

Indexed as:

Vodnak v. North Vancouver (District)

Between

**Ivo and Linda Vodnak and Harvey Montague John Lawson,
Plaintiffs, and**

The Corporation of the District of North Vancouver, Defendant

[1993] B.C.J. No. 1989

17 M.P.L.R. (2d) 159

43 A.C.W.S. (3d) 159

Vancouver Registry No. A912148

British Columbia Supreme Court
Vancouver, British Columbia

Harvey J.

Heard: February 22 - 26, March 1 - 5, March 29 - April 2,
June 7 - 11 and September 20 - 23, 1993.

Judgment: filed October 7, 1993.

(86 pp.)

Copy currently lacks 6 Appendix pages; available from Library or Registry.

Counsel for the Plaintiffs: J.N. Cram and P. Hood.

Counsel for the Defendant: S. Margolis, H. Meyers and J. Sigurdson.

1 HARVEY J.:-- The plaintiffs Vodnak are husband and wife and are registered owners of Lot 4 (1650 Birchlynn Place) having taken possession of the property and dwelling thereon with their

children on May 1, 1989. The plaintiff Lawson is the registered owner of Lot 3 (1642 Birchlynn Place) having taken possession of the property and dwelling thereon with his wife and children on May 22, 1979. Lots 3 and 4 form part of a 13 lot subdivision located in the District of North Vancouver. The defendant, The Corporation of the District of North Vancouver (the "District"), permitted development of the Birchlynn subdivision in the late 1950's. It retained Lot 5. Lots 3, 4 and 5 of the subdivision are located on a bluff on the west side of Lynn Canyon which bluff at that time was approximately 100 feet above the bed of Lynn Creek.

2 The plaintiffs say that in early December 1990, while they were in occupation of their residences on the said lots, the slope below the lots failed resulting in damage to and the loss of their residences, damage to and the loss of their property and losses attendant thereto. The plaintiffs claim general damages for disturbance and inconvenience. The plaintiff Ivo Vodnak claims damages for mental and emotional distress and injuries. In relation to the conduct of the District, the plaintiffs advance claims for punitive and aggravated damages.

3 The plaintiffs say their losses are as a result of the negligence of the District which negligence is particularized in the Amended Statement of Claim. The plaintiffs say that at the material times the District owed them a duty of care to prevent failure of the slope or to warn the plaintiffs and other prospective owners when the District knew or ought to have known that the slope below the plaintiffs' property was unstable.

4 The position of the District in defence of the action requires consideration of what occurred before and after the commencement of the trial on February 22, 1993.

5 On Monday, February 22, 1993, Mr. Cram, counsel for the plaintiffs, stated that on Friday, February 19, 1993, he was informed by counsel for the defendant that liability was admitted on behalf of the defendant in relation to the claims of the plaintiffs Vodnak, leaving quantification of their claims remaining in issue.

6 The trial proceeded with the evidence of Mr. H. Henn being heard on February 22nd, followed on February 23rd and 24th with the evidence-in-chief, in part, of the plaintiff Ivo Vodnak.

7 On February 24th, counsel agreed to interrupt the evidence-in-chief of Mr. Vodnak to accommodate the taking of the evidence of Mr. A.E. Dahlman, Professional Engineer, an expert witness in the specialty of geotechnical engineering and soils analysis. A copy of Mr. Dahlman's report had been provided to counsel for the District towards the end of January 1993. Mr. Dahlman was examined in chief and cross-examined with regard to the contents of his report dated January 19, 1993.

8 When the trial resumed at 2:00 p.m. on February 24th, Mr. Margolis, counsel for the District, applied on behalf of the District to withdraw the admission of liability made on February 19th related to the plaintiffs Vodnak. Mr. Margolis submitted, inter alia, that it was not until the evidence given by Mr. Dahlman in cross-examination at that time taken together with the findings and

opinions expressed in a certain report prepared in January 1961 (the Ripley Report) were considered by him that he appreciated that the District may have a tenable defence to the claims of the plaintiffs Vodnak related to the differences in the causes of the slides which occurred in the area in question commencing in January 1961 and in December 1990.

9 Mr. Cram strongly opposed the application for withdrawal of the admission of liability on a number of grounds including prejudice suffered by the plaintiffs Vodnak should I allow its withdrawal.

10 I heard the submissions of counsel with regard to the application for withdrawal of the admission on February 25th. I allowed Mr. John Dives, counsel for the District, to represent the District on the application. I delivered oral reasons on February 26th in which, inter alia, I held:

- (a) the admission could not be withdrawn without leave of the court because the admission had to be considered as tantamount to or the equivalent of a judicial admission;
- (b) the circumstances indicated there is a triable issue which ought to be tried in the interest of justice apart from its validity; and,
- (c) that I was able to impose conditions to prevent any prejudice occurring to the plaintiffs Vodnak by reason of the withdrawal of the admission.

11 In reaching my decision I took into consideration Mr. Dives' submission that the District was prepared to continue on the basis that the act of the building inspector of the District in issuing a second building permit related to the Vodnak property in 1964 was done without the exercise of reasonable care, giving rise to the prospect of a finding of negligence on his part but leaving the question of causation, i.e., whether such negligence if so found on the part of the building inspector was the cause of the damage for determination by the court.

12 In keeping with this submission, the District made the following admissions:

- "1. With respect to the claim of the Plaintiff, Ivo Vodnak only, the Defendant concedes that the Building Inspector in issuing a Building Permit in 1964 for the construction of a home at 1650 Birchlynn Place, failed to exercise reasonable care having

regard to the state of affairs then existing, particularly the 1961 slope failure caused by flooding of Lynn Creek undercutting the bank.

2. This admission is made without prejudice or admission to the claims advanced by the other Plaintiffs to this action."

13 Further, the District admits that in relation to the plaintiffs Vodnak there was the existence of a private duty of care and a breach of that duty.

14 The position of the District in defence of the claims of the plaintiffs is that the causes of the slope failures in January 1961 and December 1990 are different and unrelated. The District says the January 1961 slope failures were caused by erosion resulting from the flooding of Lynn Creek undercutting the river bank referred to as river hydraulics. The District says the December 1990 slope failure was caused by deep-seated failure in the bank triggered by a build up of ground water pressure.

15 The plaintiffs' position, as submitted by Mr. Cram with regard to the causation defence now raised by the District, is that while accepting that the triggering cause of the December 1990 failure of the slope may have been due to an increase in ground water pressure within the bank, the real (effective) cause was the instability of the slope and bank caused by the January 1961 event and the failure thereafter of the District to obtain and consider a geotechnical study, including soils analysis, and to implement remedial measures necessary to stabilize the slope. He says the causation defence alleged is without merit.

16 In relation to the plaintiffs Vodnak, the District says that nothing flows from the breach of the building inspector's duty to exercise reasonable care in issuing a building permit in 1964 for the construction of a second residence at 1650 Birchlynn Place.

17 In relation to the plaintiff Lawson, the District says there was nothing about the condition of Lot 3 following the 1961 failure of the slope which would have given rise to any concern on the part of a geotechnical engineer with respect to the stability of the property and, accordingly, the District says it was not negligent in allowing completion and occupation of the residence on Lot 3 following the 1961 failure.

18 In the particular circumstances of this case, it is necessary to review as best as one can at this late date the significant events that occurred in the development of the area in question. In this perspective it is useful, before considering further the historical background, to refer to certain of

the documentary evidence adduced at trial. In this regard, attached as Appendix A to these reasons, are the following:

1. Plan details of riverbank at location of sewage plant. Ripley and Associates, April 10, 1961.
2. Reproduction of photograph. Ripley and Associates, January 1961.
3. Site Plan. SRK-Robinson Inc., December 13, 1990.
4. Site Plan. SRK-Robinson Inc., January 10, 1991.
5. Site Plan. SRK-Robinson Inc., January 10, 1991.
6. Site Plan. Trow Consulting Engineering Ltd., May 21, 1991.

19 I will in the course of these reasons make reference to these plans and the photograph. There are as well two aerial photographs (Exhibits 18 and 22) which graphically illustrate the condition of the slope, the position and condition of the fallen sewage disposal plant, and the position of what is now the Lawson property (the dwelling on Lot 4 having been removed on or about February 2, 1961 following approval by the District).

THE PERIOD FROM THE MID-50'S TO 1964

20 Sometime in the late 50's, the District permitted a residential property development consisting of 13 lots on the west bluff of Lynn Creek known as Birchlynn Place Subdivision. Early in 1956, before development of the subdivision proper took place, a sewage treatment plant was built on the edge of the west bank 55 feet above normal river level. At that time, the top of the bank was 100 feet above normal river level. When the subdivision proper was developed, the dwellings situate upon the lots were connected to the sewage treatment plant.

21 In January 1961 during a period of high water flow of Lynn Creek, the sewage plant collapsed and fell to the bottom of the bank. The sewage plant failed in two distinct stages. In the opinion of Ripley and Associates, Engineering Consultants, retained by a firm of insurance adjusters to investigate the failure of the sewage disposal plant, partial undermining and initial damage to the sewage disposal plant was caused by the first flood crest on January 10, 1961. At that point in time, a comparatively small part of the plant was totally lost although there was serious undermining of the largest component referred to as a clarigester. On January 15, 1961, a second and larger flood crest caused major erosion of the bank and completely destroyed the plant. At this point in time the dwelling on Lot 4 had been completed. The dwelling on Lot 3 was partially completed with more construction and corresponding inspections to take place and an occupancy permit to be issued. A stop work order was issued by the District related to the dwelling on Lot 3.

22 The evidence of what occurred at this time, including to 1964, comes from a number of

sources but essentially as a result of the investigation concerning the failure of the sewage disposal plant conducted by Ripley and Associates. There is the evidence of Mr. Henn, a contractor who was on the site within a month of January 15, 1961, and that of Mr. Lubensky the owner and occupier of Lot 9 of the subdivision purchased by him with a dwelling thereon in 1959. Mr. Lubensky was then and still is in occupation of his property.

23 There is also available certain minutes of the meetings of council for the District commencing on January 17, 1961 through to February and March 1964.

24 The report of Ripley and Associates is dated April 14, 1961. For reasons which can only be speculated upon at this time the report was not known to exist until recently and, furthermore, it was not produced to be available to the parties until an order of this court was made for production on February 5, 1993. In the body of the report the author makes reference to the fact that Mr. G.W. Meckling, then the District Engineer for the District, gave his co-operation and provided the information and data requested of him.

25 The Ripley and Associates report, appropriately in my view, is concerned with the cause of the failure of the sewage disposal plant and whether the failure could have been foreseen and prevented. It also considered whether operations to divert the river away or protect the bank during the period between the two floods should have been attempted by the District. In this regard, its examinations, including of soil conditions, were confined to the surface of the eroded bank. There is no reference in the report to examination of or testing procedures of any kind related to the said Lots 3 and 4. Ripley and Associates did examine the soils composing the bank. They found the top of the bank to consist of a thin top layer of gravel underlain by a 40 foot thick sand layer with a gravel and sand layer being non-cohesive and highly erodible materials. Below the 40 foot thick sand layer, they found a 20 foot thickness of glacial till describing it as harder and more cohesive than the gravel and sand but because of its predominantly sandy and silty composition, it too would be sensitive to softening when wet and would be readily erodible by running water. (See Appendix A).

26 It is apparent from the report that Ripley and Associates had access to design drawings for the sewage disposal plant. Ripley and Associates noted, inter alia, that no soil data are given on the design drawings commenting that such information would normally be determined at the time of design and, furthermore, for a sewage plant of this importance and cost, testing should have taken place in order to check the foundation and stability conditions. Ripley and Associates found no evidence that such information was obtained.

27 Ripley and Associates commented upon the erosion of the bank by water spillage referring to the effluent pipe carrying the sewage plant discharge water down the bank. They commented this water spillage would contribute to erosion and softening of the bank soils further precipitating the danger of plant failure.

28 Ripley and Associates considered that the site for the sewage plant at a high elevation on the

edge of the bank was not a suitable location. Lynn Creek is referred to as a mountain stream subject to flash flooding during torrential rain and that at the location of the sewage plant the river has incised a rather deep channel leaving high banks on either side. They comment further that the site chosen for the plant appears to be subject to attack by the river regardless of any other operations downstream, referring to the bank on which the plant was situated having been formed into its steep condition by the cutting action of Lynn Creek in the past. This can be seen graphically in the aerial photographs taken in February 1961. In its conclusions, Ripley and Associates state that the sewage plant failed because it was located at a vulnerable point on the riverbank that the river was bound to attack sooner or later. They considered the site chosen for the sewage plant would obviously be the first point of attack of the river. Finally, I quote from a third of the major conclusions made by Ripley and Associates:

"3) We question the soundness [sic] of the decision to locate the plant at this point of river attack and at a position high up on the edge of the bank where the plant could be undercut. The problem seems to resolve itself into the question as to whether, within reason, the failure could have been foreseen or prevented. The decision as to location would normally be an engineering decision. The site was apparently chosen for convenience to the housing project, as a desirable location for the sewage system, and perhaps for reasons of favorable cost. However, for such a site at the top of a steep bank and at a point critical to attack by the river, it would be conventional good practice at the time of design to obtain specialist review by a foundation engineer as to the stability of the bank and by a river hydraulics engineer as to the attack by the river. It appears that this was not done. Our opinion is that, if suitable consideration had been given to the bank stability and river conditions, the behaviour could have been predicted at the time that the plant location was under construction."

29 I refer next to the minutes of meetings of council of the District filed in evidence.

30 On January 17, 1961 there was a meeting of the committee of the whole for the District which meeting was convened to discuss steps taken to meet the problems arising from the collapse of the sewage disposal plant. In the minutes of that meeting, reference is made to the defendant's position that it had no liability with regard to the collapse of the disposal plant. The minutes reflect the defendant's concern, however, with regard to "possible litigation". At about this time, the District was in serious discussion and negotiation with the developer of the Birchlynn Place Subdivision.

31 The minutes of the regular meeting of council for the District held on January 24, 1961 contain a reference to the District considering a situation hazardous to life and property existing at the site.

32 The minutes of the regular meeting of council for the District held on March 14, 1961 contain a reference to a letter being received from the Keith Lynn Rate Payers Association expressing concern with the Westlynn Sewage Plant.

33 The standing committee minutes dated March 21, 1961 make reference to a petition having been received from the residents of Westlynn requesting consideration for erosion control on the bank of Lynn Creek at the slide area by construction of a permanent retaining wall. A proposal appears to have been under consideration with the minutes related thereto reflecting the following:

"In the absence of expert soil advice, it is believed that the bank, at its present slope, would not be held by a wall."

34 The minutes go on to reflect that consideration of the proposal be tabled until a feasibility report is received from the engineer, such report to include recommendations of a soil expert. There is also reference in the minutes to the manager of the District approaching "the proper authorities in the Provincial Government for the purpose of seeking immediate assistance in estimates, survey and analysis of the problem for a recommendation on the solution".

35 The minutes of meeting of the committee of the whole of the District dated April 4, 1961 relate to negotiations between it and the contractor in connection with the subdivision in question. At that time, the developer was apparently being "blocked" by the District in relation to its refusal to issue building permits. The minutes of a meeting of the committee of the whole for the District held on April 12, 1961 include therein the terms of a "settlement" negotiated between the District and the developer whereby \$300.00 out of each lot sold was to be placed in a trust account to assist in the financing for the sewer trunk then being contemplated. It was expected that the revenues obtained from the sale of such lots would produce approximately \$75,000.00 to pay the contractor for the sewer trunk and that at the expiration of a two year period, the contractor would be in a position to pay the District the sum of \$75,000.00. In these minutes, it is indicated the reeve considered the position of the developer was not acceptable. The meeting concluded with the direction that the reeve communicate further with the representative of the developer. The minutes of the special meeting of council of the defendant dated April 18, 1961 confirm an agreement was reached between the District and the developer with respect to the sewer facilities to service the Westlynn Subdivision (of which the Birchlynn Subdivision was a part).

36 There is no evidence that the recommendations made during the March 21, 1961 meeting of the standing committee of the District were ever followed. In this regard, there is no evidence that a feasibility report was prepared and received from the District Engineer, such report to include recommendations of a soil expert or whether the manager of the District approached the Provincial Government for the purpose of seeking assistance related to a solution of the problem then at hand.

37 The evidence is silent as to anything further happening from the perspective of the District until late February 1964 when the District issued a building permit for Lot 4 to a construction company. The District had some time earlier removed the stop work order, completed the remaining

inspections and issued an occupancy permit in relation to the dwelling on Lot 3.

38 In his evidence at trial Mr. Harry McBride, P.Eng., Deputy Director of Engineering Services of the District, volunteered that it would be inconceivable that the District in such circumstances did not at that time obtain the recommendations of a soil expert as directed. In his evidence, Mr. Eivemark, Senior Geotechnical Engineer for SRK-Robinson Inc. ("SRK"), stated that he had been led to believe by the District a geotechnical study including soils analysis had been done after the January 1961 slope failure and before building permits were issued. In this regard, he agreed that a geotechnical study including soils analysis was indicated before building permits should be issued.

39 Mr. Margolis, counsel for the District, submits that in the absence of evidence to indicate one way or another what occurred, the evidence is "neutral" as to whether such a study was requested and a report made. I do not agree. In my view, the inference to be drawn from the evidence as a whole and I so find is that such a study was not obtained. If such a study was made and a report was obtained and considered, the probability is that there would have been some reference made to it in the minutes of council. In my view, the evidence supports the submission that without having requested and obtained such a soils analysis, the District proceeded with the issuance of a second building permit in relation to Lot 4 and allowed the completion of the dwelling on Lot 3. It is also apparent that the District did not itself obtain or require the contractor who constructed the sewage disposal plant on the slope to obtain a soils analysis by a geotechnical engineer in relation to construction of a sewage disposal plant.

40 Mr. Henn, then an equipment operator, was instructed by his employer in late January 1961 to go on to Lot 4 and to break up the foundation supporting the dwelling thereon which was about to be moved to another lot in North Vancouver. He was also to level the lot. The dwelling on Lot 4 was moved to 1350 East 29th Street in North Vancouver on February 2, 1961.

41 When Mr. Henn came on to Lot 4 with his equipment in February 1961 he observed at that time that the foundation of the dwelling had cracked through its length. He observed the crack in the earth leading to the foundation and going beyond it to be a good one-half inch in width. He observed the crack in the earth in the backyard to extend a distance of 10 to 20 feet in the direction where the sewage disposal plant had been located. He could see the crack from a distance of 20 feet. He was "nervous" to put his equipment on top of the crack but did so breaking up the concrete foundation and thereafter covering the lot with soil.

42 Mr. Henn returned to the site after December 1990. He said the largest crack of the numerous cracks he observed was exactly the same crack he observed in February 1961, indicating the location and length of the crack on Exhibit 18.

43 I accept Mr. Henn's evidence with regard to the existence of the crack he observed on Lot 4 in February 1961 and the cracks he observed on the same lot in December 1990, the largest of which he says was in exactly the same position and was the same crack he observed in 1961.

44 The District submits there is no evidence that it knew of the existence of the crack observed by Mr. Henn in February 1961. I find representatives of the defendant were probably on the site after mid-January and up to mid-February or later for purposes related to assess the viability of the properties forming Lots 3, 4 and 5. In this regard, a representative of the District was on the site to put a stop work order on the dwelling under construction on Lot 3. In these circumstances, I draw the inference that the District was aware, or ought to have been aware, of the nature of the crack observed by Mr. Henn on Lot 4 which was apparent and was there to be seen well before it was obliterated in mid to late February 1961.

45 Mr. Lubensky stated that as a result of the flooding which occurred in January 1961 he lost approximately two feet of his property including a "corral" type of fencing as well as the loss of a further 40 feet to the top of the bank. At the rear of his property following the flooding he described what was then a 100 foot near vertical drop to the creek. The Lubenskys were obviously concerned with the danger presented by what had occurred particularly as they had a five year old boy.

46 Mr. Lubensky attended upon the offices of the District requesting an opportunity to speak with the District Engineer. He was told on two occasions at that time that the District Engineer was not present. Mr. Lubensky was not prepared to accept such being the case, persisted, and eventually spoke with the engineer, Mr. Meckling, whom he found to be evasive and non-committal.

47 In the summer of 1961, Mr. Lubensky observed a "cat" working at the creek bed level moving about materials. He is not aware of any soil testing being conducted in relation to his or the other properties abutting the bank in the Birchlynn Subdivision. He took part in the petition addressed to the District related to the bank being supported by some form of wall.

48 A few years later (1964) he observed what he describes as another house being built on Lot 4 and expressed the view that he did not want to be the sucker to get that house.

THE PERIOD FROM 1981 TO 1989

49 On October 31, 1989, Mr. Lawson observed the water level rise approximately four feet in Lynn Creek until it became a raging torrent. Some years earlier, he had observed that a berm had been rebuilt on the east side of the creek in relation to a district landfill but that nothing had been done in relation to the west side or bank, the gravel and river rock berm having washed away over a period of time.

50 Mr. Lawson expressed his concerns firstly to Mr. McBride and then to Mr. Bell, the Mayor. Insofar as he was able to determine, the District did nothing to alleviate his concerns.

51 In 1986 Mr. Lawson noticed a hairline crack occurring in one part of the foundation of his dwelling.

52 In June 1989 Mr. Vodnak expressed concern to the District with regard to the movement of a

fir tree and other trees on the bank below his property with regard to bank erosion and sluffing. Mr. Jensen, Assistant Maintenance Co-ordinator of the District, attended at the site on several occasions. He instructed Mr. Vodnak not to remove a tree or trees or to attempt to replant the area, such activity requiring a permit. In a report made December 1990, Mr. Jensen, referring to his visits to the site in June 1989, commented there were only a few trees showing signs of slope creep and no stress cracks were visible from the surface of the property.

THE PERIOD DECEMBER 1990 TO MARCH 1993

53 On Friday, December 7, 1990 Mrs. Vodnak noticed the ground beside their driveway had cracks in it. She reported her observations to Mr. Vodnak on his return from work that evening. On the morning of December 8th, in daylight, Mr. Vodnak observed a noticeable crack, approximately one inch wide with deformity at places of four to five inches, extending a distance of approximately 200 feet in length across his property and into the Lawson property. I pause here to comment this crack is referred to throughout the evidence as the main or major tension crack. It is indicated as such on the site plans contained in Appendix A and numbered 3, 4, 5 and 6. On the site plan numbered 3 dated December 13, 1990, the crack is referred to as "longitudinal crack". It is described in the subsequent engineering documents as the main or major tension crack. In a letter to Mr. Lawson dated April 23, 1991, the District's consulting engineer described the crack to be "near vertical and extends to a depth of about 70 feet ... maybe open to a depth of 8 to 10 feet below existing ground surface".

54 Mr. Vodnak was understandably concerned about the crack and the continuance of the movement of the property. On Sunday, December 9, 1990, he conferred with the Lawsons. On Monday, December 10, 1990, they jointly called the District informing it of their concerns. Mr. Jensen and Mr. Lui, a Professional Engineer employed with SRK, attended the site. At this point in time, the District had retained SRK to make a "preliminary assessment and cost estimates".

55 SRK's preliminary geotechnical evaluation of slope stability is dated December 14, 1990. It recites in some detail the damage existing as of that date to the properties and to the dwellings. Later in the report it is stated:

"Based on the surface features observed behind the crest of the hillside, SRK believes that the type of movement is a deep-seated failure. The movement is driven by seepage or groundwater flow and was probably triggered by infiltration of surface water from recent heavy rainfalls."

56 The report concludes with a number of recommendations to identify the causes of the movement and to prepare designs for remedial measures to stabilize the movement.

57 Mr. Vodnak says he did not receive a copy of this report at that time. He says what next occurred was the receipt of the District's letter dated December 17, 1990 directed to the Vodnaks

and the Lawsons. In that letter, there is reference to the SRK report dated December 14, 1990. The letter concludes as follows:

"We strongly recommend that you obtain independent, professional engineering advice on means of rectifying the problem of slope movement and possible damage to your residences. We further recommend that you contact your insurers and the Provincial Emergency Program to protect your interest in any financial assistance that may be available from them. To that end we have attached copies of the conditions of assistance from the Provincial Emergency Program and the application forms to be submitted to the Province.

From SRK-Robinson's investigation and technical consultation we must advise that the slope movement appears to be due to ground water conditions and flows that are naturally occurring and are not attributable to any municipal services or to affects from Lynn Creek."

58 The Provincial Emergency Program ("PEP") referred to in the District's letter of December 17, 1990 is a Provincial program operated out of the Ministry of the Solicitor-General. Its manager at that time and now is Ms. K.A. McDougall who gave evidence at trial.

59 The purpose of the Program is to provide disaster financial assistance and to aid response to and recovery from a disaster or emergency which victims could neither prevent nor reasonably insure against. Disaster includes such events as floods and landslides.

60 Unconditional assistance grants by the Province as a result of a disaster are available to individuals and Municipalities. With regard to individuals there is a limit per claim of \$100,000.00 less applicable deductibles. With regard to a Municipality, there is no such limit. When claims are made in relation to a disaster and eligibility is confirmed, funds are provided irrespective of fault. In this regard, in the first instance, it is not for PEP to consider who or what is to blame for the disaster under consideration. As Ms. McDougall put it in her evidence "rather than have claimants whose eligibility for assistance has been confirmed suffer by denying assistance until responsibility has been determined, we make payment". Ms. McDougall went on to describe briefly circumstances under which the Program would look to reimbursement of monies paid. In this perspective, for example, by way of letters dated March 3, 1993 addressed to the Vodnaks and the Lawsons, Ms. McDougall confirmed that should they be successful in this action against the District, the plaintiffs are required to refund any amounts paid to them by the Province "for items which you have also received reimbursement through legal action".

61 I will return to Ms. McDougall's evidence later in these reasons.

62 On December 18, 1990 the plaintiffs met with representatives of the District and Mr. Eivemark of SRK to discuss SRK's preliminary geotechnical assessment of the ground movement and settlement on Lots 3 and 4. Mr. McBride, one of the representatives of the District, also confirmed that communication had been made with PEP and that a senior insurance adjuster acting for PEP would be attending the site the next day.

63 During this meeting the plaintiffs expressed concern related to the condition of their properties with particular regard to their dwellings and the safety of their families. Mr. Eivemark stated to them at that time that having regard to the state of movement of the property in his view there was no immediate concern for the safety of their houses.

64 On December 19, 1990 at approximately 11:00 a.m. the plaintiffs, representatives of the District, and Mr. Len Johnston, retained by PEP, met at the site. Mr. Johnston is employed by the firm of Morden & Helwig Insurance Adjusters. He is a senior adjuster with some 37 years experience, 15 to 20 of those years specializing in subsidence claims in southern California. He estimated that he had been involved in the adjustment of approximately 200 such claims. Since his return to Canada in 1988 he has been engaged in the adjustment of large and difficult claims including those of this nature.

65 As a result of what Mr. Johnston was able to observe visually at that time and because of his concern, he informed Mr. McBride that he would like to meet with him later in the day without the plaintiffs being present. It was agreed that such a meeting would take place in the engineering conference room of the District that afternoon. This meeting took place at 1:00 p.m. at the District's premises. Mr. Johnston believes about 10 people were present. He requested the meeting be held with prejudice because when he attended Mr. McBride inquired of him what his position was and why he had wanted the meeting. Mr. Johnston responded by stating that he thought the District was going to have serious problems. When questioned why he held such views Mr. Johnston said:

"Well, from my experience on a property like this, I can't believe how you could have sold or even approved to have a house built on this property, and as far as I am concerned, My Lord, if you don't mind me, I will repeat exactly what I said, I said, 'As far as I'm concerned, I think you're in deep shit.'"

66 When questioned further, Mr. Johnston expressed the opinion that the property was in peril of sliding down the canyon and that from his experience it was his educated guess that there should be something done immediately. Mr. Eivemark was present and apparently indicated his solution

would be to drill holes to find out where the water is to see if the water could be drained off the bottom of the hill. Mr. Johnston expressed the view that this would be "like putting a bandaid on a cut throat". He then went on to describe from his experience what might be done utilizing a "deadman" from which rebars would be run under the property to connect with a solid concrete retaining wall. Mr. Johnston expressed the view that you would never want to do this because the cost would be exorbitant, potentially up to \$250,000.00.

67 Mr. Johnston indicated that as the meeting progressed he felt the atmosphere deteriorated. He considered the representatives of the District and particularly Mr. McBride were arrogant about the matter. Mr. Johnston had considered Mr. McBride's attitude to be arrogant at the meeting earlier in the morning where the plaintiffs were present. Mr. Johnston based his assessment of Mr. McBride's position, in part, because at a point in time during the first meeting, Mr. McBride indicated to the plaintiffs that it looked like they had a problem and that the District did not seem to be able to do anything for them.

68 Towards the end of the meeting with the representatives of the District and Mr. Eivemark at the District's premises, Mr. Johnston says that Mr. McBride stood up and said:

"You know gentlemen, I think we had better do something. I think we had better tell the Vodnak's that they had better evacuate the property because we don't want to be stuck for liability in case something happens and that house falls down the hill and then we'd be sued. So we had better get on it right away."

69 Mr. Johnston says he also questioned Mr. McBride at this meeting whether he had any records of any surveys done prior to allowing the permit to be obtained to build the dwelling on Lot 4 and that he also asked Mr. McBride if there were any impaction reports and any more tests made prior to permits being granted to which Mr. McBride said he did not know. Mr. Johnston said that he pursued these requests but was told that the District could not find any such records which seemed to him unusual because he expected it must have had something. Mr. Johnston says he also told Mr. McBride if his investigation confirmed what were his impressions that he would suggest PEP seriously consider litigation against the District. He said Mr. McBride made no response.

70 Mr. McBride was examined with regard to what his recollection was of this meeting. He stated he considered Mr. Johnston to be aggressive and blunt in his views which in turn may have led to him stating his position in what was taken to be an adversarial manner. Mr. McBride considered Mr. Johnston's views with regard to the potential liability of the District were not supported. He also commented that Mr. Johnston was highly critical of the recommendations made by SRK.

71 Mr. McBride had no recollection of Mr. Johnston using the somewhat pungent language referred to supra in describing the position of the District.

72 Mr. Eivemark was examined with regard to his recollection of this meeting. He stated he did not have a recollection of what was discussed in detail. His recollection was such that if Mr. Johnston's criticisms were of the nature described by him he thought he would have remembered such criticisms.

73 Whether as a result of Mr. Johnston's views and opinions expressed at the second meeting on December 19th or otherwise, the position of the District took a dramatic turn on the following day December 20, 1990. In a letter dated December 20, 1990 addressed to the plaintiffs, signed by Mr. McBride, the defendant, after reaffirming its position that the plaintiffs should obtain independent professional engineering advice on the means of rectifying the problem of slope movement and possible damage to their dwellings and confirming the involvement of Mr. Johnston on behalf of PEP, went on to state in the concluding portion of the letter the following:

"Given the nature of the problem and the consequences of an abrupt slope failure, it is the recommendation of the District of North Vancouver that the Vodnak's house should be evacuated immediately. The Lawson's house is on the opposite side of the surface failure zone from the Vodnak's house and does not appear likely to collapse even if an abrupt slope failure occurs. However, if the slope failure does occur then it is our recommendation that the Lawson's house should be evacuated at that time.

These recommendations are supported by SRK-Robinson, based on their assessment of the type of failure that appears to exist and the location of the surface failure visible on the ground. The failure to date has been slow and relatively steady but the potential exists for a sudden, major slide to occur and there is no means of predicting when or if this will occur. The risk involved is sufficient to warrant the immediate evacuation of the Vodnak's house and for the Lawsons to seriously consider whether they wish to remain in their house for the present."

74 Mr. McBride was asked what, if anything, caused the District to change its position related to occupation of the Vodnak property. He stated his decision to tell the Vodnaks to move and the Lawsons to consider moving was based upon the risk however slight of the "possibility of an abrupt cataclysmic failure". He stated that he considered the risk was not acceptable.

75 Mr. Eivemark was questioned with regard to the change in the position of the District from December 17th to December 20th as reflected in the letters to the plaintiffs, particularly since the recommendations made in the December 20th letter were referred to as "supported by SRK-Robinson". Mr. Eivemark had no comment other than to say that his firm could not interfere with the recommendations the client such as the District may make.

76 The response of the plaintiffs was immediate compliance with such direction. The Lawsons moved out of their residence on December 21, 1990. The Vodnaks, for whom the move was particularly difficult because they had a newborn child as well as their other children and another adult couple to accommodate, was accomplished over the next four days with the plaintiffs leaving the residence at approximately midnight on Christmas Eve. The Lawsons returned to their residence on March 7, 1991 where they have remained to this date. The Vodnaks never returned to their residence.

77 During the following week, SRK undertook some part of the remedial work recommended by it in its preliminary assessment, chiefly proceeding to drill test holes. In a document entitled "Status Report on Geotechnical Evaluation Birchlynn" dated December 28, 1990 signed by Mr. McBride, under the heading "Conclusion" the following is stated:

"The potential landslide problem is serious and could have major consequences for the two private properties affected; given this the District has acted with dispatch and, particularly given the time of year, both SRK-Robinson's and the Provincial Emergency Program's staffs have responded in a very positive and immediate manner. The residents have been offered the benefits under the PEP Disaster Relief fund which at this point is providing a per diem recompense for them. The situation is now one which is under the direction of PEP and the contract for services is between SRK and PEP; nevertheless, we will continue to monitor progress and provide any assistance that we can, although this would appear to be fairly limited at this stage."

78 At this time, the plaintiffs as directed to do by the District, attempted as best they could to obtain independent professional engineering advice. Mr. Vodnak met with Mr. A.P. Joseph, P.Eng., Geotechnical Engineer, in early January. Mr. Joseph met with Mr. Eivemark of SRK to discuss the technical aspects of the slope stability problem. In his reporting letter to the Vodnaks Mr. Joseph informed them that SRK had agreed to provide him with a draft of their next report for review and

with regard to inquiries which were being made regarding the availability of an early 1960's report on the slide. In the concluding part of his reporting letter Mr. Joseph states the following:

"In hindsight, it is apparent that the wrong decision was made by the District of North Vancouver to permit construction of the house that you have owned since 1989 and which has been damaged by the slope movement."

79 Mr. Joseph's final recommendation was that the Vodnaks discuss the situation with a lawyer.

80 In due course, the preliminary report related to Lots 3, 4 and 5 prepared for PEP by SRK dated January 18, 1991 was received and considered, including by the plaintiffs. It is a lengthy report in which, inter alia, a recommended solution is referred to in the form of installing horizontal drains in patterns of fans in the upper and/or lower fluvial sediments. Under the heading "Conclusion" the following is stated:

"Based on the field investigation, the location of the failure plane is inconclusive. There is evidence to support both a deep-seated failure through the lower fluvial soils and a failure surface confined to the upper fluvial soils. The results of the back-analysis support the interpretation of either failure plane.

Since measurement of the extensometers began on December 10, 1990, maximum vertical and horizontal movements in the order of about 12 and 8 inches, respectively, have been recorded at the north end of the main tension crack. The rate of movement appears to be constant after about 40 days of recording. Severe damage has occurred in the subfloor and basement wall of the house on Lot 4. The house on Lot 3 only suffers minor damage.

Use of drainage will very likely be successful and will allow reuse of the properties and repair of the houses without further movement, subject to the provision that the drains are maintained regularly (reaming and flushing)."

81 As will be seen from the subsequent history of what occurred, this proved to be an unduly optimistic conclusion.

82 PEP received and considered the report of SRK. On February 8, 1991 it wrote to Mr. McBride informing him that since this "event" happened entirely within the boundaries of the District of North Vancouver the Province had no role in the matter and the Program would continue to assume

the costs for temporary relocation for the residents (the plaintiffs) only until the end of March 1991. The letter concluded by stating that long-term resolution of this matter fell upon the District of North Vancouver.

83 On or about February 21, 1991 Mr. Vodnak received a letter from the General Insurance Adjusters representing the District's insurers with regard to what is described therein as "sloughage of property". In the letter Mr. Vodnak is informed:

"Our investigation is conclusive in that there is no liability on the part of the District for the damage that is occurring and we have been instructed therefore to deny liability in full on behalf of the District and their insurer."

84 SRK submitted its next report dated February 12, 1991 to PEP. By that time, SRK had had an opportunity to review a series of photographs taken at the time of the January 1961 slide involving the sewage disposal plant. These photographs were obtained by Mr. Vodnak from Mr. Lubensky. In this report, the following is stated:

"The trace of the scarp that remained after the 1961 event could be projected southward to coincide with the alignment of the present tension crack. There is insufficient information to physically link the two slides. However the fact that the 1961 slide involved the entire slope height strengthens the opinion that the current landslide is a deep-seated phenomenon. (my underlining)

Site inspections have indicated that increased activity of the landslide is associated with the formation of several new secondary tension cracks as shown on the attached site plan. The process of breaking up of the main slide block continues."

(see Appendix A, Document 5).

85 In its report dated February 17, 1993 SRK reviewed the history of the matter including summarizing its reports as previously submitted. On page 3 of this report is stated the following:

"In response to the development of the tension cracks, the house at 1650 Birchlynn Place sustained substantial damage. The majority of the structural damage was sustained during the first two months following the December 1990 event. Later opinions by others, including appraisers and structural engineers, indicated that the damage to the house had exceeded the stage where repairs would be feasible."

86 At about the end of February, the prospects of the plaintiffs, particularly the plaintiffs Vodnak, were bleak. As a result of the preliminary investigation and assessment made by the District in conjunction with SRK, the plaintiffs were informed their problems were not the responsibility of the District and they were strongly urged to obtain expert advice. On December 18th they were informed by Mr. Eivemark, the senior geotechnical engineer of SRK, that in his view, their homes were not in danger. On December 20th they were informed because of the risks described in a letter of that date that the Vodnak home should be evacuated immediately and that the Lawsons should seriously consider taking the same action. On or about February 21, 1991 Mr. Vodnak was informed as a result of an investigation which was conclusive there was no liability on the part of the District for their losses. By this time, they had long since evacuated their dwellings and were living in rental accommodation. At best, they had the prospect of some assistance from PEP.

87 SRK submitted its next report dated March 20, 1991 to PEP. In this report under the heading "Slope Stabilization Measures" there is reference to "Slope Stabilization Scenarios". Three scenarios for the slope stabilization are put forward. The first scenario is described as "measures to stabilize the slope and to maintain both residences". I refer to the report for the further description provided related to the first scenario:

"For the first scenario, the intention would be to maintain both houses in their present positions. The first activity would involve installing the horizontal drains as previously described. With the Vodnak residence on Lot 4, the extent of slope trimming would be

limited. The top of the trimmed slope should not approach closer than about 10 feet to the house. Figure 2 illustrates the extent of the slope trimming. At present, the closest approach is 20 feet. With this limitation only trimming of the upper cobbly layer would be possible, and the weight reduction on top of the landslide block would be negligible. Consequently, for this scenario, a buttress at the toe of the slope would be recommended to augment the stabilization due to the horizontal drains.

In this case, the recommended buttress would extend about 30 feet above creek level and would cover the entire existing floodplain. The top of the buttress would be about 15 feet higher than the outfalls of the horizontal drains."

88 The estimated cost of repairs related to the first scenario is set out in the report totalling \$97,900.00.

89 During the period extending from late December to the end of March 1991, Mr. Vodnak particularly was writing to and conferring with the Mayor and certain councillors for the District informing them of what he had discovered was the history of development of the subdivision, the events at the time of the January 1961 slides, including the failure of the sewage disposal plant, and to request the assistance of the District. After the SRK report of March 20, 1991 was received and considered, he wrote the Mayor a letter on March 27, 1991 attempting to secure a meeting with him and the District Council. In that letter, he made reference to the history of the matter and his research including that he had conferred on the site with the "bulldozer operator" (Mr. Henn) who was contracted to destroy the foundations on Lot 4 and level the ground. He reviewed the information he received from Mr. Henn including his information to the effect that "the crack causing the damage being the same as today's". The letter went on to comment upon the first scenario in the SRK report with his comments thereon including undertakings required if the scenario was to be implemented.

90 In April 1991 a development of some consequence occurred when the District submitted a claim for financial assistance from PEP. The letter included application for damage assessment and financial assistance forms completed with the amount of the claim in the amount of \$100,000.00 based upon the estimated cost of scenario 1 as presented in the SRK report. On page 2 of this letter is stated the following:

"The latest information concerning the slope movement is that it is continuing and that there are other indications that

make the matter more urgent. Given a positive response to our claim we will initiate immediate action, in conjunction with SRK-Robinson, to undertake the slope stabilization. The decision with respect to the final measures can be made during drilling of the horizontal drains, which are common to all three scenarios, and from discussions with the owners, which can proceed at the same time as the drilling."

91 On April 12, 1991 Ms. McDougall on behalf of PEP wrote the District informing it that its request for assistance is approved for scenario 1 of the SRK report at a funding level of \$100,000.00.

92 I mention in passing at this time that until Ms. McDougall gave evidence at the trial, it appears the District was under the impression that its claim for financial assistance was limited to \$100,000.00. Ms. McDougall stated that with regard to a claim for financial assistance made by a Municipal corporation there is no monetary limitation. It is a matter more so of eligibility for an approval of the work submitted to be done and its cost. She referred to an instance where financial assistance to a Municipal corporation was in the amount of approximately \$1,000,000.00.

93 On April 17, 1991 the District wrote the plaintiffs confirming that it had received approval in relation to its application to PEP for assistance and that remedial work to stabilize the slope could now be undertaken. It is apparent that by the end of April 1991, PEP had approved three separate claims for assistance; two of which had limits of \$100,000.00 less applicable deductibles; one which had no limitation apart from meeting the requirements of the plan and approved by its manager.

94 Mr. Johnston in keeping with his expressed concerns related to the "liability question" considered it would be appropriate for PEP to retain engineers. It is his recollection that he discussed retaining of engineering consultants with PEP which was approved. Ms. McDougall did not recall having such discussions with Mr. Johnston but stated that it was clearly within his mandate to obtain expert advice in this perspective.

95 Mr. Johnston proceeded to communicate with MBA Engineering ("MBA") because of this firm's reputation. MBA in turn retained a leading geotechnical consultant at Trow Consulting Engineers Ltd. ("Trow"). The reports of MBA and Trow were received by Mr. Johnston on or about

June 10, 1991. He reviewed the reports and forwarded them to PEP following which he had a meeting with Mr. Chester Machniewski, P.Eng., of MBA. Mr. Johnston understood from this conversation that both Mr. Machniewski and Mr. T. Orpwood, P.Eng., manager of Trow and the author of the Trow report were both at the site in May 1991.

96 In his closing report to PEP dated June 13, 1991 enclosing the MBA and Trow reports he commented expressly upon the cost of repairs to the Vodnak dwelling at this time would exceed \$100,000.00.

97 PEP did not pass the MBA and Trow reports to SRK or to the District. As best as I am able to determine, the District did not obtain access to the reports until towards the end of 1992 in relation to the discovery process in this action.

98 I will refer briefly to the MBA and Trow reports.

99 The MBA report is not a report as such but a letter in which Mr. Machniewski concurs with the conclusions outlined in the Trow report and comments thereon. In his letter (report) Mr. Machniewski states:

"In summary we both feel that the bank is unstable and that simply de-watering will not provide a sufficient factor of safety for the placement of a house. In particular we are aware that a large slide could be triggered at any time by heavy rainfall or a small to medium sized earth quake. The affected area extends under the second building, the tension cracks indicating a very deep failure plane being present."

and:

"While it is our general policy to provide solutions leading to the restoration of the status quo for any building, we seriously question whether an adequate solution is available which will stabilize the area within a realistic budget. Unfortunately, with instabilities found of the type on the site it is difficult to be sure of the effectiveness of any remedial work, especially since at any given time the

ground would appear stable ie. not actively slipping. The problem is in determining the extent of this stability and the size of external forces which would be required for the ground to move again."

and:

"Given that these are residences containing families and not civil works such as a road, we feel that an adequate factor of safety must be ensured and failing that the houses removed." (my underlining)

TROW REPORT

100 This is a lengthy report accompanied by appendices.

101 Under the heading "Slope Stability" the following is stated:

"During the May 8 site visit by Trow, previously unrecorded secondary cracks were observed east of the house at 1650 Birchlynn Place and a major crack was observed west of the same house. These cracks are shown on Drawing No. 1 together with the crack mapping carried out by SRKR up to January. The distance between the toe of the slope and the furthest tension crack is approximately 165 feet indicative of a deep failure plane along the till/lower fluvial deposit interface."

102 The reference to previously unrecorded secondary cracks observed at this time may be seen by referring to Appendix A, Document 6 the site plan prepared by Trow dated May 21, 1991 wherein the secondary cracks are indicated.

103 Under the heading "Discussion" the following, inter alia, is stated:

"The slope continues to move and new cracks and scarps have appeared between January and May observations. The safety factor of the slope at this time is approximately 1.0 and any destabilizing influence can initiate new movement. It is suspected that creep is occurring in response to such influences as minor earth tremors and groundwater fluctuations. Left alone, the slope will continue to slump until it reaches a stable position relative to these influences. The factor of safety of the soil would still be considered 1.0. As a

mass slide has not occurred in approximately six months, the chances of one occurring under typical climatic conditions are relatively remote. Unusual circumstances such as a significant prolonged rain-fall event or significant earthquake could trigger mass soil movement.

The house at 1650 Birchlynn Place cannot be saved. It lies completely within the failed area of soil on material that has been sheared and dilated. Even if the soil mass were stabilized to an acceptable factor of safety, ground movements beneath the structure will continue for a significant time period.

The house at 1642 Birchlynn Place is at risk. Minor structural damage has been done to the patio areas by ground movement but the house structure is intact. Occupancy should be considered based on the assessment of a factor of safety for the soil supporting the structure not less than 2.0. A safety factor of 1.5 is commonly used for earthworks, but 2.0 is the accepted minimum requirement for building foundation support. Based on the SRKR reported calculation (which were not reprocessed as part of this review), a factor of safety of 2.0 could not be easily achieved in the failure area."

104 The plaintiffs at this point in time were made aware of the conclusions reached in the MBA and Trow reports. They were being pressed by the District to give permission to allow entry on their property to allow continuation of the remedial work (the drains having been completed) which was

to include crack sealing and slope trimming. The plaintiffs wrote the District outlining, in part, their concerns and requested that answers in writing be provided to certain questions the most important of which, in my view, can be taken, for example, from a letter Mr. Vodnak wrote Mr. McBride dated July 14, 1991. I refer to question no. 3 in that letter which reads as follows:

"What is the projected factor of safety after the work is completed?"

105 Mr. Lawson put it somewhat differently in his correspondence to the District at this time in that he wanted an assurance that the safety factor would be 2.0.

106 Mr. McBride confirmed that the letters were received by the District and came to his attention. He confirmed that the letters were not acknowledged; were not passed on to SRK; and were never answered. He expressed regret in the form of apologizing for the failure to respond to the letters appreciating fully that the plaintiffs were requesting responses in writing.

107 Mr. Eivemark in his evidence commented that if the plaintiffs had read SRK preliminary report dated January 18, 1991 at page 8 they should have concluded that the remedial measures being contemplated at that time would have led to a safety factor of 2.0.

THE EXPERT EVIDENCE

108 In a sense of totality the expert evidence consists of the reports and letters referred to above as well as the reports of HBT AGRA Limited dated January 19, 1993, February 25, 1993 and March 3, 1993, the evidence of Mr. A.E. Dahlman, P.Eng., manager of the Technical Division of HBT AGRA, a further report of SRK dated February 17, 1993 prepared for solicitors for the District and the evidence of Mr. M.M. Eivemark, P.Eng., referred to earlier in these reasons.

A. HBT AGRA Report Dated January 19, 1993

109 In this report, three specific questions were answered. I refer specifically to the first question which reads as follows:

"On the assumption that the District did nothing in the way of a geotechnical investigation and remedial work with respect to the failure in 1961, should they have issued a building permit for Mr. Vodnak's property? In addition, should they have removed Mr. Lawson's home as well at the time of the first slope failure (when the original home at the Vodnak property was removed)?"

110 The answer in part to this question is stated as follows:

"It is understood that a new home was constructed on Lot 4 in 1964 and it would be our expectation that some type of assessment should have taken place between 1961 and 1964 to allay any concern about

stability to permit new construction to proceed. In the absence of appropriate engineering assessments with satisfactory results we would have recommended against issuing the building permit."

and:

"It is also our opinion that this evidence (a crack in the ground through the house on Lot 4 in 1961) indicates the dwelling on Lot 3 was also at risk and it should either have been removed or proven to be safe by geotechnical studies."

111 I will not refer to the answers given to the second and third questions other than to say that the opinion is expressed that it is also not clear that all possible mechanisms have been considered and that the measures recommended by SRK will be sufficient to ensure long term stability. This is complimentary to the further opinion expressed that if asked HBT AGRA would recommend against the purchase of this property because further monitoring and study could take between one to two years or more and it is not possible at this time to conclusively say what is necessary to make it stable.

B. HBT AGRA Report Dated February 25, 1993

112 This report is in response to SRK's report of February 17, 1993. In large part, it addresses "factors of safety" after stating that a factor of safety of 1 indicates incipient failure. The report goes on to state the following:

"With regard to slopes, the factor of safety which is applied or required is a function of the degree of 'safety' judged to be necessary. For soil slopes and embankments which do not support structures (such as highways) the slopes may be designed for a factor safety of 1.5. Where there are buildings near the crests or bases of slopes, a somewhat greater level of 'safety' is desirable due to uncertainties and a factor of safety greater than 1.5 is normally required."

and:

"None of the SRK reports identify factors of safety used for their designs, and we cannot therefore judge the suitability of the remedial measures from that point of view."

113 With regard to what is referred to as "slope stabilization measures" referring to the measures implemented as of that date and after commenting that during the past three months there have been significant movements on the escarpment side of the Vodnak residence the report goes on to state the following:

"The data indicates that the horizontal drains and the substantial berm constructed in the summer of 1991 have not solved the instability problem. Trimming of the top of the slope would have impacted shallow instability, but, in our opinion, would have had only a very minor impact on the deep-seated movements. The designs implemented have not totally arrested movements, and, based on performance to date, it is also unlikely that complete implementation of the original designs would have accomplished this goal."

and:

"It is our view that the entire problem is not well enough understood, and that the movements to date indicate that more extensive remedial measures were required at the outset."

114 The report concludes with comments related to the cost of the further remedial recommendations under consideration and with the "slope failure mechanism". With regard to this subject, the report concludes with this paragraph:

"The SRK Robinson February 1993 report states that 'while the line defining the scarp of the 1961 erosion failure can be projected southward to approximate the alignment of the 1990 tension cracks at 1642 and 1650 Birchlynn Place, there is no direct evidence linking the two features. The presence of one or more tension cracks behind the scarp of the 1961 failure is not mentioned by Ripley and Associates...' The current evidence indicates that there was a crack through the location of the Vodnak residence after the 1961 failure and its alignment appears similar to the 1990 tension crack through the Vodnak residence. This is not a coincidence. This indicates that the 1961 instability probably weakened the slope area currently experiencing movement. Unfortunately, the issue of slope stability and proximity to the residences above the 1961 slide area was not identified in their scope of work and was not dealt with by Ripley

and Associates in any manner."

115 Finally, in this report, the concerns of the plaintiffs with regard to the safety factor are expressly commented upon with particular regard to Mr. Vodnak's letter to Mr. McBride dated July 14, 1991 and Mr. Lawson's letter to Mr. McBride dated August 7, 1991 in which letter he asked for a plan of action that ensured a safety factor of 2.0 for his property. The response in this report to such concerns is stated to be:

"These are appropriate, informed questions and should be answerable."

C. HBT AGRA Report Dated March 3, 1993

116 This report elaborates further upon the question of factor of safety. In this report is stated the following:

"The slope condition at that time in 1961 can be described as fragile... Until this condition is achieved or suitable remedial measures are instituted, the stability of the slope (and the factor safety) remains marginal and susceptible to failure in the future by events such as an erosion at the toe of the slope, extended heavy rainfall or earthquake. The heavy rains preceding the failure in 1990 were such an event which, according to the SRK analysis, increased the pressure in the confined water table at depth and 'triggered' the failure."

D. SRK Report Dated February 17, 1993

117 In this report SRK reviews existing data relating to the slope instability, the implementation of remedial measures, and considers the report of Ripley and Associates. In its consideration of the Ripley report, SRK states the following:

"Ripley and Associates did not record the presence of any tension cracks behind the crest which would have given rise to fears of instability for future development, however, this aspect may have been addressed separately. It must be assumed that either the question of stability of the eroded slope was never addressed, or that in the opinion of Ripley and Associates the slope was stable."

SRK goes on to say in this perspective:

"The presence of one or more tension cracks behind the scarp of the 1961 failure is not mentioned by Ripley and Associates who completed a detailed reconnaissance during the investigation leading to their report. It is therefore concluded based on the available evidence that relationships between the two events are coincidental rather than actual."

Under "Conclusions" it is stated, inter alia:

"Partial implementation of the recommendations appear to have arrested the deep seated movement. There are indications that shallow movement is continuing and that repair of the property at 1650 is not economically viable."

EVIDENCE OF MR. DAHLMAN

118 In his examination-in-chief, Mr. Dahlman confirmed that in none of the SRK reports except in its January 18, 1991 report where there is a preliminary reference made to the factors of safety are such factors identified. In this regard, the reference made in the report of January 18, 1991 refers to factors of safety as concepts. Having had an opportunity to consider the Trow report he confirmed that he was in agreement a safety factor in the order of 2.0 was appropriate.

119 With regard to the toe berm and drains installed he confirmed that in his view the instability problems were not solved. He referred to their being large movements of the property after considering the most current measurements. He does not agree that movement has stopped.

120 With regard to the cost of certain of the remedial measures particularly the installation of "anchors" his preliminary view was that the amount indicated by SRK for completion of such measures was unduly conservative, his estimate being more in the area of \$200,000.00.

121 He also confirmed that the crack initially observed in 1990 referred to by the plaintiffs and Mr. Henn was not a coincidence; such a crack had been there all of this time and it was the new movement triggered by the heavy rainfall that caused it to reappear. In his view the condition of the slope in 1990 was much more susceptible to movement. The installation of a rip rap type of berm indicated to him that the District had concern with regard to the stability of the slope.

122 There was extensive cross-examination of Mr. Dahlman over a period of two days. It commenced with cross-examination related to what counsel described as the principle of "elastic relaxation".

123 Mr. Dahlman confirmed his awareness of the principle which as I understood it is where soil is under pressure or tension and where the tension is released the soil will tend to relax or expand outwards. After discussion of the principle the following question was put and answer given:

"Q: Is it not possible Mr. Dahlman that the crack that was noted by Mr. Henn in the foundation of the home that was formerly on the Vodnak property was caused by elastic relaxation which was, in turn, caused by the release of pressure in the 1961 slide?"

"A: I don't agree with that at all. The nature of the crack is an extension of the of the scarp. The sliding movement outward and downward that did occur was associated with undermining. Where the undermining stops, then the sliding movement doesn't progress laterally further. The sliding movement has forces moving outwards towards the river. It tends to drag soil at the side of that slide along with it. At some point it stops. Now I believe the crack that has been described is associated with the sliding movement and not with what you describe as relaxation."

124 Counsel returned to this subject again in the following manner:

"Q: I am suggesting to you Mr. Dahlman that the crack noted by Mr. Henn is as likely as not a crack resulting from an elastic relaxation as any other cause?"

"A: I guess, once again, what I understand is you are you are trying to differentiate between elastic relaxation and cracks associated with sliding. In the circumstances that we had in 1961 where there was a very steep slope the there certainly is relaxation because soil has been removed. The soil wants to go back to a more stable anchor. A crack will appear before a piece falls off. Now it's perhaps a moot point as to whether that's relaxation or in combination with removal of support. The relaxation is a part of what's happening in the soil. The predominant factor, though, there is not support for that face, and the face wants to move forward, whether you characterize that as

relaxation, or whether you characterize that as the driving forces exceeding the resisting forces, it's all part of the sliding movement."

125 The subject was returned to on one more occasion. I quote the following question and answer on the cross-examination:

"Q: But let's deal with it on certain assumptions. I am asking you to put yourself in the shoes of somebody looking at the slide that occurred after it occurred, of course, in 1961. Let's assume that, on the one hand, that you observed the crack as described by Mr. Henn and I am putting to you, as a geotechnical engineer, that at the time, knowing that the slide was caused by the undercutting of the river bank, he would have reasonably concluded that the crack that you had observed was as a result of elastic relaxation."

"A: I would have not drawn that conclusion. What that would tell me is that that area was very close to failure. It had moved. If the river erosion continued

slightly more, to remove some more support for that slope, that piece would have come down. It's close to failure. It has a crack. It's part of the whole sliding motion and mechanism that's going on on that hillside. I would not characterize it at all as relaxation. I would characterize it as being this is where the resistance is just now matching driving forces. If a little bit more is removed, that is a potential failure location."

126 In argument, counsel for the District informed me the principle of elastic relaxation is not significant in the defendant's submissions.

127 Mr. Dahlman was questioned with regard to his assessment of risk in relation to the Lawson property. I refer to the following question and answer from his cross-examination:

"Q: And I am suggesting to you that because of the distance of the Lawson home from the scarp, that in 1961 if you were doing a geotech analysis such as Mr. Leonoff was doing, that you would not have considered the Lawson home at risk."

"A: I can't draw that

conclusion at this point. I think, as I said in my first report, if, indeed, I saw a crack that passed through the Vodnak home, or the home at that point, then I would be concerned about the exposure of the Lawson residence. I would then have to do some analysis or make some assessment to come to a decision as to whether it was reasonable to leave it there or whether something should be done."

128 In the course of re-examination, Mr. Dahlman stated:

"The closer the cracks were to the edge of the slope they would be shallow and, conversely, cracks further away would tend to be deep-seated."

129 He confirmed that what was referred to as the main tension crack, the major crack, as being the crack that is associated with the deep-seated movement.

EVIDENCE OF MR. EIVEMARK

130 In general terms, Mr. Eivemark confirmed the assessments and opinions related to causation contained in the SRK reports concluding with the summary of those reports and his current observations as expressed in SRK's February 1993 report. He confirmed his view that because the scarps left by the 1961 and 1990 failures are parallel, this does not necessarily mean that the failures were linked as to cause.

131 Mr. Eivemark stated that the historical records available were the key to his interpretation of the cause of the slides in 1961 and 1990. In this regard, in the preparation of SRK's preliminary reports and those in which scenarios were put forward, SRK did not have available the aerial photographs of the site taken in February 1961; the Lubensky photographs taken in January 1961; the Ripley report; Mr. Henn's evidence with regard to the existence of a major crack as described by him. Furthermore, SRK proceeded on the assumption that a geotechnical survey, including soils analysis, had been obtained by the District after the 1961 slope failure as recommended and before

any building permits were issued. I understood Mr. Eivemark to agree that the obtaining of a geotechnical soils analysis at that time was warranted and should have been obtained.

132 Mr. Eivemark had conversations with the plaintiffs from time to time some of which I have referred to earlier in these reasons. He stated he recalled saying to the plaintiffs in relation to their various concerns and requests for assurances something to the effect that SRK was satisfied the design developed would provide the required stability. He considered it unprofessional to say more to them.

133 In cross-examination, he agreed with Mr. Dahlman's opinion that monitoring the movement of water within the slope should be for a minimum period of two to three years and without interruption. It is common ground that monitoring of the movement of water within the slope, the responsibility of the District, was not carried out as recommended by Mr. Eivemark.

134 When pressed why in March 1991 the Vodnak dwelling was described by him as having been damaged beyond repair SRK would continue to advance the first of the three scenarios, preserving the Vodnak dwelling, he stated that not being a structural engineer, he was not qualified to express an opinion with regard to structural damage to the dwelling. He did not agree the first scenario provided by SRK appeared to conflict with or present a conflict of interest having regard to the cost of repairing the damage to the Vodnak residence.

135 In my view, there is an apparent contradiction between referring to the Vodnak dwelling being damaged beyond repair (most of the damage having been sustained in the first two months) and a scenario designed to save both dwellings, assuming cost to be a factor.

136 Mr. E.J. Bremner, P.Eng., Director of the Engineering Department of the defendant, had a general supervisory role in relation to the matters in question leaving the detail and day to day dealings with the plaintiffs and others to Mr. McBride.

137 He confirmed that to date \$135,600.00 has been spent by the District related to engineering costs and remedial measures. He confirmed the District has not as yet applied to PEP for reimbursement for these monies or with regard to any further remedial measures being considered.

138 Upon the resumption of the trial on September 20th last, evidence was adduced that as of June 1993 or earlier in that year, cracking was taking place to the dwelling and yard area at 1664 Birchlynn Place (Lot 6).

139 The District instructed SRK to investigate the matter. SRK confirmed cracking had occurred in the walls and base slab of the dwelling on Lot 6 with cracking in the ground area extending eastward towards the top of the bank. In its reports to the District SRK says the owners of Lot 6 reported the cracking to the District "several months ago" (See Exhibit 83).

140 I refer to Exhibit 83 wherein Mr. Eivemark of SRK goes on to say the following:

"Based on the observed conditions, it is our opinion that movement of the ground under the house has taken place. The orientation of the exterior crack and the reported relative displacement of the north and south sides of the crack make it very unlikely that this crack is related to the crack on the Vodnak property. The sense of movement of the exterior crack on Lot 6 seems to relate this feature to the scarp of the 1961 sewage plant slide. If reactivation of the 1961 slide were to occur the associated cracking would be similar to what has been reported at 1664 Birchlynn Place.

The observed features are insufficient to conclude that a new episode of sliding in the area of the 1961 event is evolving. No reports of features related to slope movement have been made by the neighbours on Lots 7 to 9 to the north, and no continuity of the crack extending onto these lots is known at this time."

141 SRK has recommended additional site reconnaissances be undertaken including, as was the case in the post-December 1990 period in the area, monitoring of horizontal and vertical displacements with the prospect of more extensive investigation to follow. The investigation recommended in relation to monitoring movement encompasses Lots 6 to 9 inclusive.

142 While it is undoubtedly premature to identify in a particular sense what is the triggering cause of the recently observed movements related to the dwelling and ground on Lot 6 and in part on Lot 5 the opinion of Mr. Dahlman expressed earlier in 1993 that even with what remedial measures were implemented that the movement of the bank has not stopped appears to be borne out.

LIABILITY

143 In summary, upon consideration of the evidence as a whole, I make the following findings of fact:

- (a) before construction of the sewage disposal plant in the mid-1950's, the District did not request and obtain or require the contractor constructing the said plant to request and obtain a soils analysis related to the slope;
- (b) after the slides which occurred in January 1961, the defendant was aware, or ought to have been aware, of the existence of a large longitudinal crack on Lot 4 indicating the existence of a deep-seated failure in the slope existing at that time; and,
- (c) at no time after the slides which occurred in January 1961 did the District request or if it did request a soils analysis such an analysis was not obtained and considered as directed by council for the District.

144 In keeping with these findings of fact, I find that in such circumstances, the District was negligent in failing to request, obtain and consider a soils analysis and to implement remedial measures necessary to stabilize the slope to a minimum factor of safety of 2.0 if such remedial measures were considered feasible before allowing completion and occupancy of the dwelling under construction on Lot 3 and thereafter the issuing of a building permit related to Lot 4.

145 I find further the defendant was in breach of its duty of care to all those persons who might suffer injury, loss and damage by reason of its negligence because, in my view, the causation defence as it has been referred to, is not supported by the evidence. In my view, the weight of the evidence establishes the slope after the slides which occurred in January 1961 was unstable having regard to the nature of the soils composing the bank; the softening process resulting from sewage runoff into the soils; and the observance of a longitudinal crack on Lot 4 after removal of the dwelling such as to indicate a deep-seated failure of the slope continuing to exist. The deep-seated failure then observed was eventually manifested by observance of a crack in the same place and configuration after the December 1990 event.

146 The District did essentially nothing to alleviate further erosion of the bank at the toe of the slope (the gravel berm put in place in early 1961 having long since been washed away) from 1961 through to December 1990 in spite of flood levels having occurred such as the level in October 1981 resulting in remedial work being done on the opposite side of Lynn Creek at the waste disposal site.

147 I find that what probably took place in December 1990 in the slope area was the inevitable result of the weakening of the slope in January 1961. The slope, described at that time as fragile, with no remedial measures being considered or taken, was left susceptible to failure by future events such as heavy rainfall. I find the heavy rains preceding the failure of the slope in December 1990 increased the pressure in the confined water table and "triggered" the failure. The recent evidence of cracking earlier this year as described supra appears to confirm the instability of the slope.

148 I find there is a connection between the defendant's negligent conduct and the plaintiffs' loss which makes it just for the defendant to indemnify the plaintiffs.

149 In the particular circumstances here, I find the test of proximity to have been met in accordance with the applicable law in Canada. In this regard, I refer to the following decisions of the courts of this Country to which I was referred in argument:

- Kamloops v. Neilson, [1984] 2 S.C.R. 2;
- Dha v. The Corporation of the Township of Richmond et al. (1990), 39 C.L.R. 248;
- Petrie et al. v. Groome et al. (1991), 4 M.P.L.R. (2d) 182;
- Canadian National Railway Co. v. Norsk Pacific Steamship Co. Ltd. et al. (1992), 91 D.L.R. (4d) 289.

DAMAGES

150 The plaintiffs' claim the value of their properties as of the date of trial whereas the District submits their damages should be assessed as of the date of the loss speaking of December 1990.

151 I will approach valuation in this manner because I do not consider it necessary to take other factors into account such as the discounted value of such properties or whether they or either of them would be accepted as security for a mortgage. In this regard, I do not accept what opinion evidence was adduced at trial in relation to reduction in assessed values in the perspective of the particular circumstances here.

152 Upon consideration of the authorities bearing upon this question, I find the circumstances here to be exceptional and that it is appropriate to assess the damages of the plaintiffs as of the date of trial. The appraisals of the properties, available as of March 1993, are remarkably similar. I do not find the evidence supports an increase in the valuations made at that time of one percent per month the only evidence since that time being that the market is presently flat. I do not consider it appropriate to make an award of court order interest because the awards for damages are being made at the time of trial and in the following amounts:

Vodnak Property	\$300,000.00
Lawson Property	\$330,000.00

153 Having determined both properties to have no value to the plaintiffs, upon payment of these amounts (subject to a potential deduction of \$65,387.91 in the case of the Vodnak property) I order that the plaintiffs assign the properties to the District.

154 The plaintiffs Vodnak claim "expenses" as damages, revised as of September 1993, in excess of \$103,000.00.

155 I do not propose to recite and deal with each of the 23 items of expense claimed. I consider a number of items to relate more properly to disbursements. I disallow the largest single item of expense "cost of home improvements" at \$39,000.00 because I have awarded the appraisal cost of the dwelling as of the date of trial. I am not aware of authority nor was authority cited to support such items as "time loss from work and time off five weeks of trial" and "time spent on research, meetings, etc. re claim". While I have no doubt Mr. Vodnak has spent a considerable amount of time in relation to what is claimed, I do not understand the law as it presently stands to support the recovery of such time loss as damages. Finally, I disallow the item of expense claim related to "money lost on trailer stolen from property".

156 I consider the items which are appropriate for consideration and compensation are: rental

expenses, moving expenses, including time loss incurred, taxes and insurance, and the Property Purchase Tax (one percent up to \$200,000.00 and two percent on anything over \$200,000.00) related to purchase of a home and legal fees in relation thereto.

157 With regard to the rental expense, I consider the amount claimed of approximately \$37,000.00 must be reduced by what the Vodnaks' costs would have been had they been in residence during the relevant time period. Counsel informed me during the course of their submissions that I would be provided with either the appropriate amounts to allow me to make the reduction from the amounts claimed or there would be agreement related to the amount of this claim.

158 I am hopeful counsel can reach agreement with regard to the items of expense which I have held are appropriate for compensation. If counsel can reach such agreement then the amount so agreed can be included in the judgment related to the plaintiff Vodnaks' damages. Failing such agreement, counsel may submit their positions to me in writing following which I will award what I consider to be appropriate in relation to such damages.

159 The plaintiffs Vodnak received from PEP a total of \$76,262.06 made up as follows:

-	moving and storage expense	\$ 3,728.35
-	alternative accommodation expense	\$ 7,145.80
-	dwelling market value	\$65,387.91
	Total:	\$76,262.06

160 The position of the District is that these amounts should be deducted from any amounts awarded as damages against the District because:

- (a) a declaration provided pursuant to the guidelines of the program was not completed by "the person seeking assistance ensuring the amount of the assistance grant will be reimbursed to the Crown"; and,
- (b) there is nothing in the guidelines establishing that PEP has a right of

subrogation.

161 Put more simply, the District says this is a case in which the plaintiffs have received disaster financial assistance in accordance with the PEP program and if the plaintiffs were allowed to recover from the District the amounts received from PEP they would be doubly compensated.

162 It is common ground the plaintiffs were not requested to provide a declaration as contemplated by the guidelines nor was such a declaration completed by them.

163 The plaintiffs' position throughout has been that they have never sought to be doubly compensated and that at all times they have been ready and willing to reimburse such monies should they recover such amounts through litigation. The plaintiffs' position, understandably, is that they object to the deduction of the PEP proceeds because of their concern in the event that PEP should seek recovery against them. I refer in this regard to the letter of March 3, 1993 from Ms. McDougall. I do not consider it necessary or useful to review the authorities to which I was referred in relation to this aspect of the matter and, particularly, the judgment of the Supreme Court of Canada in *Ratych v. Bloomer* (1990), 69 D.L.R. (4th) 25.

164 In answer to an inquiry I made of counsel for the District during argument, I understood that if I was prepared to order the amounts received by the plaintiffs from PEP to be deducted from the amounts awarded them respectively for damages, the District will provide a form of indemnity to the plaintiffs in which it agrees to indemnify the plaintiffs for any amounts they are held liable to repay PEP and, furthermore, that the District will undertake the defence of the plaintiffs at its cost in any action taken against them to recover the said amounts.

165 I consider this to be a realistic solution to this question and upon such an agreement being entered into, I order the said amounts to be deducted respectively from the amounts awarded the plaintiffs for damages.

166 I understand the plaintiff Lawson received from PEP a total of \$8,228.00.

167 The plaintiff Lawson claims "expenses" as damages, revised as of September 1993 in excess of \$19,000.00. Again, I do not propose to recite and deal with each of these seven items of expense claims. I consider some of the items to relate more properly to disbursements. For the same reasons I have given in relation to the claims of the plaintiffs Vodnak, I disallow the claims related to time spent at meetings and in investigation. I consider the items which are appropriate for compensation are rental and moving expenses and those expenses including the Property Purchase Tax (one percent up to \$200,000.00 and two percent on anything over \$200,000.00) related to the purchase of a home.

168 As stated previously, counsel informed me during the course of their submissions that I would be provided with either the appropriate amounts to allow me to make the reduction from the amounts claimed or there would be agreement related to the amount of this claim.

169 I am hopeful counsel can reach agreement with regard to the items of expense which I have held are appropriate for compensation. If counsel can reach such agreement then the amount so agreed can be included in the judgment related to the plaintiff Lawsons' damages. Failing such agreement, counsel may submit their positions to me in writing following which I will award what I consider to be appropriate in relation to such damages.

170 The plaintiffs' claim general damages for disturbance and inconvenience and mental distress and in relation to the plaintiff Ivo Vodnak, a claim for mental and emotional distress causative of injury in the form of the development of a duodenal ulcer.

171 I have reviewed in these reasons, the evidence from which it can be seen the plaintiffs, and particularly the plaintiff Ivo Vodnak, have had over two and one-half years, very difficult times. I can readily understand the characterization of some of those times as being traumatic and disturbing in the extreme. In Mr. Vodnak's case, he has required medical attention for what his doctors describe as stress "likely ...the main cause of the development of a duodenal ulcer".

172 In keeping with the items claimed by way of expenses which I have considered appropriate for compensation and which, in large part, relate to disturbance and inconvenience, I do not consider there is a proper basis for a further award to the plaintiffs for such general damages.

173 In *Morberg v. Klassen* (1991), 49 C.L.R. at 124, I referred to and considered the applicable law related to the awarding of general damages for what is described as mental distress. I was referred to my judgment by counsel and the authorities reviewed therein as well as *Broumas et al v. Royal Trust Corporation of Canada et al* (1987), 51 Alberta Law Reports (2d) at 334 and *Dha et al v. Ozdoba et al* (1990), 39 C.L.R. at 248, a decision of Finch J. (as he then was). I consider it sufficient to say upon a review of these authorities, the evidence here does not support awards for mental distress in relation to the plaintiffs and in relation to the plaintiff Ivo Vodnak for physical injury.

174 These claims for general damages are dismissed.

175 There remains for consideration the plaintiffs' claims for punitive or aggravated damages. Mr. Cram submits the claim for punitive damages should be considered in the perspective of the defendant's conduct over a period of approximately 30 years, taking into consideration its failure to obtain or require others to obtain a soils analysis of the bank before allowing the sewage disposal plant to be built, its failure after the slides in January 1961 to do anything and its "stone walling" and arrogant treatment of the plaintiffs. He submits the historical background indicates clearly the District has learned nothing and in such circumstances the elements of a claim for punitive damages are made out. I am unaware of authority nor was authority cited to support this submission.

176 In *Morberg v. Klassen*, supra, I referred to and reviewed what I consider to be the applicable law related to these heads of damage. Counsel for the District referred me to my reasons in *Morberg v. Klassen*.

177 In my view, the District's conduct before December 1990 is relevant and is confined to the question of the defendant's negligence and breach of duty. While in many respects its conduct in its dealings with the plaintiffs leaves much to be desired, I do not consider such conduct can be characterized as harsh, vindictive, reprehensible and of a malicious nature, deserving punishment.

178 The claims for punitive and aggravated damages are dismissed.

179 The question of costs by agreement of counsel is to be addressed at a later date.

180 In the result, on the basis the defendant provides the form of indemnity agreement referred to in these reasons, I award the plaintiff Lawson the value of his property at the time of trial in the amount of \$330,000.00 and those expenses claimed as special damages, including tax, either to be agreed upon or to be determined by me, from which amounts is to be deducted the amount of \$8,228.00 received from PEP.

181 I award the plaintiffs Vodnak the value of their property at the time of trial in the amount of \$300,000.00 and those expenses claimed as special damages, including tax, either to be agreed upon or to be determined by me, from which amounts is to be deducted the amount of \$76,262.06 received from PEP.

182 Upon payment of the amounts awarded for damages, I order the plaintiff Lawson and the plaintiffs Vodnak to transfer title to their properties to the District.

HARVEY J.

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APPENDIX A

1. Plan details of riverbank at location of sewage plant. Ripley and Associates, April 10, 1961.

2. Reproduction of photograph. Ripley and Associates, January 1961.

3. Site Plan. SRK-Robinson Inc., December 13, 1990.
4. Site Plan. SRK-Robinson Inc., January 10, 1991.
5. Site Plan. SRK-Robinson Inc., January 10, 1991.

6. Site Plan. Trow Consulting Engineering Ltd., May 21, 1991.