their 18 categories -- categorization of the strength of the 19 bedrock. Langan, and that's based on something called 20 the Geological Strength Index for the rock. This is a 21 highly empirical tool that's used to enable, to enable 22 an engineer to provide input into the currently, the 23 current state of the art computer software. It doesn't 24 necessarily indicate what happens, but what actually 25 would happen where a slope failure surface would pass

9 1 through the rock. 2 The Princeton Hydro writing for the objectors 3 were of the opinion that a very low strength index 4 should be used and they did perform analysis using their 5 stability index. 6 It's our opinion that it's prudent to use the 7 lower strength index. The complicating factor is that 8 while they did use the lowest strength index the safety 9 factor came out to be something like 1.7, which in our 10 practice would be considered to be adequate. So that, 11 that particular zone of slope evaluation where the 12 failure surfaces passed through the bedrock, even though 13 if you really downgrade the strength of the rock, you 14 still come up with an adequate safety factor stability 15 based on most of the references. The Princeton Hydro 16 references an Army Core of Engineers standard for very, 17 very large engineering projects, actually built on 18 bedrock slopes, and it's for structures like major dams, 19 structures where the failure would result in a 20 catastrophe. You know, multiple deaths, you know, in 21 the downstream channel below the dam if the structure 22 was to fail. That criteria is not, in our, in our 23 experience or in our opinion, you know, appropriate for 24 this particular analysis case. So we have two 25 consultants doing stability analysis. One consultant	11 1 have groundwater -- if you do not have groundwater 2 through the slope then the infinite slope is what I 3 guess would be conventionally called the angle of 4 repose. In other words, if you poured sugar out of a 5 jar it would form a certain slope and that would be the 6 angle of repose. The theory is that when groundwater 7 rises up to the level of the top of the slope and then 8 begins to flow downhill towards that, that the stable 9 slope reduces to about half of what would ordinarily be 10 the angle of repose. In a more complicated, it's called 11 the angle of internal friction. It's a much more 12 complicated phenomena than the angle of repose, but in 13 order for the sheer -- for the soil to fail there's a 14 thing called a friction angle, which is roughly related 15 to the angle of repose and so, and so the, but the 16 analysis performed by both consultants both indicate 17 safety factors at 1.5 or better. So it doesn't indicate 18 the slope, but the hazard report may be, may be 19 considering that on the lower slope the groundwater 20 would rise into the slope and could lead to landslides. 21 That's our -- we could not find a geological report in 22 time for this meeting that would explain why the, the 23 hazard classification was made. It's just our opinion 24 of what it probably is. 25 We felt that the, that the analysis did not, that
10 1 using a program called, Slope/W, which is a high powered 2 conventional software program for doing this analysis 3 and Princeton Hydro used a program called Slide, which 4 is also an equally competent tool to use. And they both 5 come out with safety factors that exceed 1.5 from 6 multiple cases, and so it was our conclusion that, that 7 the, that the studies both indicate that the -- that 8 none of the analysis performed indicate that there is 9 unstable conditions in the slope and yet you have this 10 USGS mapping of a slope, potential slope hazard at the 11 site. First impression based analysis, it's classified 12 as a Hazard Class B3 and for slopes that were up to 15 13 degrees from incline from the horizontal. 14 The other slope on this site is inclined at slope 15 angles between 20 and 30 degrees and so our first 16 impression was the mapping was in error, but I think 17 it's just a, through the -- they were talking about the 18 sandstone slope, that's the lower half of the slope, and 19 it's probably due to the effect that if groundwater rose 20 into it the cemented sands might weaken based on the 21 influence of the groundwater and if you get a condition 22 called, what's called a Simplified Increment Slope 23 Condition, in other words the groundwater flows just 24 parallel to the slope, it's established that, that would 25 be the controlling safety factor and basically when you	12 1 we had seen in the reports did not address extreme 2 rainfall events where these slope conditions typically 3 arise and we recommend that they do that. Langan's 4 engineer as of they reported that that analysis was 5 included but they didn't include the, the output 6 presentation and so, and so that should be provided so 7 that we, you know, that we could see it and we would be, 8 it would, if the analysis proceeded to the lower slope, 9 if you assume that the groundwater is at the surface, 10 the slopes, the safety factors might be reduced below 11 the 1.5, but we haven't seen those analysis. 12 We, in reviewing the plans we noted that there 13 are two best management practice infiltration basins at 14 the building location. And so the purpose of the 15 infiltration basin is to, is to mound the groundwater 16 during a high rainfall event and infiltrate at least, I 17 think, I'm not, I don't do this type of design analysis 18 work and so, but is they have to, they have to show that 19 they're infiltrating water based on an assigned storm, a 20 low level storm and they have to prove that they can 21 infiltrate that much. The problem here is that for 22 slope stability you don't want to be introducing, 23 introducing more groundwater at the top of the slope, so 24 we recommended that they, that the, that the applicants 25 engineer or the applicant instruct his engineer to

1 evaluate the potential for the infiltration at that
2 particular location to be detrimental to the stability
3 of the eastern, the eastern slope.

4 There was a good deal of discussion in the
5 reports as to the impact of the construction on the
6 stability. In other words, everything that was included
7 in the -- well, no, I have to correct myself. There
8 were factors at least for the bedrock where they have
9 disturbance factors, where you're supposed to assume a
10 certain disturbance influence, let's say if blasting is
11 required, that that would change the character of the
12 bedrock, the joint might introduce more fractures and
13 create a different situation that was included in the
14 analysis.

15 So there are two affects, there's the affect of
16 the construction for the building which involves
17 excavations of up to 23 feet and removal of bedrock to
18 that depth. And then there's the, the storm water
19 infiltration. These are affects that should be
20 evaluated.

21 We included at the conclusion of the report some,
22 that if the application is approved to move forward that
23 any approval should include a number of provisions that
24 should be made to ensure that the stability of the
25 slopes are monitored during the construction and we made

1 specific recommendations. I can go through each of
2 them.

3 CHAIRMAN BAGOFF: Go right ahead.

4 **A.** The, the clearing of the site should be
5 controlled and maintained within the limits that are
6 indicated on the site plan and should not be done
7 carelessly so that it impacts the, the wooded area that
8 is required to be maintained on the entire east slope.
9 That there's no effects on that.

10 There should be requirements for long-term
11 maintenance of the health of the wooded area on the
12 slope. It's our understanding there's a mandated
13 requirement to maintain the woods on the sloping,
14 sloping, on the eastern slope and even long after
15 development we have, where I live we have a number of
16 species that are endangered now by parasites and that
17 sort of thing. So there should be some provision for
18 maintenance of the forest.

19 The Soil Erosion and Sediment Control Plan should
20 provide specific details for protection of the ridge and
21 slope. That's, in particular discharge of the watering
22 from the excavation should be -- should not be, not be
23 discharged over the slope and should be discharged with
24 all the requirements that are ordinarily included in a
25 Soil Erosion and Sediment Control Plan.

1 Surcharges resulting from the excavation. In
2 other words, piles of earth. Very heavy equipment
3 operating on the slope, they should not operate
4 immediately on the slope to the east of where the
5 building is situated on the slope side of the site.
6 There should be provisions to keep all equipment and
7 stock piles away from the top of the slope.

8 What we ordinarily do when we're specifying
9 projects for capital improvement plans for towns, we
10 require that the, before any excavation begins that the,
11 that the contractor provide an excavation and dewatering
12 work plan. That, describing in detail the methods that
13 they are going to employ, what the limits are and they
14 should be reviewed, usually we require that to be done
15 by an engineer retained by the earthwork contractor and
16 this engineer would look at criteria for blasting in
17 particular and heavy rock excavation.

18 We recommend, there's going to be excavation
19 between, I guess 10 or 12 feet to about 25 feet in the
20 Building D area. The excavation, ordinarily if there is
21 not, if there is not a need to protect structures
22 alongside the excavation the developer will -- I mean
23 the contractor would cut the slope back so it falls
24 back, but if they do that in this particular case on the
25 eastern side of the building that would disturb the rock

1 on the, at the top of slope and that shouldn't be
2 permitted. Support of excavation systems that might
3 even include rock bolting or tieback systems should be
4 employed for excavation for the building because of its
5 proximity to the top of the slope. And as we had
6 mentioned they shouldn't allow, in other words, if there
7 are layover times and there's rainfall and water
8 collection at the bottom of the excavation that would
9 infiltrate, could infiltrate into the bedrock and reduce
10 -- and have stability impacts on the lower slopes. So
11 the excavation has to be dewatered at all times.

12 We recommend, because there are concerns from the
13 residents that, that, there would be slope movement, so
14 we recommend that the, that the monitoring program
15 include the installation of what's called, slope
16 indicators. These are tools that will, that if the
17 slope moves the tubes go through a curvature and you
18 could tell if the slope, if and when the slope is
19 beginning to move or it has moved and it would be a
20 benefit, I think, to the applicant if he has a long-term
21 record during the construction as to whether there is or
22 never was any slope movement. It would be to his
23 benefit to consider doing that.

24 We think that groundwater monitoring wells should
25 be installed because it's very difficult to determine

17 1 where the actual groundwater level is in the bedrock. 2 There could, in this case, be at least two groundwater 3 levels. There would be a groundwater level on the 4 interior of the site where the wetlands exist currently 5 and that could be due a first condition on the bedrock 6 which is likely to be permeable. The sandstone, which 7 underlies the soft bedrock at depth, have not been 8 determined, that is considered an aquifer and so water 9 does occur and it can move through it. So that, we 10 think that the groundwater monitoring wells should be 11 put there so that we could determine -- so the applicant 12 could demonstrate that whatever mitigating measures are 13 applied to the storm water infiltration system, which we 14 recommend that the applicants engineer address that as 15 part of the approval process. 16 And then the final grading should strictly be 17 performed to ensure that the runoff is intercepted and 18 prevented from running off over the slope. 19 And that was pretty much a summary of what we are 20 recommending that they, that, I don't know who's 21 empowered to apply these requirements, but these are 22 requirements that we think should be incorporated in the 23 approvals. 24 CHAIRMAN BAGOFF: Is there anything in the 25 recommendation that should be done before the board	19 1 area like this where -- well, let me ask you a question. 2 As an expert, do you think that there's groundwater 3 infiltration in this area? 4 THE WITNESS: I think there's some and 5 whether it would develop a, it would be, develop a fully 6 submerged condition so that pressures build up. The 7 other problem you have with jointed bedrock is that the 8 joints, for instance there's bedrock let's say at 9 elevation 600 near the top of the slope or even higher, 10 and sometimes in bedrock there will be faults or open 11 joints and what happens if water opens -- enters the 12 joint in a higher elevation and there's a continuous 13 supply of water, that acts kind of as a short circuit 14 down slope and so that, that joint fills up all the way 15 down the slope and so a point down the slope is 16 suddenly, or there would be a build up so that point 17 down the slope is feeling a water pressure that could be 18 equivalent to 20 or 30 feet of slope because of the 19 amount of topography and that could be enough to 20 initiate a slope failure problem and that's kind of 21 things that do show up in heavy rainfall events. 22 CHAIRMAN BAGOFF: Would you expect to see 23 mottling somewhere in borings on this mountain? 24 THE WITNESS: The, the report, if there was 25 groundwater present it's likely that you would see, you
18 1 continues its approval process? 2 THE WITNESS: Well, I think the, the, the 3 review of the infiltration basin concept and whether the 4 mounding would effect, that should be done. It's 5 possible -- it would be beneficial to install wells to 6 actually determine what the groundwater level is. I 7 would suggest maybe in the vicinity of Langan's borings, 8 I think it's two and four, which are about -- they're 9 two and four apparently appear to have been performed 10 beyond the basalt formation and they're in the area that 11 was identified in the hazard report that was produced by 12 the -- 13 CHAIRMAN BAGOFF: So Princeton Hydro did 14 four borings and they came up with mottling and Langan 15 did 100 and came up with nothing. In your opinion -- 16 THE WITNESS: I'm not aware that Princeton 17 did any borings. 18 MS. McGOVERN: They were off-site. 19 CHAIRMAN BAGOFF: They were off-site. 20 Around the exterior of the site. 21 THE WITNESS: Okay. I'm sorry, we didn't -- 22 I didn't pick that up in the report. If I missed it, we 23 can go back and check that, but I didn't see any 24 exploration actually done by them. 25 CHAIRMAN BAGOFF: Is it possible to have an	20 1 would see mottling. Mottling. The, the -- Langan 2 specifically states that they did not see, they looked 3 for it and, they say they looked for it and they didn't 4 see it. Both of their engineers used a, what's a 5 general engineering color classification in their 6 descriptions of conditions. Princeton Hydro indicates 7 that the DEP regulations requires what's called a 8 Munsell Color Chart, which involves, you have to take a 9 really careful look at the colors and different shades 10 mean different things in the mottling. The rocks don't 11 indicate that any of that was noted and I think it's 12 Langan's contention that it wasn't present. 13 CHAIRMAN BAGOFF: Is mottling important to 14 know if you're building a site? 15 THE WITNESS: Mottling is a phenomenon that 16 occur's where there is a persistent water level and 17 usually the water level varies over the season and it 18 rises -- it's usually the water levels are a maximum 19 around the end of March and April, because the trees are 20 still dormant or about to be, about to start drawing 21 water. But before they enter that state there's nothing 22 drawing ground water out of the ground because the 23 vegetation is not active and so that represents the 24 highest water level that would occur in the year and so 25 if you're doing test pits in any specific time and you

21 1 do notice mottling, the mottling, the elevation that 2 mottling occur's would define the groundwater level that 3 would be assumed to be the seasonal high water table. 4 CHAIRMAN BAGOFF: Would that be important to 5 your calculations or your estimation of safety? 6 THE WITNESS: That would -- you would 7 ordinarily assume water levels that would be at the 8 seasonal high water table in your stability analysis. 9 Now, in their, in the contact with us after reading this 10 report Langan indicates that they do have stability 11 cases that address that. We haven't seen them yet. 12 CHAIRMAN BAGOFF: So there's more things for 13 you, there are more things for you to see to make a more 14 accurate opinion, is that correct? 15 THE WITNESS: That's correct. 16 CHAIRMAN BAGOFF: Okay. Okay. 17 Mayor McCartney. 18 MAYOR McCARTNEY: Thank you, Mr. Kleinberg. 19 THE WITNESS: Yes, ma'am. 20 MAYOR McCARTNEY: Thank you. I do have 21 questions, but first I want to say thank you for your 22 analysis of this and in your delivery because I actually 23 understood everything that you said. I do have 24 questions, but it was explained very nicely. Thank you 25 very much.	23 1 basalt and that may have been the reason for the 2 location of the easement at that location, but we didn't 3 review the plans for the, the sewer, the existing sewer. 4 MAYOR McCARTNEY: I had a question about, 5 you referred to 1.7 as a safety and that would be 6 adequate. So on the scale or rating where is 1.7 7 adequate? 8 THE WITNESS: Okay. 1.7 is a result that 9 Princeton Hydro, just to be clear, was a value for a 10 slope failure surface that passed through the bedrock 11 and then low value safety factor of 1.7. And the way 12 the safety factor is defined, you have a, a lot of the 13 failure surface is shown as a circle and so what the 14 driving force is, is the weight inside the circle, the 15 resisting forces, the sheer resistance along the 16 circumference of the circle and so 1.7 means that the 17 material has about 70 percent more strength than would 18 be required to prevent, to just reach equilibrium at the 19 slope. So that means that, and they used a very, a GSI, 20 Geological Strength Index, that was very low. It's for 21 a very poor, poor quality rock and even when they did 22 that for that particular failure surface it still had 70 23 percent more strength than was required. The convention 24 as for -- well, I think it's even referred to in the 25 Corps of Engineers Manual for ordinary slopes. In other
22 1 Just go back to the beginning a little bit. 2 Where you mentioned in the Langan report the bedrock or 3 the basalt, that the sanitary sewer that runs between 4 the basalt and the sandstone. 5 THE WITNESS: I'm sorry. 6 MAYOR McCARTNEY: That the sanitary sewer 7 runs the between the basalt and sandstone. 8 THE WITNESS: Oh, what I said is that it 9 appears that there is a, what happens, what happened is 10 it was originally only sandstone here and then Jurassic 11 -- this volcanic material came through and pushed the 12 sandstone apart, and so what we're looking at with the 13 basalt is right where the basalt ended when the volcanic 14 flow ended. So there's sandstone underneath it and if 15 you go father to the west there would be sandstone over 16 it and then you have this same cycle repeating in the -- 17 this is the second Watchung Mountain. At the first 18 Watchung Mountain where there are some slope problems, 19 that's a second intrusion of the basalt and then there's 20 sandstone to the east of that. 21 MAYOR McCARTNEY: It seems to me what you're 22 saying they're avoiding basalt, so you would not want to 23 disturb the basalt? 24 THE WITNESS: What -- well, it may have been 25 that sandstone is much easier to excavate than the	24 1 words, where you're not putting a dam or a founding a 2 large retaining wall on rock and that sort of thing, the 3 convention is that 1.5 would be the safety factor. And 4 those 50 percent more strength than you need. 5 MAYOR McCARTNEY: So is more or less on 6 that, if this is adequate what is -- 7 THE WITNESS: Well, Princeton Hydro referred 8 to a statement in the Corps of Engineers Manual for 9 rock, for structures constructed on rock and it also 10 included recommendations for slopes and these are for 11 things like, for Corps of Engineers projects would be 12 large dams, military work and things, or things that if 13 they failed could produce catastrophic results. And so 14 a factor of 2 would definitely be justified in that 15 case. But for this slope, and I would say if Building D 16 was going to be built on the slope, then the, but it's 17 not, but if it was getting built on the slope then maybe 18 that kind of a safety factor would be required. But the 19 construction here is just, just to the, the west of the 20 crest of the ridge and they have demonstrated that the 21 influences of the structure wouldn't extend onto the 22 slope. And the safety, they computed safety factors 23 with the building in place and, and compared it to 24 safety factors under existing conditions and there 25 wasn't much of a change due to influence of the

25 1 building. 2 MAYOR McCARTNEY: And in your 3 recommendations you said that soil erosion protection of 4 the slope, how will you install that and what does that 5 actually mean? 6 THE WITNESS: Well, basically here you would 7 ensure that the grading during construction didn't 8 permit any flow, any runoff over the top of the slope. 9 MAYOR McCARTNEY: You also mentioned that 10 they should place slope indicators? 11 THE WITNESS: Slope indicators, yes. 12 MAYOR McCARTNEY: So if they do bend, as you 13 referred to, what happens? What is the implication of 14 that. 15 THE WITNESS: Well, the implication is 16 that -- well, we anticipate that, or at least it should 17 be anticipated in the review of this project that 18 blasting will be required to excavate 23 feet of rock on 19 the one end of the building. And so that, and so this 20 excavation work plan that we recommend be required they 21 would have to do an evaluation on how much charge to do 22 in each blast and that's usually dependent on the 23 distance to the, to the structure to be protected. And 24 ordinarily you would be looking at residences nearby, so 25 the residences here are several hundred feet away from	27 1 the excavation plan if it was going on during the 2 construction. 3 MAYOR McCARTNEY: That's where I was going. 4 Thank you. Seemed like quite a bit of conditions. 5 CHAIRMAN BAGOFF: Mr. Klein. 6 MR. KLEIN: The Mayor got most of my 7 questions. 8 You talked a little bit about, so we are 9 talking about landslide hazard and the 1.7 factor and 10 things like that. So you're pretty confident that -- 11 well, let me ask you it this way. The slope right now, 12 naturally it could slide based on groundwater and all 13 these other forces, that's just naturally the way it's 14 sitting? 15 THE WITNESS: I think that's to simplistic. 16 MR. KLEIN: Oh, okay. 17 THE WITNESS: It could slide, but I'm saying 18 the analysis that were performed would, which did not 19 include the most pessimistic ground water analysis, 20 don't indicate, don't give an indication of, that there 21 is a problem with stability, in our opinion. And, but 22 then you're faced with this mapping that was done by the 23 USGS and I think it concerns areas down the slope beyond 24 the investigations that were performed. But we were 25 unable to locate the basis for that particular
26 1 it. You wouldn't use several hundred feet in order to 2 design the blasting charge. You would consider the 3 slope to be the structure that's being protected and you 4 would -- that distance ranges from about 40 to 100 feet. 5 And so the design of the blasting program would have to, 6 have to employ small charges and the excavation would 7 proceed at a slower pace because of that. But the -- 8 there would be vibration monitoring and the slope 9 indicators would indicate, they would indicate, they 10 indicate movement. Relative movement. In other words, 11 you have a long shaft with a tube in it, you lower a 12 probe in and the slope, it can read back electronically 13 the changes in slope going up and down and so over time 14 you would, if you had a problem, let's say that the part 15 of the tube that's fixed in the rock would not move but 16 you would notice that the soil above the rock, you would 17 see a big sweep in the curve and it would show its 18 moving. It would be to everybody's benefit to employ 19 these devices so that you would check during the 20 excavation and you could demonstrate at the end of 21 construction that we did that and hopefully it would 22 indicate there was negligible movement and that would be 23 the only way you could tell whether there was or there 24 was not, otherwise there would be grounds for argument. 25 And if you did notice it then you would have to modify	28 1 classification and it's pretty unique to that area. In 2 other words, the Watchung Ridge continues north and 3 south and there were no areas mapped except at this 4 location. 5 MR. KLEIN: So the placement of that 6 building, it's Building D with the jog in it? 7 THE WITNESS: Right. 8 MR. KLEIN: The location to the top of the 9 slope and the slope itself, how do you feel about that 10 location, distance from the top of the ridge, I'm not 11 sure that ridge line, how far west it is of that? 12 THE WITNESS: Well -- 13 MR. KLEIN: Is it to close? 14 THE WITNESS: The analysis provided by 15 Langan would indicate that it did not have a, as located 16 it did not have a significant affect on the stability. 17 In other words, the calculations with the building in 18 place yielded the same safety factor as the calculations 19 -- 20 MR. KLEIN: Before the building is put 21 there. Okay. Okay. That was my questions. Thank you. 22 CHAIRMAN BAGOFF: Ms. Kapferer, do you have 23 any questions for Mr. Kleinberg on his testimony? 24 MS. KAPFERER: Thank you, Mr. Chairman. 25 Thank you, Mr. Kleinberg.

29 1 One question regarding the slope disability 2 analysis. You mentioned that at times that heavy rain 3 falls somethings accounted for in the analysis. How, 4 how does that change the analysis or how do you go 5 about -- 6 THE WITNESS: What -- the way the 7 groundwater works, if you, you assume what's called a 8 phreatic surface, that's where most atmospheric pressure 9 occurs and down below, then below that you start to 10 develop pressures that would get into the rock joints, 11 or that they lower the frictional resistance of the 12 soil. In other words, friction is kind of weight times 13 sandpaper or whichever. If I reduce the amount of 14 contact pressure on a given surface, I do that by making 15 the soil buoyant. And in some cases you can build up 16 excess pressures. For instance, if that particular 17 location is connected by a rock joint the groundwater 18 level which is 60 feet higher, you're going to build up 19 a very high pressure there that could, it could even 20 liquify the soil if that occurred. We don't know that 21 that those joints exist, but it's always a potential to 22 be considered. There's nothing yet indicated in the 23 record that they exist. The, when and if the building 24 is excavated they should have experts to characterize 25 the bedrock that's exposed in the slopes and to check	31 1 were not noted because there's not a groundwater 2 condition on the slope. 3 MS. KAPFERER: Does the DEP require a 4 certain analysis or, I know there was a color chart that 5 was referenced? 6 THE WITNESS: Yeah, the Munsell Color Chart. 7 MS. KAPFERER: Is that what the DEP requires 8 when analyzing a soil boring or mottling? 9 THE WITNESS: That's a standard that they 10 apply and it's mostly, I think DEP is for the, for the 11 mitigation of -- for the best management practices, you 12 know, in order to assure that ground is, infiltration of 13 groundwater models the current condition before 14 development. But they reference that system in their 15 standards. 16 MS. KAPFERER: Okay. Thank you so much. 17 CHAIRMAN BAGOFF: Vice Chairman Guarino, do 18 you have any questions for Mr. Kleinberg on his 19 testimony? 20 VICE CHAIRMAN GUARINO: Thank you, Mr. 21 Chairman. 22 So thank you for being here tonight and your 23 explanation. Is there anything out there, anything that 24 you haven't received, anything that warrants test pits, 25 site evaluations, is there any information that you do
30 1 for jointing systems that could lead to a problem and 2 grout them or do something to mitigate the, the 3 possibility that water generated by the infiltration 4 system or otherwise would create one of those 5 situations. 6 MS. KAPFERER: Thank you. 7 And one question about the soil mottling. 8 How is it determined or how does one determine when that 9 is present? You know, when you're out in the field. 10 THE WITNESS: I think it's explained in the 11 Princeton Hydro report pretty much in detail, but you 12 get blotches on the, when you look at the soil on the 13 sides, you dig with a -- where the backhoe digs in and 14 leaves a smooth surface a lot times on the edge and you 15 could see patches of gray in certain areas concentrated 16 within the range of a couple of feet and the people who 17 are sent out to do these things frequently visit 18 training courses that are given to identify the cut and 19 there's a pretty rigorous method for describing the soil 20 colors. The Langan borings -- the Langan test pits just 21 used what are more, much less rigorous engineering cut 22 color. In other words, brown, gray and did not notice 23 any particular secretions or blotches of materials in 24 the test pits. So, and I think in the rebuttal report 25 they contended that they were not noted and that they	32 1 not have that would have a significant impact in your 2 evaluation? 3 THE WITNESS: Langan indicates that they are 4 going to be providing analysis for the, assuming that 5 this groundwater level rises near the surface and they 6 say that's forthcoming. So we should have that to 7 review and they should provide an analysis as to whether 8 the installation of an infiltration system at the top of 9 the slope assess the impact of those, of those systems 10 on the potential for influencing the stability of the 11 slope. 12 VICE CHAIRMAN GUARINO: Thank you. 13 CHAIRMAN BAGOFF: Mr. Alper, do you have any 14 questions for Mr. Kleinberg on his testimony? 15 MR. ALPER: I do. 16 In your recommendation Mr. Kleinberg, Page 17 19, you're number 6 is that the applicants engineer 18 should propose stability evaluations and conservative 19 the service reflect the response of groundwater and 20 heavy storm rainfall. So is that something you need to 21 see? 22 THE WITNESS: That's what I -- and Langan 23 indicates that they have done that. We just haven't 24 seen the actual output of the results and they say 25 that's forthcoming.

33 1 MR. ALPER: Okay. Good. 2 My other question isn't necessarily for you, 3 but I might as well raise it now, might be a bit of a 4 can of worms. The recommendation of long term measures 5 should be required to maintain health of the forestry on 6 the slope, which I think is a good recommendation. But 7 that slope is in the deer fence area that isn't to be 8 disturbed, is that something we can require? Does that 9 lead, does that lead to opening up something to get that 10 done. 11 CHAIRMAN BAGOFF: Make it a condition of 12 approval, yeah. 13 MS. McGOVERN: All 11 recommendations can be 14 recommended. 15 CHAIRMAN BAGOFF: Yes. 16 MR. ALPER: My concern is if you're allowed 17 to require maintenance of trees within that area? 18 CHAIRMAN BAGOFF: Sure. 19 MR. PLOCKER: Just for the record, the 11 20 conditions at the end of Mr. Kleinberg's report would be 21 acceptable conditions for the applicant in the field. 22 Obviously a lot of them are construction related, we 23 have many different sources that we're bound by to 24 follow post approval activities and we definitely would 25 agree to make those 11 conditions part of it.	35 1 conditions of approval rather than things to reflect 2 evidence that must be presented. We're simply reserving 3 our position at this point. 4 CHAIRMAN BAGOFF: So noted. Thank you. 5 MR. ALPER: Thank you. That's all I have. 6 CHAIRMAN BAGOFF: Mr. Cardoza, do you have 7 any questions for Mr. Kleinberg on his testimony? 8 MR. CARDOZA: My fellow board members asked 9 all my questions. 10 Thank you, Mr. Kleinberg. 11 CHAIRMAN BAGOFF: Counsel Person Scarpa, do 12 you have any questions for Mr. Kleinberg on his 13 testimony? 14 COUNCILWOMAN SCARPA: Yeah, I have one 15 question. Seeing this is not an exact science and since 16 we need to be really thorough in our assessment, you 17 talked about during the excavation that it has to be 18 dewatered all the time. And what if it isn't, and what 19 happens to that slope if it becomes unstable, and who 20 would be responsible for that should something happen? 21 THE WITNESS: Well -- 22 COUNCILWOMAN SCARPA: And how do we make 23 this dewatering happen as needed? 24 THE WITNESS: Well, that would be, I know 25 how it works on capital improvement projects. Let's say
34 1 CHAIRMAN BAGOFF: Thank you, Mr. Plocker. 2 Do you have anything else? 3 MR. ALPER: Just I want to be careful 4 because there's a suggestion maybe for Mr. Defeo, that 5 that area is to never be touched at all. If one of the 6 requirements is essentially listen, if trees start to 7 die five years down the road, they've got to be replaced 8 because the roots are so important to maintain the soil 9 that that can be A, should be done and will be done and 10 B, that it's permitted to do it. 11 MAYOR McCARTNEY: Are you talking about 12 disease also? 13 CHAIRMAN BAGOFF: Mayor McCartney. 14 MAYOR McCARTNEY: We talked about disease 15 too. 16 MR. ALPER: Sure. 17 CHAIRMAN BAGOFF: Mr. Afran. 18 MR. AFRAN: Yes. I just want you to know 19 that I appreciate Mr. Plocker saying at this time we 20 agree to those conditions of approval. We don't 21 necessarily agree that they're only conditions of 22 approval. We're going to study them, alert the board to 23 any position we have that they must be part of 24 affirmative proofs, but I just wanted to note we are 25 reserving our position as to whether we agree they're	36 1 if you were doing a library or something like that and 2 there were professionals involved, say CME, we would 3 write a specification and enforce the specification to 4 do that. I don't know how that works when there's an 5 agreement between a developer and contractor, whether 6 the developer is going to be as stringent as let's say 7 the professional working on the capital -- 8 COUNCILWOMAN SCARPA: That's my concern 9 obviously. 10 THE WITNESS: Right. I'm not quite sure, 11 unless the, I don't know whether the township engineer 12 would be, I guess usually it's the building department 13 that follows those things in our experience, but they 14 don't necessarily get involved in that. 15 COUNCILWOMAN SCARPA: So what mechanism 16 could be used to ensure that dewatering happens? 17 THE WITNESS: Well, I think we had 18 recommended that they submit an excavation work plan 19 that when we -- and an excavation and dewater work plan 20 prepared by a registered professional engineer who would 21 be responsible to, I can't use the word ensure, but 22 responsible to check that the contractor is actually 23 following the plan. 24 COUNCILWOMAN SCARPA: Thank you. 25 THE WITNESS: And report that to the

37 1 building department or the county engineer. I don't 2 know how the municipality would set that up. 3 COUNCILWOMAN SCARPA: Okay. Just an area of 4 concern. 5 THE WITNESS: No, understood. 6 CHAIRMAN BAGOFF: Thank you, Council Person 7 Scarpa. 8 Mr. Wilkes. 9 MR. WILKES: Yes. You mentioned the wells, 10 did you read of the wells to give you a better 11 evaluation? 12 THE WITNESS: Well, if they did install 13 wells in order to determine groundwater levels, you 14 would have a lot more information than is currently 15 available right now. There's really, there isn't 16 anything that positively pinpoints whether there's 17 groundwater or no groundwater in the records. And that 18 is kind of typical in areas that are underlain by rock 19 because things vary because of the jointing on the rock. 20 MR. WILKES: Is there anything that we can 21 put in as a condition to get those readings as far as 22 stipulations to continue with the project? 23 THE WITNESS: It wouldn't in our opinion be 24 -- it would be a good idea to do that in order to 25 address the issues that were raised for groundwater and	39 1 explosive that you would put into the blasting hole. 2 Into the hole. So we're recommending that the blasting, 3 if it is performed, that they look at distances to the 4 area to be protected which is the top of the slope is 5 only 40 to 100 feet away. So that would result in a 6 much smaller blasting charge than would otherwise be 7 required. If you were just worried about a house that 8 was 500 feet away, it probably would have no influence 9 at all on the size of the charge at that distance. 10 MR. WILKES: Okay. All right. 11 CHAIRMAN BAGOFF: Thank you. 12 Council Person Scarpa. 13 Ms. McGovern. 14 MS. MCGOVERN: I'm sorry, I know you 15 mentioned a condition that you suggested, something 16 about basins, Mr. Wilkes? 17 MR. WILKES: Yes. The wells, I want to make 18 sure we have a condition in there, because I want to see 19 if he needed more information to make a better 20 evaluation. 21 MS. MCGOVERN: Is that already included in 22 your conditions or is that an additional? 23 THE WITNESS: We recommended monitoring. 24 MS. MCGOVERN. Okay. I just wanted to make 25 sure it wasn't something else.
38 1 groundwater infiltration. 2 MR. WILKES: Okay. 3 Now, you mentioned blasting, was the 4 blasting a recommendation or was that what you guys 5 think -- 6 THE WITNESS: No, that's not a 7 recommendation. It's an economic decision and, again, 8 that's -- it's kind of a time factor and if you don't 9 blast it's going to take a lot longer to excavate, so 10 the blasting is usually used to increase the ease of 11 excavation. This rock is particularly, for some reason 12 the strength of the samples that were actually, were 13 particularly weak for this type of rock. But this type 14 of rock is usually extremely high strength. It's like 15 25 to 30,000 PSI, that's almost at the same compressor 16 strength of steel. So it's very rough on the equipment 17 to excavate and so blasting is usually used to make it 18 more economical to complete the excavation. 19 MR. WILKES: Do you think the blasting will 20 be so significant it would affect some of the other 21 slopes in the area? I mean, based on how the rock is, 22 based on that. 23 THE WITNESS: Well, I think what we're 24 recommending is that they apply a very, very 25 conservative criteria to determine the amount of	40 1 MR. WILKES: I just wanted to make sure it 2 was in there. 3 CHAIRMAN BAGOFF: Council Person Scarpa. 4 COUNCILWOMAN SCARPA: Yeah, could this 5 project be done without blasting? 6 THE WITNESS: I believe it could. 7 COUNCILWOMAN SCARPA: Would that be a 8 condition that that not happen, because that's a real 9 concern of the residents? 10 CHAIRMAN BAGOFF: I'm going to leave that up 11 to the experts. That's beyond our understanding. 12 COUNCILWOMAN SCARPA: Would you recommend 13 that if this was in your backyard? 14 CHAIRMAN BAGOFF: I think we got testimony 15 before that each methodology has it's own risks. 16 THE WITNESS: Yeah, I think that's correct. 17 There are other effects, if like the, we -- I mean, I 18 happen to live near a basalt slope and it is brutal the 19 amount of ramming and vibration, the equipment that had 20 to be used to get the rock out without blasting, but it 21 is doable. 22 COUNCILWOMAN SCARPA: From an environmental 23 standpoint, I'm thinking which would be better for the 24 residents of that neighborhood. 25 THE WITNESS: I mean, it's always

41 1 concerning. When properly controlled blasting might be 2 effective in reducing the amount of disturbance, if it's 3 properly controlled. 4 COUNCILWOMAN SCARPA: You have pollution and 5 all those toxins in the area? 6 THE WITNESS: I'm not sure. I don't know. 7 I can't speak, I'm not an expert in this. I'm not sure 8 that it does give off emissions. I would suspect it 9 doesn't, but I am -- I mean, it would, there would be 10 mats placed on top, you wouldn't see a big, you know, 11 like somebody set off a bomb or something like that. It 12 wouldn't be like that. There would be mats placed on 13 the -- there would be standard procedures. It is a 14 safety precaution because the rock -- 15 COUNCILWOMAN SCARPA: Has to be seepage into 16 the air. 17 THE WITNESS: Rocks get thrown in the air 18 and that could cause injury, but not 400 feet away. 19 CHAIRMAN BAGOFF: Just point of 20 clarification. I know what the answer is but I want you 21 to say it. You've been using the word basalt, can you 22 define the word basalt for the public and some of the 23 members of the board? 24 THE WITNESS: Okay. Basalt is just a name 25 given to an intrusive igneous rock which is, which is,	43 1 THE WITNESS: There are two basins 2 immediately adjacent to the west side of Building D and 3 they're designed to infiltrate a certain amount of water 4 into the ground and the rest would go out in accordance 5 with the provisions that the DEP prescribed. 6 MAYOR McCARTNEY: So then really nothing 7 would be going over the slope? 8 THE WITNESS: Right. Shouldn't be any. It 9 would be, you know, if there was no monitoring of the 10 excavation it would be convenient if nobody's looking to 11 throw a hose over the slope. Mostly I'm talking about 12 construction, but the grading, at least as it's shown on 13 the plan, it keeps water from flowing over the top of 14 the slope. 15 MAYOR McCARTNEY: Thank you for the 16 clarification. 17 CHAIRMAN BAGOFF: Thank you. 18 Ms. Apte, do you have any questions? 19 MS. APTE: Not at this time. 20 CHAIRMAN BAGOFF: Mr. Afran, would you -- 21 I'll take that as a yes. 22 MR. AFRAN: That was a yes, I'm sorry. 23 Q. Mr. Kleinberg, good evening. 24 A. Good evening, sir. 25 Q. Thank for your presentation.
42 1 it's the molten material from the center of the earth. 2 The earth kind of tears apart due to tectonic and this 3 material is released and comes up and basalt is one 4 type. If you go further east of the Palisades it's not 5 basalt, it's diabase and it has to do with the grain 6 size in the rock. The diabase on the Palisades is 7 actually much stronger and much less fractured. 8 CHAIRMAN BAGOFF: Second question. The 9 first part of this project was West Essex Highlands 1, 10 so would you imagine, as an expert, that the rock base 11 is similar in the first part as for the second part? 12 THE WITNESS: Okay. I'm not, I'm not really 13 familiar -- if you had a map to put up. 14 CHAIRMAN BAGOFF: Don't answer then. It's 15 okay. Thank you. 16 MR. KLEIN: That was a good question. 17 CHAIRMAN BAGOFF: Every once in a while I 18 have them. 19 Okay. 20 MAYOR McCARTNEY: One more question. 21 CHAIRMAN BAGOFF: Mayor McCartney. 22 MAYOR McCARTNEY: So one of the 23 recommendations you mentioned the discharge over the 24 slope. So my understanding is that all of the basins 25 are to the west?	44 1 I'll just start with one of the last points you 2 raised since it's fresh in my mind. You mentioned 3 earlier recently about the joints and the entry point of 4 infiltration and basically you suggested as that process 5 continues it's going to cascade internally and cause 6 slope failure? 7 A. It could lead to higher pressures downhill, yes. 8 Q. Higher hydrostatic pressures and what would the 9 higher hydrostatic pressures do to themselves? 10 A. Sorry. 11 Q. What will the higher hydrostatic pressures lead 12 to? 13 A. It would act like a hydraulic jack. Let's say 14 you had rock pushed together and then all of a sudden it 15 feels like, let's say you had 50 feet of head to where 16 the water is entering the rock you'd have like a 3,000 17 pound per square foot jack pushing the rock apart. 18 Q. And that's what we're destabilizing? 19 A. Right. And then if that rock joint daylighted -- 20 it wouldn't daylight, but if it came to the surface of 21 the rock and was injected into the soil it could start 22 to act as a jet and, and then breakdown the soil 23 immediately where the joint intersects the soil 24 overburden. 25 Q. And is that what is called liquefaction?

45 1 A. That could lead to liquefaction. When you reduce 2 the effective stress in the, in the soil. In other 3 words, the sand grains are put together there's enough 4 pressure in there you subtract the actual pressure and 5 you subtract the hydrostatic pressure from that and if 6 the hydrostatic pressure exceeds the pressure confining 7 the soil then it liquefies. It becomes quicksand. 8 Q. And this would be on the slope immediately below 9 Building D? 10 A. That's a condition that could occur. I can't 11 guarantee that it would occur. 12 Q. Well, you said -- 13 A. No, just something that you would caution -- you 14 could caution to protect against in the construction. 15 Q. Now, this process is a permanent process, 16 depending on the existence of joints, is that correct? 17 A. Permanent to the extent that the joints don't get 18 clogged with something over time, that could occur. 19 Q. Right. In other words, this is not just at 20 factor of the construction process, it's a factor of the 21 natural status of the slope and the rock? 22 A. Right. There are existing joint patterns and 23 then the concerns in construction is that the 24 construction disturbance would create additional cracks 25 or enlarge the cracks that already exist.	47 1 rock underneath the 800 foot length of building and 2 beyond on each side. 3 Q. So how does one actually protect against this 4 enormous length to know that these fractures are not 5 either there now or opening up? I mean, seems to be an 6 enormous area to protect against. How do you 7 practically do this? 8 A. Well, we, we don't know that it does exist and 9 you would -- and if you don't know and you then -- the 10 answer is that that you -- well, this is a condition 11 that may exist but we're not sure that it does exist. I 12 think that's the best answer I could give. 13 Q. Well, you devoted almost a full page to 14 discussing it at Page 15 to 16. So you were concerned 15 about it to the point where you actually gave a 16 professional analysis. So why were you this concerned 17 about it if it's something that may not exist? 18 A. Because it's a potential that it might exist. 19 Q. Is it wise to build on a ridge or next to the top 20 of the ridge where this condition may exist that can 21 cause the slope to collapse? 22 A. Well, if you don't introduce groundwater into it, 23 it may not be a problem at all. 24 Q. Have you looked at the engineering plans of this 25 building?
46 1 Q. Now, this process I think it was Mr. -- I forget, 2 one of the board members did ask, is there any natural 3 existing condition already that could cause soil 4 impacts. This condition exists already, correct? 5 A. I'm sorry. Whether there are joints that would 6 transport water, we don't know, it's not indicated. 7 There's only, the only rock you could see is what's the 8 limited amount of outcrops that are on the slope. It's 9 something to be guarded against. It's a condition that 10 could exist and you would want to guard against it in 11 your planning for construction. 12 Q. How do you guard against it if the condition 13 naturally exists already? 14 A. Well, you wouldn't want to introduce water into 15 that location and you would grout it. If you could 16 identify it and see it, say in the excavation you come 17 across a joint that's wide then you would try to fill it 18 with grout and plug it up. 19 Q. This is an 800 foot long building, is that 20 correct? 21 A. That's correct. 22 Q. So in other words, this potential exists along 23 the entire 800 foot length of the building on that 24 ridge, isn't that right? 25 A. Yes. I mean, there are joints underneath, in the	48 1 A. I looked at -- the structural drawings are not 2 available, but I did look at the architects plans for 3 the building. 4 Q. Well, the architects plans don't deal with the 5 issue of slope and the avoidance of groundwater 6 infiltration, do they? 7 A. Sorry. 8 Q. Do the architects plans deal with this issue of 9 -- 10 A. No, they don't. 11 Q. So we don't know that there is anything in these 12 plans, as far as you know, that's already in the plans 13 to protect against this groundwater infiltration? 14 A. I would expect that they've been involved in 15 similar projects that they wouldn't advance those plans 16 until they got approval. 17 Q. Well, didn't you often say in here that these 18 plans were only preliminary, these building plans? 19 A. Correct. 20 Q. So we don't know if they actually built into the 21 plans at this point the protection to avoid the problems 22 you referred, do we? 23 A. No, we don't. 24 Q. Okay. 25 What is it that Langan has or says they have,

49 1 that they haven't given you but they say they're going 2 to give you? 3 A. They assumed the condition, a more conservative 4 condition of the groundwater levels on the slope where 5 they, they assume groundwater level that's below the 6 basin of the topsoil layer, almost to the surface of the 7 ground. 8 Q. Did they tell you what made them do this new 9 remodeling, M-O-D-E-L-I-N-G? 10 MR. PLOCKER: I'm going to object. I don't 11 believe anybody indicated -- 12 CHAIRMAN BAGOFF: Mr. Plocker. 13 MR. PLOCKER: -- that anything new was done. 14 Q. Well, it wasn't given to you before, was it? 15 A. They did not give us the results. 16 Q. Okay. 17 A. And I don't know. 18 Q. Did they say when they did this? 19 A. No, they didn't. In the conversation I had with 20 them. 21 Q. As a professional engineer does it strike you as 22 a little strange that they would have a more conserve 23 model to address the very problem that was so obvious, 24 but never provided it? 25 A. Well, they formed an opinion that groundwater --	51 1 Q. And just to be clear, they didn't tell you when 2 they did that analysis? 3 A. No. 4 Q. Let's talk about the US Geological Map. The 5 hazardous map, is that how you referred to it? 6 A. Yes. It's identified as Class B, which is a 7 lower class of risk and in accordance with hazard 8 standards a Class B3, which is for a weakly cemented 9 sand or rock -- weakly cemented soil or rock with slopes 10 of less than 15 degrees. 11 Q. Okay. 12 So this particular slope, is it more or less than 13 15 degrees? 14 A. The slope, when you get to about middle of the 15 slope, roughly where the township sewer is, reduces to 16 less than 15 degrees. 17 Q. And at what point is it greater than 15 degrees? 18 A. From that point up to the ridge. 19 Q. Okay. 20 And what is that angle? 21 A. Those angles are between 20 and 29 degrees. 22 Something like that. 23 Q. So it's a fairly steep change? 24 A. Yeah. You can see it in the contours. 25 Q. Now, what does the hazardous map that you have
50 1 that there was no groundwater condition on the slope. 2 Q. And now they have another opinion that assumes 3 there's groundwater and that's why you called that a 4 more conservative opinion, correct? 5 A. Correct. It was just a test. If I was doing the 6 analysis it would be a test. What "if" the groundwater. 7 We don't know that it would, but it's a what if. 8 Q. So you would have done a more conservative 9 analysis initially and submitted that as part of your 10 presentation? 11 A. I don't know that. I'm not 100 percent sure that 12 I would. 13 Q. Are you of any reason why they would have done 14 this more conserve analysis, held it back, not given it 15 to anyone? 16 A. I'm sorry if I implied that. I'm not sure that 17 they did that. 18 Q. Well, either they have it now or they had it all 19 along or in contest to what Mr. Plocker said, it's a new 20 analysis? 21 A. I'm not sure. They would have to explain to the 22 board when it was done and they would have to, I'm not, 23 I don't know enough about it. All I know is they said 24 we did it and we didn't include that in the thing. 25 That's all I know.	52 1 tell us? 2 A. It's just saying that we, as I said, we could not 3 find the basis for the hazardous classification. It was 4 not, it was not indicated on the map. We checked with 5 the New Jersey Geological Society in our files and we 6 could not find a report that explained the basis of the 7 classification and we went to the USGS and that's 8 involved with the shutdown at this point. 9 Q. What is it that you would need from USGS once 10 they reopened, assuming they reopen someday? 11 A. Just needed what the, what their description of 12 the actual landslide hazard was. In other words, is 13 that rising of the groundwater level to the surface of 14 the ground. 15 Q. And based on the hazardous map that you have, are 16 you able to make that assessment at this point? 17 A. No. We said that we can't. 18 Q. I just want to clarify. 19 So you can't really give an opinion at this stage 20 as to that hazard until you have at least consulted with 21 the geological survey? 22 A. Well, I don't know anything beyond that. You 23 would need to check for the background for the mapping. 24 Q. Right. You're thinking they may have it? 25 A. They may. But we did search for it, couldn't

53 1 find it. 2 Q. But just to clarify. You were not able to search 3 for it at the survey because they closed? 4 A. No, we did consult with the New Jersey Geological 5 Society, I think the USGS did it for the New Jersey 6 Geological survey and the New Jersey office didn't have 7 the report, that the mapping was based on. 8 Q. Based on the map you have is it indicating as to 9 a hazard? 10 A. It just said it's a Class B3 weakly cemented soil 11 or rock with a slope of 15 degrees. That's what it 12 says. 13 Q. And who wrote that map? Who created that map. 14 A. I think the -- I think it was done by the US 15 Geologic Society for the New Jersey, and not society 16 survey, and for the New Jersey. But I'm really, I 17 haven't been able to find the background of that. 18 Q. Do you have any reason -- let me go further then. 19 What would the Class B hazard mean or amount to, 20 assuming that's correct, since you have the document at 21 least in front of you, what would that mean, a Class B 22 hazard? 23 A. That's what I'm trying to find out. 24 Q. You mean there's no -- as an engineer does the 25 word Class B hazard have meaning to you?	55 1 A. It's on the map in the Langan report and it 2 refers to a geologic fault, that in which there was a 3 significant amount of movement but that would have 4 likely occurred ions ago. You know, back in the, at the 5 time the earth separated and resulted with the injection 6 of these volcanic rock and there was a shift, a 7 movement. You can see it on the map that Langan has 8 there. 9 Q. Why -- does it have any significance in your 10 report or is it only noted as a fact of the site? 11 A. It was noted in the Langan report. It's, and 12 they described it as being -- in other words, it's not 13 like the San Andreas Fault that's still active. It's 14 not categorized as being an active fault. 15 Q. Thank you. I just wanted to clarify. 16 Now, you mentioned that your firm was not 17 retained to do an independent analysis of the stability 18 of the slope in the area of the study. Who gave you 19 your instructions? 20 A. The instruction came from our engineer. Our 21 engineering representative. The Planning Board, the way 22 it was explained, we have two opposing reports, can you 23 explain to us what the difference is between the two 24 reports. 25 Q. So you have essentially compared the two
54 1 A. Not to me. It's the first time I've seen it in 2 my practice. 3 Q. What does it mean that the sand is weakly 4 cemented, can you explain that? 5 A. Well, it means that there's two components of 6 strength, there's cohesion and there's friction and it 7 has a little cohesion and that, that could dissipate. 8 In the presence of groundwater that cohesion could 9 dissipate. 10 Q. So that begins liquefaction and then -- 11 A. Well, I don't know about liquefaction for sure, 12 but it would just a bond between the particles. 13 Q. So if they're weakly bonded water can infiltrate 14 and further separate the bonds? 15 A. Further weaken it. 16 Q. Thank you. 17 Have you -- strike that. 18 In your report at Page 9, this may be something 19 different from the way it sounds, so I want to find out 20 what it means. You refer to a fault that is 21 approximately 2000 feet from the site. It's in the 22 first full paragraph. Can you explain what that refers 23 to? 24 A. Okay, that's in the Langan report. 25 Q. Okay.	56 1 discussions from the two consultants? 2 A. Correct. 3 Q. And you addressed them in some way? 4 A. Well, we looked to it as had they touched the 5 standards of care. Were they using methods of analysis 6 to the slope that are in accordance with the standard -- 7 the current standards of practice and you had, you have 8 one engineer who's trying to come up with stability 9 results that indicate instability and the results, at 10 least as presented in the report, don't, in our opinion, 11 indicate instability. 12 Q. And you based that on Langan's engineer who wants 13 to show stability, isn't that correct? 14 A. Sorry, no. I based it on the safety factors that 15 were produced by the methods and in accordance with 16 standards of practice for evaluation of a slope. Just a 17 slope that I got 1.5 is the standard criteria and we 18 thought that the criteria proposed by Princeton Hydro 19 was not reasonable for this application. 20 Q. And your view was that the section of the Army 21 Corps of Code dealt with -- 22 A. It's not a code, it's an engineering manual. 23 Q. The Army Corps of Engineering. Your feeling was 24 that the 2.0 factor -- let me just get to that section. 25 Give me a moment, please. Your feeling was that section

57 1 EM-110-21902 -- strike that. 2 EM-110-2908, requiring a minimum safety factor of 3 2.00, would not be applicable to this type of project? 4 A. Correct. 5 Q. Right. Because -- 6 A. That's our opinion. 7 Q. Right. But then you said that if this project 8 was built on the slope it could be applicable. It might 9 be wise in that case to use the Munsell method? 10 A. That would be, that would be the way I would have 11 approached the analysis. 12 Q. Now, the buildings only, I think, 7-seven feet 13 from the actual ridge line, is that correct? 14 A. No, it's from -- well, the actually ridge line, I 15 think it's more than 7-feet. 16 Q. Well, this has been an issue going through this 17 case to define where the building is in relationship to 18 the actual high point. Are you able to say how close 19 the building is to the actual high point? 20 CHAIRMAN BAGOFF: Mr. Afran, Mr. Plocker 21 wants to say something. 22 THE WITNESS: Well -- 23 CHAIRMAN BAGOFF: Mr. Kleinberg, hold on for 24 one second. 25 MR. PLOCKER: No, I'm saying I don't know if	59 1 A. I'm talking about what they did with their 2 analysis sections A and B, I think it is. They -- that 3 was, those address the building, the actual building and 4 the slope that runs further down to the lots down near 5 the main road, but. 6 Q. Right. That's above on the northern part of the 7 map where there's some private homes below the soil 8 boring drops? 9 A. Right. And those homes are relatively close. 10 Q. My question is this. You said if it was built on 11 the slope it would be reasonable to use the higher Army 12 Corps standard. Now, my question I guess is, how close 13 to the high point of the slope is to close to use the 14 lower standard? When would you want to use the more 15 conservative standard? 16 A. Well. What Langan did is they did a slope 17 stability analysis assuming the building is where it's 18 shown on the plan and it had no effect on this, the 19 computer factors of safety, so. 20 Q. And you based that, I thought you said because 21 they were above the 1.5 level? 22 A. Yes. 23 Q. So my question is, if it would be prudent to use 24 the 2.0, a more conservative safety figure, if you're 25 building on a slope. At what point would you want to
58 1 that was part the assignment or something we studied. 2 Obviously the line that we're talking about that we need 3 to stay west of pursuant to the ordinance, is in the 4 concept plan that was attached to the settlement 5 agreement and there's also reference in the ordinance, 6 which does describe it. I don't know he was tasked with 7 that. I just want to make a clear record, if it's not 8 something he reviewed or was tasked with then probably 9 shouldn't ask the question. 10 MR. AFRAN: No, was the engineer evaluating 11 -- 12 CHAIRMAN BAGOFF: It's my turn. 13 Let's ask Mr. Kleinberg. Go right ahead, 14 sir. 15 MR. AFRAN: I am not sure he has the 16 question. 17 THE WITNESS: I think you're referring to the 18 actual knob or the crest of the ridge, and the building 19 is, I don't think it's as close as seven, it may be, but 20 it's not -- we were talking about the influence to the 21 area where the slope begins to drop. 22 Q. Right. 23 A. And that's 40 to 100 feet away. 24 Q. That, because further north there's no building 25 and the area where it may drop above those houses?	60 1 start applying a more conservative approach as you get 2 closer to the ridge? 3 A. Oh, if I was 100 feet down the slope. Something 4 like that. 5 Q. We are not 100 feet down the slope, we are 6 actually very close to the ridge line? 7 A. Right. And it's more stable there, in my 8 opinion. 9 Q. Okay. So you're saying if it was two slopes, the 10 further from the ridge line the more concerned you would 11 be? 12 A. Right. 13 Q. But as you are at the higher point you are less 14 concerned? 15 A. Right. 16 Q. Okay. I wanted to understand what you were 17 saying. 18 Are you familiar with the term, rockfall? 19 A. Yes. 20 Q. Like a rockfall zone or catch free zone? 21 A. Yes. 22 Q. What do those terms mean? 23 A. That means when you have a, like on a highway 24 slope and the slopes above it and rock comes off and 25 falls down to the bottom of the slope, sometimes it

61 1 could actually hit vehicles on the highway, that sort of 2 thing. 3 Q. The bottom point is often called the toe of the 4 slope, is that correct? 5 A. Correct. 6 Q. So if the toe angles that's the bottom part. 7 Now, the rockfall zone would normally be off the 8 slope somewhere after the toe, is that correct? 9 A. Well, there would be a certain area that would be 10 protected and they frequently put up a barrier. 11 Q. Now, in this particular instance, if there is a 12 danger of rockfall or landslide of anything like that, 13 what type of rockfall zone would formally be used to 14 protect those houses? 15 A. I don't think there is a condition on the 16 outcrops. They're not going to do any construction on 17 the slope. The outcrops are a maximum 10-feet high, 18 something like that. I don't think there is a rockfall 19 hazard associated with this project. 20 Q. Now, if the slope destabilized through the 21 liquefaction and the infiltration liquefaction process, 22 what would that mean in terms of the physical stability 23 of the slope? 24 A. I'm sorry, could you repeat that. 25 Q. Sure. If there was water infiltration and then	63 1 Q. Okay. 2 Now, if you had the infiltration liquefaction, 3 etc., what do they do to the slope? 4 A. I don't know that there is liquefaction. 5 Q. Mr. Kleinberg, I am asking a very simple 6 question. You said that could happen, you don't know 7 the condition? 8 CHAIRMAN BAGOFF: Mr. Afran. 9 MR. AFRAN: I'm simply asking one question, 10 please. 11 CHAIRMAN BAGOFF: You're asking a 12 hypothetical on top of hypothetical and the last meeting 13 you argued against talking about hypotheticals. 14 MR. AFRAN: No, I said in the last meeting, 15 you can't say to a witness, if a opposing party 16 satisfies your condition, would you withdraw your 17 objection. That is not the kind of hypothetical you 18 give to an expert witness, this is. The witness said 19 there's a danger of opening the joints, liquefaction, 20 collapse of the slope. He said he doesn't know yet 21 because he doesn't know where the joints are. 22 CHAIRMAN BAGOFF: You presented that a 23 hypothetical exists. Did Mr. Kleinberg say that these 24 open joints exist? 25 MR. AFRAN: He said he doesn't know. Well,
62 1 you went to the expansion of the joints and the 2 liquefaction and destabilization of the slope, what 3 would that look like in terms of the physical condition 4 of the slope. What would happen to the slope in that 5 case? 6 A. Well, I think you, if we were making a lake on 7 top of this instead of a building, then that could 8 occur, but we're not doing that. 9 Q. Well, you said if there's joints that open water 10 can infiltrate and we have to protect against that in 11 someway. That doesn't require a lake, that was just 12 normal groundwater? 13 A. Well, no. It would require a substantial supply 14 of water. 15 Q. In terms of a very heavy rainfall, as you say in 16 your report? 17 A. Right. But there are mitigating procedures. 18 Q. No, I understand. 19 Are you aware of any mitigating procedures in the 20 present plan? 21 A. I don't think the plans have been advanced that 22 far. 23 Q. The answer is no? 24 A. I'm not aware -- the answer is no, I am not 25 aware.	64 1 he simply said -- he said we should put protection in to 2 make sure in case they're there. So my question is very 3 simply, if this liquefaction process occur's and the 4 slope destabilizes what would happen to the slope? You 5 got houses underneath, what would happen to the slope 6 versus the homes? 7 A. Well, the houses aren't underneath. 8 Q. Well, they're below the slopes high point, so if 9 the slope destabilizes what happens physically? 10 A. There would have to be some sort of, you would 11 have to project a failure surface to the toe of the 12 slope and that hasn't been done in the analysis, but. 13 Q. I'm not asking you that. You said there's a 14 concern you have that if you don't know where the joints 15 are and we don't know their condition that infiltration 16 of water can cause this process and destabilize the 17 slope. You said that's a concern? 18 A. I should've said, reduce the stability of the 19 slope. 20 Q. But you said destabilize, I believe? 21 A. I'm not 100 percent sure that would happen, so I 22 should've said, reduce the stability. 23 Q. And when you reduce the stability of the slope 24 what happens physically to the slope? 25 A. It may -- there may be a slide.

65 1 Q. Okay. 2 A. But -- 3 Q. There may be a rain slide? 4 A. But nothing to date has been identified that that 5 actually would occur. 6 Q. Do you know one way or another whether this 7 condition exists inside that slope right now? 8 A. No, I don't. 9 Q. And you're positive as a professional engineer 10 that is something we need to consider, isn't that 11 correct? 12 A. I did. 13 Q. Thank you. 14 CHAIRMAN BAGOFF: Mr. Klein. 15 MR. KLEIN: So you were talking about when 16 they excavate for the garage, right? Go down for that 17 building and they have to make sure to dewater that 18 excavation area. And when they see a fissure or a crack 19 in the, I guess it's basalt section, whatever it is, 20 they're going to grout it to keep any water from getting 21 into that and by dewatering it and grouting it no water 22 will go down in it and create this 50-foot edge and 23 start giving way to the slope, is that correct? 24 THE WITNESS: Right. What we're 25 recommending is a prudent approach --	67 1 MR. KLEIN: Talking about two different 2 things? 3 THE WITNESS: Yes, two different things. 4 MR. AFRAN: What do you mean by, two 5 different things? 6 MR. KLEIN: During construction and post 7 construction. 8 MR. AFRAN: No. 9 MR. KLEIN: What are you asking about? 10 MR. AFRAN: That's what I'm trying to find 11 out. I'm trying to find where the concern of the 12 engineer lies. That's the point of my question. 13 MR. KLEIN: Okay. 14 Q. So the question then is, are there mitigation 15 measures that you think the applicants engineer should 16 look at necessarily for the permanency of the project or 17 just during construction or both? 18 A. Well, for groundwater infiltration it's for the 19 permanency. 20 Q. Thank you. That was my question. 21 Talking about mottling, you said there was a 22 difference of approach or of analysis between Princeton 23 Hydro and Langan and I think you mentioned that Langan 24 is the less rigorous engineering approach to the 25 question of the color conclusion?
66 1 MR. KLEIN: Right. 2 THE WITNESS: -- to conditions that could, 3 but we don't know actually exist. 4 MR. KLEIN: Right. Right. So assuming they 5 exist there's ways to keep it from failing. Grouting, 6 dewatering, correct? 7 THE WITNESS: Correct. 8 MR. KLEIN: All right. 9 Q. And at present are there any mitigation measures 10 by way of redirecting that stormwater away from the 11 slope area behind Building D to your knowledge in the 12 plan? 13 A. Well, we're recommending that the applicants 14 engineer take a look at it and come up with mitigation. 15 Q. Okay. I want to clarify that. Thank you. 16 CHAIRMAN BAGOFF: Mr. Klein. 17 MR. KLEIN: Mr. Kleinberg, are we mixing up 18 two different things. Is, after the building is built 19 there's going to be drainage and there's going to be 20 collection of stormwater. While the building is under 21 construction there's going to be dewatering and grouting 22 and whatever they need to keep that excavation from 23 gathering water and letting that water get into these 24 cracks and -- 25 THE WITNESS: Correct.	68 1 A. They did not use the Munsell Ink and I'm not 100 2 percent sure it would have been necessary to use it 3 either, but they said they did not see mottling. 4 Q. Well, you said that they did a different type of 5 color analysis? 6 A. Well, no. This is brown sand, red sand, blue sand 7 or there's -- the Munsell System gets much more 8 involved. 9 Q. DEP is the standard of care in this field in New 10 Jersey, correct? 11 A. For, for determining a seasonal high water table 12 for the purpose of mitigation of the infiltration. 13 Q. And evaluating mottling, DEPs Munsell chart is 14 the appropriate standard, is that correct? 15 A. Right. For the purpose of the storm water 16 management, it's not necessarily done for routine 17 engineering work. 18 Q. But in terms of seeing that infiltration basins 19 are correctly constructed and designed the Munsell 20 standard is the one DEP wants to see? 21 A. Because, I think, I'm not an expert in this, I 22 think it's just they have to determine the spacing 23 between the bottom of the infiltration basin and the 24 seasonal high water table. 25 Q. Right, of course.

69 1 A. And that's an entirely different purpose. 2 Q. Right. I'm just asking -- you raised the issue 3 of the Munsell chart in your initial presentation, so 4 I'm just trying to clarify. DEP says use the Munsell 5 chart to evaluate if mottling exists, isn't that 6 correct? 7 A. Yeah, for the purpose of determining how high the 8 infiltration basin is. They're not talking about slope 9 disability. 10 Q. That's the only reason we're talking about it, 11 because it infiltrates the basin at the seasonal high 12 water table, correct? 13 A. Well, it has to be a certain distance above the 14 high water table. 15 Q. That's why we're talking about mottling and 16 that's why Langan and that's why Princeton hydro talked 17 about mottling? 18 A. But on the slope it's not always a concern. 19 Q. Mr. Kleinberg, I am not talking about the slope, 20 you raised the issue of the Munsell chart with respect 21 to the infiltration basins, that's what I am talking 22 about. 23 A. I was trying to compare the difference in 24 approach between Princeton Hydro and Langan. Princeton 25 hydro went to the extent of talking about the mottling	71 1 or are you just reporting what the two sides said? 2 A. I am just reporting what the two sides said. 3 Q. Do you think the appropriate section of the Army 4 Corps Manual is Section 1110-2-1902 which uses the 1.5 5 figure? 6 A. Right, that's their slope stability manual. 7 Q. And you're saying this type of project where it's 8 located that would be the appropriate standard? 9 A. Yes. 10 Q. Now, it's true that Section 3-4 Sub E of that 11 section actually requires that, if I could just get to 12 that. Well, it says E-1 -- 13 MR. AFRAN: Mr. Chairman, let me have one 14 moment. I'm sorry. 15 Q. Section E-1 states the following; "Instability of 16 natural slopes is often related to high internal water 17 pressures associated with wet weather periods. It is 18 appropriate to analyze such conditions as long-term 19 steady state seepage conditions using drain strengths 20 and the highest probable position of the piezometric 21 surface within the slope." Now, that's in the section 22 of the manual that you say is applicable here. Is that 23 referring to the study that you recommended or asked for 24 in which you say at number 6, "The applicants engineer 25 should pose and perform a stability evaluation using a
70 1 and so I just addressed what is the difference between 2 the two engineers approaches. 3 Q. Princeton Hydro followed the DEP Munsell chart, 4 Langan followed a different approach, correct? 5 A. Correct. 6 Q. Thank you. 7 What does it mean when you say, at Page 18, 8 Langan is questioning the assumed stratification stating 9 that it does not consider dense sands on that section 10 which were indicated by the board. Can you explain what 11 it means? 12 A. On the, on their analysis Section CC, which is 13 near, I think that's 13. It's above the property, I 14 think identified as 13 Howell Drive. That Princeton 15 Hydro assumed that there would be medium dense sands 16 down to the top of rock, but the borings that Langan did 17 indicated that there were dense sands there. 18 Q. Oh, so I see. You're saying here that Langan 19 questions what hydro said because it saw -- what it saw 20 was denser sand? 21 A. Right. 22 Q. That's all that means? 23 A. Right. And they said that what Princeton Hydro 24 assumed didn't reflect what they encountered. 25 Q. Are you offering your conclusion on this position	72 1 conservative piezometric surface that would reflect the 2 response of ground water to heavy storm influenced 3 rainfall." 4 A. Yes. 5 Q. Your recommendation is based on that section of 6 the manual, 3.4 E-1? 7 A. I -- it stems from the same, the conventional 8 approach. 9 Q. Now, and that's what you say Langan says it has 10 but hasn't given you? 11 A. I don't know exactly what it has. I haven't seen 12 it yet. 13 Q. Let me ask you this, if it is in the manual, in 14 the section of the manual that applies to projects of 15 this nature, wouldn't that be the standard of care that 16 Langan should have followed to begin with? 17 A. I'm not necessarily sure of that. 18 Q. But you recommend following it with respect to 19 this study? 20 A. If I was doing the analysis I would do it and 21 that's why we mentioned it. 22 Q. Well, you didn't mention it, you said this is one 23 of the things you want them to do, isn't that correct? 24 This is one of the things you want them to do, right? 25 A. Yes.

73 1 Q. Okay. 2 And it is said that it should be -- the Army 3 Corps Manual actually says it should be done, right? 4 A. Recommends it, yes. 5 Q. And they didn't actually do it or didn't present 6 it one way or the other, right? 7 A. I am not 100 percent sure when they did it. 8 Q. Of if they did it? 9 A. They said they did. 10 Q. Okay. But if it's -- thank you. 11 You mentioned something here about stockpiling or 12 the presence of heavy machinery would reduce the 13 stability of the slope, is that correct? 14 A. Could. 15 Q. Could. So where you say, "surcharges resulting 16 from the stockpiling of materials and heavy equipment 17 should not be permitted on the ridge immediately above 18 the slope to avoid a reduction of the stability of the 19 slope." That's what you say in number 4? 20 A. Yes. 21 Q. And you think it a prudent proper engineering 22 position? 23 A. Yes. 24 Q. Now, you also say equipment -- "heavy equipment 25 shouldn't be placed in that same position to reduce the	75 1 building will go? 2 A. Right. In other words, operating on the east 3 side of the building beyond the area of disturbance 4 shown on the plan. 5 Q. Wait, wait. The area of disturbance you're 6 saying that -- let's clarify this. We have Building D, 7 it's this long structure 800 feet long. The right side 8 on the drawing map, I think the east side of the 9 building, runs along the ridge line, correct? 10 A. Correct, and they show a limit of excavation. 11 Q. Right. Now you're saying that at the point from 12 the limit of excavation on the eastern side of the 13 excavation pit that 800 foot strip, there should be no 14 excavating equipment from that point to the top of the 15 ridge, is that what you're saying? 16 A. That's what I would recommend, yes. 17 Q. And you recommend that as a condition of approval 18 built into this plan? 19 A. If that's -- I said that and I think it should 20 be, but. 21 Q. You were pretty sure of it when you testified, 22 why are you having trouble? 23 MR. PLOCKER: That's an acceptable condition 24 of approval. Absolutely. 25 CHAIRMAN BAGOFF: Let him answer the
74 1 stability of the slope." 2 A. Yes, I did. 3 Q. Well, how on earth do you build this 800 foot 4 long building maybe seven, eight, ten feet from the high 5 point of the ridge without putting this heavy equipment 6 in the very place you said it shouldn't be? 7 A. What I'm trying to -- you don't have to 8 necessarily operate the equipment on the east side of 9 the building. It can be done. 10 Q. It can be done? 11 A. And you should just avoid running the equipment 12 on the slope as a manner of prudent practice and we're 13 recommending that be included in the excavation work 14 plan. 15 Q. So as a condition of approval you're saying that 16 in construction no heavy equipment should be on the east 17 side of where the building will go? 18 A. Well, that's to general. 19 Q. You said it in your testimony. 20 A. Well, I mean, I think it's, that's a more -- I am 21 talking about excavation equipment when I made the 22 recommendation, not erection equipment for the building. 23 Q. Okay. 24 So you're saying that heavy excavation equipment 25 should not be on the slope on the east part of where the	76 1 question, please. 2 A. Okay. Okay. I guess maybe it should be included 3 in the work plan as a requirement. 4 Q. What about if fire vehicles have to go on the 5 eastern side of the property? 6 MR. PLOCKER: Objection. 7 Q. Is that weight that would be -- 8 CHAIRMAN BAGOFF: I don't know -- are you 9 qualified to answer -- 10 MR. AFRAN: You don't know my question yet. 11 CHAIRMAN BAGOFF: I want to find out if he 12 is qualified to talk about fire vehicles and its weight. 13 That's all. 14 Are you qualified to talk about a fire engine and 15 its weight? Different size fire engines. 16 THE WITNESS: Yes, I am. 17 CHAIRMAN BAGOFF: Okay. 18 Go right ahead. 19 Q. Are there any -- I heard someone say they would 20 be to close because you can't get that close to a drop 21 zone, so you wouldn't normally have a vehicle there 22 anyway, so that may be resolved. I think we talked 23 about it with the architect, Mr. Rizzo, originally. So 24 there wouldn't normally be fire vehicles on the eastern 25 side. So you're saying to construct this safely, aside

77 1 from other issues, there must be no excavating equipment 2 on that eastern part of the ridge? 3 A. When you're talking excavation, talking about big 4 front-end loaders, so they exceed the loads of fire 5 trucks. 6 Q. No, I'm not talking about fire anymore. Mr. 7 Klein is correct, we talked about that early on, we 8 wouldn't have it in the drop zone, so I withdraw that 9 question. 10 So I want to be clear, so there should be no 11 bulldozer, no excavating equipment -- 12 A. No heavy. 13 Q. No heavy. 14 Well, how do you define heavy? 15 A. Well, there are bulldozers of certain sizes that 16 are not heavy and there are bulldozers designed to 17 reduce the bearing -- the pressures on the ground that 18 they operate on. 19 Q. So all this should be a condition of approval, 20 that these types of vehicles should not be on that side 21 or at least on the excavation plan? 22 A. That's what we said. 23 Q. Okay. Thank you. 24 MR. AFRAN: I have a few more questions, Mr. 25 Chairman. Sorry to go so long.	79 1 A. No, I have not. 2 Q. So you have no idea whether they're going to 3 build it correctly or not? 4 A. I assume they're going to follow the codes. 5 Q. We assumed the Titanic's watertight section -- 6 CHAIRMAN BAGOFF: Whoa, whoa. 7 MR. AFRAN: You got a problem with that? 8 CHAIRMAN BAGOFF: Well, it's a story in 9 itself. 10 MR. AFRAN: It's a valid point. Engineering 11 crisis happen because we make assumptions. 12 CHAIRMAN BAGOFF: Okay. So we're going to 13 assume that all the correct procedures would be 14 followed. 15 MR. AFRAN: Without an engineering plan 16 before the board, so the board can see that. 17 CHAIRMAN BAGOFF: We are going to assume 18 that the building department will have the correct 19 engineering plan and all things will be done according 20 to the ordinance and the law. 21 MR. AFRAN: With respect, that is not how 22 the process can work legally. This board has to satisfy 23 itself that this -- 24 MR. PLOCKER: And it's a building department 25 issue.
78 1 Q. What about the weight of the structure itself so 2 close to the ridge line. I mean, if you can't have 3 heavy earth moving equipment right there what impact 4 does the weight of the structure itself potentially 5 have? Because I am very puzzled, on the one hand you 6 say Langan says there's no danger to the stability of 7 the slope over there from the building and all this 8 blasting and all that, then you said, nearly putting 9 some heavy equipment on that side is a danger. So it is 10 very puzzling to me how you can accept Langan's 11 statement there's no danger of stability of the slope by 12 putting this massive building there, but somehow there's 13 danger to the stability of the slope by putting a 14 bulldozer there. Can you explain this dichotomy? 15 A. Yeah, the building stresses are reduced to a 16 bearing pressure that's less than the weight of the 17 heavy equipment. 18 Q. You mean at any given point? 19 A. At any given point. 20 Q. You're displacing it? 21 A. They use footings to distribute the load and if 22 they extend the footings to rock then the bearing 23 capacity is there. 24 Q. Have you seen an engineering plan showing 25 displacement of weight?	80 1 CHAIRMAN BAGOFF: And we will see 2 everything, I am sure, before we get to that point. 3 MR. AFRAN: I certainly hope so because 4 right now the expert says these possible crisis can 5 happen. Says he doesn't know if it could be protected 6 against. 7 CHAIRMAN BAGOFF: Well, we're going to find 8 out. 9 MR. AFRAN: I hope so. And it can't be sent 10 to the building department after this is approved. This 11 board has to satisfy itself that these issues are 12 addressed in the plan. We don't have a complete plan. 13 CHAIRMAN BAGOFF: And we will. 14 MR. AFRAN: Well, when are we getting that 15 complete plan? 16 CHAIRMAN BAGOFF: Keep going, we'll find 17 out. The stories unraveling. 18 MR. KLEIN: Quick question. So you're 19 saying we should be looking at footing designs and 20 foundation designs at the Planning Board level? 21 MR. AFRAN: When you're building on a ridge 22 line that an expert says could collapse if the weight is 23 not properly displaced. 24 MR. KLEIN: I don't think he said that. I 25 don't think he said that.

81 1 MR. PLOCKER: Now you're really being 2 self-serving, Mr. Afran. And you know what, we have 3 been very patient. 4 MR. AFRAN: Oh, we have been patient, Mr. 5 Plocker. Are you testifying yourself as the Planning 6 Board? 7 CHAIRMAN BAGOFF: Gentlemen. 8 Q. Mr. Kleinberg, if there's not adequate 9 displacement is there a danger of destabilization of the 10 slope? 11 A. I'm sorry. What's displaced? 12 Q. If there's not adequate displacement built into 13 the structure, isn't it correct that there's a danger of 14 destabilization of the slope? 15 A. I don't think so. I think the location of the 16 building is probably far enough back. 17 Q. Well, you just said that putting the bulldozer 18 there destabilizes -- creates a risk of destabilization. 19 Then when I asked you why the weight doesn't -- when I 20 asked you why the weight of the building doesn't do 21 that, you told me well, it's going to be displaced by 22 the different foundational elements. Now I'm asking 23 you, if it's not adequately displaced in the engineering 24 plans is there a risk of destabilization of the slope? 25 A. I could -- it could easily be designed so it	83 1 A. I think we addressed it in the report that the 2 load is not extremely conservative, but that it's within 3 the realm of reality. 4 Q. Have you seen a plan that shows that level of 5 displacement will actually be incorporated into the 6 building plan? 7 A. No, I have not seen a plan. 8 Q. Thank you very much. 9 A. But it's conventional at this stage of design to 10 use an average area building. 11 Q. I understand that, but you didn't see a plan to 12 show that's how it will actually be done? 13 A. No. 14 CHAIRMAN BAGOFF: Mr. Kleinberg, is it 15 normal in this process for the engineers to review the 16 final plan before they get a permit to build? 17 THE WITNESS: Review -- 18 CHAIRMAN BAGOFF: Is it normal in the course 19 of events for the applicants to provide an engineering 20 plan with all the safeguards in place to be evaluated by 21 the engineer before they get a permit to build the 22 foundation? 23 THE WITNESS: Frequently you get a 24 geotechnical report with recommendations on what the 25 foundation design is and I believe there was one done by
82 1 doesn't. 2 Q. And do you see the design yet to show that it 3 will not? 4 A. I have not seen the design yet. 5 MR. PLOCKER: Is that something that gets 6 typically submitted to the Planning Board? 7 THE WITNESS: I don't think so. 8 Q. And in your view can you say as an engineer 9 having looked at this problem that this building will 10 not create a risk of destabilization when you haven't 11 yet seen the displacement design of the plan? 12 A. You can because it was modeled in the analysis as 13 an average area building load of a thousand pounds a 14 square foot. And, which is reasonable and they did an 15 analysis with the building in place and without the 16 building in place and they yielded the same safety 17 factor. 18 Q. Have you seen a plan that shows that's the actual 19 displacement that will be incorporated into the building 20 plan? 21 A. It's -- it is in, at this stage of design it's 22 common to use an average area of building load, which is 23 what they did. 24 Q. Have you seen any plan that shows that level of 25 building load will be built into the plan?	84 1 Shore Engineering for this particular structure. 2 CHAIRMAN BAGOFF: Right. Before they get a 3 permit to build is it the normal process that it would 4 occur by an engineer to evaluate the plan to make 5 recommendations to the applicant, is that correct? 6 THE WITNESS: Yes. 7 CHAIRMAN BAGOFF: Okay. Thank you. 8 MR. AFRAN: Could you read that answer back. 9 (The court reporter reads back the answer as 10 requested.) 11 MR. AFRAN: I object to your question Mr. 12 Chairman, because it was premised on the fact, all the 13 safeguards in place. I was asking about a specific 14 problem, as to whether this engineer sitting here today, 15 Mr. Kleinberg, could say there's adequate displacement 16 built into the plan based on what he's seen. I wasn't 17 talking about every possible safeguard. So I think your 18 questions quite unjust to the issue I was raising. 19 CHAIRMAN BAGOFF: I asked a different 20 question. 21 MR. AFRAN: I know, and the question seemed 22 designed to suggest your board does not need to have 23 this information. 24 CHAIRMAN BAGOFF: No, we -- I never 25 suggested that, you just did. I asked a question, you

85 1 asked a question, we both got answers to our questions. 2 MR. AFRAN: You asked about all the 3 safeguards and I submit obviously not every single 4 element of safeguard in every plan comes before a 5 planning board. 6 Q. Would you agree, Mr. Kleinberg? That the 7 question whether a building can collapse or destabilize 8 a slope if the displacement is improper is fundamental 9 to the engineering? 10 A. It's fundamental to the engineering to have the 11 bearing capacity that the ground can handle including 12 the effects of the slope and it's possible to do that, 13 in my experience, for the building where it's located. 14 Q. In your experience for the building where this is 15 located? 16 A. Yeah. 17 Q. You mean this building? 18 A. In this type of condition. 19 Q. In this type of condition? 20 A. Right. 21 Q. Is it considered fundamental to engineering of a 22 building in circumstances like this to know whether or 23 not adequate displacement is in the plans, "yes" or 24 "no"? 25 A. Can you repeat the question.	87 1 element to know in advance that the displacement 2 necessary to avoid destabilization of the slope is built 3 into the plan, "yes" or "no"? Is that a fundamental 4 engineering element of a plan. That's my question. 5 A. I'm not trying to avoid answering the question. 6 I'm trying to figure out -- 7 Q. Don't figure my question out. I am asking you a 8 question, I am cross-examining you, I have that right. 9 Let me repeat it. 10 A. I know that. 11 Q. I'm not trying to fight. 12 A. I am not trying to avoid anything. 13 Q. Let me rephrase it. Let me say it again directly 14 straight forward. Is it a fundamental engineering 15 element of a plan to know there will be adequate 16 displacement in circumstances where it is built on or 17 near a slope that could be destabilized? 18 A. At this stage of design you don't need to know 19 every detail of the building. You need, I can tell you 20 as an experienced engineer that it's doable in this 21 case. 22 Q. Let me just ask it slightly different. Is 23 adequate displacement -- 24 A. What's displacement? 25 Q. I don't know what you see. You told me, don't
86 1 MR. AFRAN: Would you, please. 2 (The court reporter reads back the last question 3 as requested.) 4 A. I believe at this stage of design you can operate 5 within an average area of building load as Langan did. 6 Q. My question was, my question was, is it 7 fundamental to engineering of a building in these 8 circumstances to know in advance whether or not adequate 9 displacement is built into the plans to avoid the risk 10 of destabilization of the slope? Is that a fundamental 11 engineering element. 12 A. There are building codes that the designer 13 eventually has to employ in order to get approval to 14 build the building. 15 Q. Mr. Kleinberg, I am asking a very direct 16 question. In your opinion as a professional engineer is 17 it a fundamental engineering question to know whether 18 the plan will contain adequate displacement in 19 circumstances where it is to be built on or near a slope 20 that could cause destabilization. Is that a fundamental 21 engineering element? That's my question. 22 A. At this stage of design you don't need to know 23 that. 24 Q. I am asking you a very simple question, it's a 25 yes or no question. Is it a fundamental engineering	88 1 worry about it. It's not like the trucks, because when 2 they build it they're going to have all these 3 foundations that will displace the weight. That's what 4 you said. 5 A. I was talking about people driving front-end -- 6 huge pieces of equipment back and forth willy-nilly 7 across the slope and that should be avoided. I wasn't 8 talking about the building. 9 Q. Yeah, I was and that's how we got into the 10 subject because you said, well, if you put this heavy 11 earth moving machine that can destabilize the slope. So 12 I said to you, very logically, if that could destabilize 13 the slope can a very large structure of this nature, a 14 very heavy structure also cause that destabilization. 15 That's what I asked. And you said to me, no, because 16 you have displacement. 17 A. No, if it's properly designed, and it could be 18 easily properly designed. 19 Q. Right. And we don't have that design in front of 20 us yet? 21 A. No, because you would go through stages of 22 design. 23 Q. Just answer yes for no, do we have the design in 24 front of, "yes" or "no"? 25 MR. PLOCKER: Let him answer the question.

89 1 A. Okay. If that's the simple question, the final 2 design is not in front of us now. 3 Q. And here's another simple question. Is it a 4 fundamental engineering element of a plan to know that 5 it will have adequate displacement to avoid 6 destabilizing the slope, "yes" or "no"? Is that, is 7 that a fundamental engineering element of a plan. 8 A. I am not trying to avoid answering the question. 9 Q. I don't know. 10 A. Your question is kind of cockamamie. 11 Q. You think so? 12 A. So I don't quite know how to answer that 13 question. 14 Q. Is it a fundamental engineering element to know 15 there's adequate displacement of the structure to avoid 16 destabilizing a slope? 17 A. Yes. 18 Q. Thank you. 19 MR. KLEIN: Can I ask a follow up. 20 CHAIRMAN BAGOFF: Mr. Klein. 21 MR. KLEIN: When do you need no fundamental 22 engineering to know the bearing capacity and the weight 23 of the building for the final design of the footings? 24 THE WITNESS: For the final design. When it 25 goes to final design.	91 1 instance it is our position that because it is to be 2 both on and near a slope that could destabilize based on 3 a design or other issues that that is a fundamental 4 issue that must be known by the board, even though other 5 issues may not be of such material moment that the board 6 needs to know all of them. Where the question arises 7 that a building if not properly displaced could 8 destabilize a slope, in our view legally that is what 9 the MLUL says is information that must be heard by the 10 board. So it's our position that that cannot be 11 submitted legally later as a condition of approval or 12 leave it for the construction office. This board must 13 know that the public is protected by the nature of the 14 design, that's why we are here. If we didn't need to do 15 that but leave it to the construction official virtually 16 all the issues we talk about wouldn't be necessary. So 17 it's our legal position, and we can discuss this later 18 in the case, that it is not adequate to say well, it can 19 be supplied later after approval. Our position is the 20 Municipal Land Use Law requires as a matter of law all 21 information relating to the public safety to be known by 22 the board if it's of a material nature and certainly 23 where a building could destabilize a slope if it's not 24 adequately displaced that is not preliminary, that is 25 your responsibility to know in advance. That is our
90 1 MR. KLEIN: Right. And if you had to, you 2 may have to drive piles, you may have to -- you could 3 always design a footing that will bear the weight of a 4 building? 5 THE WITNESS: There's stages of design and 6 this is very preliminary where you run on average area 7 building loads, as Langan had done in this case, and it 8 is in my opinion suitable to do that. 9 MR. KLEIN: So a thousand pounds per square 10 foot is a little bit conservatively high or is it -- 11 THE WITNESS: No, it's not conservatively 12 high, but it's in the range. 13 MR. KLEIN: Okay. 14 Q. Do you have any idea what they plan on, other 15 than that model that they spoke to? 16 A. What model? 17 Q. Withdraw the question. 18 Well, I'm not going to pursue that subject 19 anymore, we've exhausted it. Our view is it is a legal 20 question, the question of what the board needs to have 21 and when and I don't know that the engineer himself is 22 the one to decide that issue. We believe it's a legal 23 question, that the board has a duty under the MLUL to 24 ascertain for itself all material elements of safety and 25 public interest in the plan. And in this particular	92 1 legal position. That's why I've asked you these 2 questions and I understand the engineer has his view, 3 legally we say you must have this information. We can 4 discuss this when it is appropriate in the case, perhaps 5 closing arguments. 6 CHAIRMAN BAGOFF: Thank you. As the hour 7 grows late, Mr. Afran. 8 MR. AFRAN: Well, I could leave it for now, 9 obviously. 10 CHAIRMAN BAGOFF: The public also has 11 questions. 12 MR. PLOCKER: Chairman Bagoff. 13 CHAIRMAN BAGOFF: Mr. Plocker. 14 MR. PLOCKER: It's nine minutes left, I just 15 have two or three questions, kind of while the iron is 16 hot. Would that be okay? 17 MR. AFRAN: Of course. 18 MR. PLOCKER: Oh, thank you. 19 MR. AFRAN: Mr. Plocker identifies himself 20 as the board, I have no objection. 21 CHAIRMAN BAGOFF: Thank you. Mr. Plocker. 22 Q. Okay. 23 Thank you, Mr. Kleinberg. I will be very brief. 24 I believe the additional model, with a D, testing at the 25 surface that you represented you said they didn't. I do

93 1 believe it's referenced in the Langan report from June 2 18, which was a revision to their original report in 3 January. I don't know if you have that report in front 4 of you. 5 MR. AFRAN: Would you cite a page number? 6 A. It was in the June 18 report. 7 Q. Okay. Yeah, I just wanted to confirm it and Mr. 8 Kleinberg can certainly go back and Mr. Afran can 9 definitely check. I'm looking at Page 8 of 13 of the 10 memo entitled, and my contacts are going a little 11 bonkers at this late hour, so you will excuse me. It's 12 the memo, the Re line is the, Global Slope Stability 13 Study For Building D. It was attached to that June 14 Langan report and on Page 8 of 13 under, there's a 15 groundwater section. The last sentence says, 16 "Therefore, our primary analysis which includes 17 groundwater and our secondary analysis assumes a high 18 groundwater level to be at the top of the decomposed 19 rock/very dense granular soil there." So that is the 20 additional model that you were referring to? 21 A. No. 22 Q. No? 23 A. He says at the top of the decomposed rock. 24 Q. And soil layer. Maybe it's not written very 25 artfully, but it says the soil level as well.	95 1 vacation. 2 MR. PLOCKER: Where are we -- 3 CHAIRMAN BAGOFF: So our attorney is going 4 to give Mr. Plocker a list of the things for you to 5 review and you will come back the next meeting and you 6 will answer all the questions that are open ended. 7 MS. MCGOVERN: I think that you already gave 8 a list in your testimony. I will chat with you after 9 the fact to make sure I have it correct. 10 Are you really going away? 11 THE WITNESS: I was planning to. 12 MS. MCGOVERN: So -- 13 MR. AFRAN: Should we know Mr. Kleinberg's 14 vacation first. 15 MR. PLOCKER: When is his vacation? 16 CHAIRMAN BAGOFF: December 3. Are you 17 available December 3, sir? 18 THE WITNESS: Certainly I will be. 19 MS. MCGOVERN: December 3, but there's a 20 caveat. The board is thinking of a special meeting 21 beginning at 1:00 PM on Wednesday, December 3 ending at 22 5:00 and then resuming at 6:30. I don't know what the 23 Chairman wants to do, we have a regular meeting at 6:00 24 o'clock because we do have agenda items, an application 25 that was on our last meeting that the notice wasn't
94 1 A. I think that they -- what they show is the top of 2 the decomposed rock about two feet over the rock 3 surface. It's not at the ground surface. 4 Q. Correct. But then it also does say, and very 5 dense granular soil layer? 6 A. Right. But -- okay, yes. That's what it says. 7 MR. AFRAN: Brian, are you saying that's 8 information still to be provided but is in that report? 9 MR. PLOCKER: I'm just saying that, you 10 know, Mr. Afran, you were questioning whether this was 11 something that was recently done or done back then. And 12 I'm saying this report says it was modeled back then. 13 MR. AFRAN: That's my question. That's 14 relating to what we were discussing earlier. 15 MR. PLOCKER: Yes. Yes. And I believe the 16 only thing Mr. Kleinberg was asking for was out for 17 compliance. 18 MR. AFRAN: Right. We'll check that. I 19 appreciate that. Thank you. 20 CHAIRMAN BAGOFF: Mr. Plocker, I'd like Mr. 21 Kleinberg to get everything he needs to evaluate for the 22 next meeting. 23 You get that, when you come back for the 24 next meeting, Mr. Kleinberg. 25 THE WITNESS: I was planning going on	96 1 right and they wanted to be carried and we do have to go 2 into executive session to discuss the litigant matter on 3 a proposal. So it would be the afternoon of December 3 4 about 1:00 o'clock. Some board members can't make it 5 for the afternoon session but we do have a quorum and I 6 sent out feelers. The thought being, finish that 7 testimony at 5:00, if that's the last witness, then 8 begin public comment and continue public comment into 9 the evening when we finish. 10 MR. AFRAN: How many hours are we supposed 11 to work that day? 12 MS. MCGOVERN: I am going to say this, when 13 I sent out, after discussing this with the Chairman, I 14 sent feelers to see what board members would be 15 available, these wonderful board members who all have 16 jobs, we have more than, I think we have six people here 17 who, six or seven who are able and willing to give up 18 their paying jobs in the day and volunteer their time. 19 So, yeah, that's a lot of hours and -- 20 MR. AFRAN: I only meant it in terms of all 21 our mutual effectiveness over that long a period of 22 time. 23 MS. MCGOVERN: But we would take a break in 24 between the two sessions. I understand and hear you, we 25 are all dying right now.

97 1 MR. AFRAN: So we might go 11 hours 2 basically. Well, no, not with breaks. 3 MS. McGOVERN: Not starting until 1:00 4 o'clock in the afternoon. 5 MR. AFRAN: We end at 5:00, take a break and 6 start at 6:30, is that the idea? 7 CHAIRMAN BAGOFF: End at 5:00, 5:15 and 8 start again at 6:00. 9 MR. AFRAN: So the idea would be public 10 comment would be begin in the evening most likely, is 11 that the idea? 12 CHAIRMAN BAGOFF: We're going to try. 13 MR. AFRAN: Special session would be for 14 this testimony? 15 CHAIRMAN BAGOFF: We can get done with his 16 testimony quickly, we can start public comment. 17 MR. AFRAN: Okay. 18 CHAIRMAN BAGOFF: Okay. Keep thinking. I'd 19 like the Mayor of Essex Fells to come up, he has 20 something to say. You keep thinking, I want to get him 21 on the record, please. 22 THE PUBLIC: Thank you, Mr. Chairman. As I 23 mentioned on September 17, 2025 at the Planning Board on 24 this application the board asked me to come back to 25 discuss Oval Road. A question arose whether it was a	99 1 THE PUBLIC: Second document is a resolution 2 adopted by the West Orange Planning Board on November 7, 3 1984 approving the application of the West Essex 4 Developers Inc., subject is, certain conditions 5 including several relating to Oval Road. 6 Third document is an agreement among West 7 Orange Essex Fells - West Essex Developers, which is the 8 predecessor to the current applicant and the Essex Fells 9 Country Club executed in March and April of 1987 10 relating to the vacating a portion of Oval Road by West 11 Orange and Essex Fells. 12 MS. McGOVERN: And O-34. 13 THE PUBLIC: Is an ordinance from the 14 Borough of Essex Fells adopted August 18, 1987 pursuant 15 to the agreement I just mentioned that the Essex Fells 16 ordinance vacates the portion of Oval Road and Essex 17 Fells from Oval Lane to Essex Fells to the Essex Fells 18 West Orange border. 19 MS. McGOVERN: Thank you. 20 THE PUBLIC: And there's one more. 21 MS. McGOVERN: O-35. Okay. 22 THE PUBLIC: So the last document is a March 23 9, 2006 letter from Essex Fells Borough administrator to 24 the West Orange Township business administrator 25 summarizing for West Orange in connection with a
98 1 private road or public road, so I have documents that I 2 sent to the board secretary on October 29, Ms. McGovern 3 has them, Mr. Plocker has them. I'd just like to 4 introduce those exhibits for the record. 5 MS. McGOVERN: So that would be -- how many 6 were there, I forget? 7 THE PUBLIC: Four documents with a cover 8 e-mail from me. 9 MS. McGOVERN: So that would be O-31, 32, 33 10 and 34. Can you hand them to Jamilet, she will mark 11 them and then they'll go onto the agenda. They are all 12 -- if you could just describe them. 13 THE PUBLIC: You want me to describe them? 14 Probably easier if I do it. 15 MS. McGOVERN: Yeah. If you have a pen. 16 What's the first one, O-31. What's your first one. 17 Jamilet can mark them and you can just describe them. 18 THE PUBLIC: The first one is a cover 19 e-mail. 20 MS. McGOVERN: So what is it? 21 THE PUBLIC: First -- O-31 would be a letter 22 from me to the board secretary, the board attorney and 23 Mr. Plocker on behalf of the applicant, describing what 24 I am introducing. 25 MS. McGOVERN: Okay. All right. O-32.	100 1 different development application by the same developer 2 that these sections of Oval Road, specifically the 3 western section of Oval Road going from West Orange and 4 in Essex Fells will be closed to the public. 5 MS. McGOVERN: Okay. Thank you. 6 THE PUBLIC: Thank you. 7 CHAIRMAN BAGOFF: Thank you, Mayor. 8 MR. PLOCKER: Can I just get one 9 clarification, Mayor Davis. The letter you referred to, 10 is that the letter kind of imbedded, it was an e-mail or 11 was there a separate letter sent to the board? 12 MS. McGOVERN: It was a cover letter 13 attachment. 14 THE PUBLIC: The first document we produced 15 was an e-mail from me. 16 MS. McGOVERN: Okay. 17 MR. PLOCKER: You said letter, I just wanted 18 confirm that wasn't something I didn't have. 19 CHAIRMAN BAGOFF: Mr. Afran. 20 MR. AFRAN: On scheduling issues. I have no 21 issue personally with working that schedule, but it may 22 be very hard on members of the public to come question 23 Mr. Kleinberg in that part of the meeting and then stay, 24 come back immediately thereafter to do public comment. 25 CHAIRMAN BAGOFF: Trying to be expeditious

101 1 with the objectors and the applicant and the board 2 members. The holidays are coming. 3 MR. AFRAN: That's not the issue. 4 CHAIRMAN BAGOFF: Of course it's the issue. 5 We're trying to be reasonable with everybody. 6 MR. AFRAN: I understand. I am concerned, 7 people have been here for five years participating in 8 this part of it, then leave out of necessity and then 9 not be able to give public comment. Is there going to 10 be another night for public comment? It is a bit much 11 to expect people to stay from 1:00 o'clock to 9:00, 12 10:00 o'clock to get to the right of public comment. 13 MS. MCGOVERN: Well, there's two sessions, 14 there's going to be at least an hour break in between 15 and we have other business to do first thing starting at 16 6:00 o'clock so that other business will be about an 17 hour or hour and half. So the public wants to go home 18 have dinner, do other things, there's that time. It is 19 not straight through. 20 MR. AFRAN: That's fine and so we're -- 21 that's not the issue. The issue is that the public has 22 an absolute statutory right to comment. There's case 23 law for example on objectors experts not being put very 24 late at night. This is a sort of similar species of 25 problem. The people could be here for five hours, four	103 1 MR. ALPER: Do you think it will be long 2 enough with Mr. Kleinberg? 3 CHAIRMAN BAGOFF: I don't think Mr. 4 Kleinberg is going to testify for four hours. 5 MR. AFRAN: Here's the problem. The board 6 members are public officials, if the board schedules a 7 meeting at 1:00 o'clock and that means people give up 8 time from work, that's the burden one assumes of the 9 public official. However, the public normally comes at 10 night when they're done with work, when they're done 11 with feeding their kids and participate. That's the 12 point of the citizen process. Now they're told well, if 13 we finish in an hour at 1:00 to 2:00, public comments 14 starts and by 5:00 o'clock if you didn't get to go and 15 you have to and you can't be there in the middle of the 16 afternoon, you lose your public comment. This is a 17 problem. 18 MS. MCGOVERN: We never said it was going to 19 end with the last person. 20 MR. AFRAN: Let me be clear about this. If 21 people are here -- if people cannot be here in the 22 afternoon because they have childcare duties or work, 23 your public officials may have no choice but to do that, 24 but the public doesn't expect to give up their job to 25 come here. That's not the way it works.
102 1 hours doing this phase of it, then they're expected, if 2 they want to exercise their public comment rights, after 3 they've been told for a year and half coming, they must 4 now devote another five hours that same day. That's 5 frankly not reasonable. 6 CHAIRMAN BAGOFF: That may not be all in one 7 night. 8 MR. AFRAN: I am saying, we need to 9 understand if there's another night for public comment, 10 otherwise it's not going to work. 11 CHAIRMAN BAGOFF: If there's enough public 12 comment, of course there will be. 13 MR. AFRAN: No, but if people have to leave 14 after the first session and can't come back that night 15 because their children or whatever, it may be, they're 16 going to be deprived their right to public comment. 17 They have been told for a year and a half it's coming 18 and now they're told you get it only if you stay for a 19 marathon session. That's not how the law works. 20 MR. CARDOZA: He's saying at the end of that 21 night it appears there's no more public comments someone 22 that had already left would want to come for another 23 night. 24 MR. KLEIN: Let's go ahead and plan for a 25 second night.	104 1 CHAIRMAN BAGOFF: They come in the evening. 2 MR. AFRAN: Just a moment. That's fine. 3 However, if people are here in the afternoon and the 4 only way to get their public comment is to go through 5 this marathon session, that's equally unfair. I am 6 saying we have to build in another night to make sure 7 people aren't deprived. They've been told for a year 8 and half they're getting public comment. We can't 9 structure this part of a marathon session, many people 10 may not be able to attend. It's very simple. We are 11 going to need another night. That's all I am saying. 12 CHAIRMAN BAGOFF: Why don't we see how much 13 public comment there is in the evening. 14 THE PUBLIC: Give us a date and a time 15 certain for people to show up. That's all we're asking. 16 I am near the microphone. We are asking that we be able 17 to publish a date and time certain for public comment to 18 begin when people come. They know when to come. 19 CHAIRMAN BAGOFF: December 3. 20 THE PUBLIC: There's closed session first. 21 There's a closed meeting before. People get here 7:00 22 o'clock they sat here four hours tonight. Okay. 23 Because the public can show up we would like to be in a 24 position to say on a time and date certain this is when 25 public comment will begin.

105 1 CHAIRMAN BAGOFF: December 3. 2 MR. AFRAN: I want to clarify, if people are 3 here first session -- 4 COUNCILWOMAN SCARPA: I don't think this is 5 fair to board members like me who cannot be here. This 6 is not fair to me as a board member because I would like 7 to be here and I would like to hear all the testimony 8 and I can't be here. 9 MR. AFRAN: And the reactions of a witness 10 not just the words on paper are fundamental for 11 evaluating their credibility. Those board members who 12 are working and can't here in the afternoon miss that 13 and there's no way to replace it. It's not appropriate 14 to do it in the afternoon and continue as it's been. 15 CHAIRMAN BAGOFF: Don't tell me what's 16 appropriate and not. 17 MR. AFRAN: I am stating as a matter of law, 18 equity and my clients interest. 19 CHAIRMAN BAGOFF: Matter of law -- please 20 provide the law that states that the board cannot pick a 21 time. 22 MR. AFRAN: The board normally meets at 23 night, people have been coming here for a year and a 24 half at night. 25 CHAIRMAN BAGOFF: We've had meetings at	107 1 CHAIRMAN BAGOFF: You used the word rushing. 2 We are not rushing. 3 MR. AFRAN: Every single session in this 4 case has been at night, now we're getting to a critical 5 witness whom you said Mr. Bagoff -- Dr. Bagoff, was an 6 independent witness who is going help us resolve this 7 and now we're doing it in the afternoon when one or more 8 board members can't be here. If this witness is as 9 critical as you said, why are we not doing it at the 10 regular time? 11 CHAIRMAN BAGOFF: Regular meeting, so we'll 12 do December 3 at 6:00 o'clock and there will be other 13 business to be done. 14 MR. AFRAN: At least -- so we're going to 15 start this witness? 16 CHAIRMAN BAGOFF: One person at a time. 17 MR. CARDOZA: In that case public comment 18 would be unlikely on December 3. 19 MR. AFRAN: I know. It would be unlikely to 20 do public comment, we need another night. But I think 21 that's better than having members not being here and 22 having members of the public having to leave after many 23 hours. 24 MR. CARDOZA: The intent was for it to have 25 a positive impact, the reaction was unexpected.
106 1 6:30, 6:00 o'clock. The board has met different times. 2 MR. AFRAN: That's at night when people are 3 done with work or taking care of their children and 4 there's other spouses. 5 CHAIRMAN BAGOFF: Mr. Afran, people said 6 they can't come at night, so we have had a little of 7 everything. 8 MR. AFRAN: That's fine. I'm just saying I 9 think you need to be willing to have another night. I'm 10 also concerned what your councilwoman just said. She's 11 now, after a year and half of this, we're rushing to 12 finish, not that we haven't been doing the job properly 13 all along, but now we're trying to get it done by 14 squeezing in an afternoon session on a critical witness 15 and at least one or more members won't see that witness 16 and his reactions. That's a problem. 17 CHAIRMAN BAGOFF: I don't think that we're 18 rushing anything after 23 meetings. 19 MR. AFRAN: I didn't say that. I said we're 20 rushing to squeeze this in. 21 CHAIRMAN BAGOFF: You want the court 22 reporter to read that back to you. 23 MR. AFRAN: I said, not that we have not 24 been using our time well, I added that in. So please 25 don't alter what I said.	108 1 MR. AFRAN: I didn't mean that, but I have 2 to point out something. I have clients who for a year 3 and half have been told repeatedly, you can't say 4 certain things because your public comment time will 5 come. They came here last time for an announced public 6 comment but it couldn't happen. So they have been told 7 repeatedly, no, you can't say that now. Your time will 8 come. That time has to be done in a way that avoids 9 problems, that's what I'm saying. And I didn't mean to 10 be that energetic in what I said, but I have clients who 11 expect that interest to be defended. 12 CHAIRMAN BAGOFF: On December 3 the board 13 has other business, we will try and get to public 14 comment. That's the best we could do. We do have other 15 business. 16 MR. AFRAN: I know. 17 CHAIRMAN BAGOFF: Okay. 18 THE PUBLIC: Can I ask a point of 19 clarification. 20 CHAIRMAN BAGOFF: Not yet, please. Enough 21 cross talk. 22 The next regular Planning Board meeting will 23 December 3 at 6:00 o'clock in council chambers. Okay. 24 Now, go right ahead, sir. 25 THE PUBLIC: I want to ask, I want to make

1 sure I understand expectations that we will be able to,
2 the public can ask questions to the testimony tonight
3 and then later, if there is time, there will be public
4 comment?

5 CHAIRMAN BAGOFF: If there is time to have
6 comments we will. If not we will have another meeting
7 to ask Mr. Kleinberg questions. We are going to try to,
8 again, we have other regular business. Okay. So we are
9 going to try and accommodate everybody for everything.

10 MR. AFRAN: Thank you.

11 MR. CARDOZA: Point of clarification. So
12 the concern seems to be that, you know, you want a
13 definitive date when we're saying this is the beginning
14 of public comment. If the public comment begins at the
15 end of other business they're certainly will be another
16 date that specifically says this is public comment.

17 THE PUBLIC: That would be wonderful. And I
18 just have a quick question. Is there any visibility to
19 if December 3 is a meeting, it will be a meeting, is
20 there any idea there might be one more this year at
21 least?

22 CHAIRMAN BAGOFF: We don't know. We have to
23 arrange for the zoning officials, we have to see if the
24 council chamber is available, so we're working on it.

25 MR. AFRAN: Thank you very much for altering

1 the schedule. Appreciate it.

2 (Hearing concludes at 11:10 PM.)

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