

IN THE SUPREME COURT OF BRITISH COLUMBIA

Citation: *Drader v. Abbotsford (City)*,
2012 BCSC 873

Date: 20120614
Docket: S14735
Registry: Chilliwack

Between:

Eugene Drader

Plaintiff

And

City of Abbotsford

Defendant

Before: The Honourable Madam Justice Watchuk

Reasons for Judgment

Counsel for the Plaintiff:

D. Stander

Counsel for the Defendant:

R. P. Saul

Place and Date of Trial:

Chilliwack, B.C.
June 6-10, 13-17;
and August 2-4, 2011

Place and Date of Judgment:

Vancouver, B.C.
June 14, 2012

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I. INTRODUCTION

[1] The Pemberton Hill area of Abbotsford lies south of the Fraser River at a gentle bend in the river. It was formed at the end of the last ice age, about 11,000 years ago.

[2] Water from the hill drains down, outward and away from the hill. On the north side of the hill there are now a number of deeply incised ravines or gullies.

[3] The land owned by the Plaintiff is part of the Pemberton Hill area. Historically, some water drained down the gully on the property. The City has since constructed ditches and culverts to manage the drainage in the area. One of the ditches directs water to this gully.

[4] The quantity of and effect of the water draining from the ditch to this gully is at the source of the many issues arising.

II. DEFINITIONS

[5] Prior to outlining the issues, for the purposes of clarity and consistency, the following terms are defined in accordance with their usage by the witnesses. The Property is shown in a copy of the survey drawing which is attached as Schedule "A" to these Reasons:

- **1996 Action:** Action No. S6532 which was initiated by the Plaintiff against the Defendant on October 10, 1996. A consent dismissal order was entered on June 20, 2001.
- **Berm:** An earth dam constructed in the Ditch and located immediately to the east of the Notch. In the absence of the berm, the flow of water would continue east.
- **City:** The Defendant City of Abbotsford in which the Property is situated.
- **Culvert:** The 500 millimeter steel pipe which facilitates the passage of water in the Ditch beneath the Driveway.

- **Ditch:** The roadside ditch which runs along the north side of Marsh McCormick Road and the southern boundary of the Property.
- **Drader Ditch:** The ditch, constructed by the Plaintiff, which joins the Ditch at a point immediately west of the Culvert and extends from the Ditch in a northerly direction along the western boundary of the Property to a low point on the Property.
- **Driveway:** The Driveway which connects the Property to the Road and which passes over the Culvert.
- **Expropriation Action:** An application for determination of compensation filed by the Plaintiff as Claimant against the Defendant as Respondent on July 22, 1997 and assigned E.C.B. Control No. 39/97.
- **Hangar:** A building constructed by the Plaintiff on the Property completed for use in early 1995 and used by the Plaintiff to store his helicopter.
- **Helipad/Pad:** A concrete slab constructed by the Plaintiff adjacent to the Hangar.
- **Memorandum of Settlement (MOS):** The Memorandum of Settlement dated June 20, 2001, executed by the Plaintiff and the Defendant.
- **m³/s:** Cubic meters per second which is a measurement of the flow of water.
- **Neighbour Property:** The property with the municipal address 29399 Marsh McCormick Road which is to the east of the Property. The Ravine continues in a north-east direction on this property.
- **Notch:** A gap in the northern bank of the Ditch to the east of the Driveway. Water from the Ditch flows through the Notch into the Right of Way.
- **Overflow Event(s):** The occasions on January 29 and 30, 2004 and January 13, 2006, when water from the Ditch flowed north into the Drader Ditch as it

- over-topped the Culvert. The water then flooded the Driveway and flowed into the Ravine.
- **Project:** The placing of “rock fill for the purpose of restricting, as much as is practically possible, erosion of the bed of the stream which flows through the Ravine over property which includes but is not limited to the Drader Property” as defined in s. 4(b) of the MOS.
 - **Property:** The 10 acre rural residential property with the municipal address 29325 Marsh McCormick Road, which is registered in the name of the Plaintiff and is legally described as Lot “D”, Section 27, Township 14, New Westminster District, Plan 16713. It is situated at the northern edge of the upland plateau known as the Pemberton Hill, overlooking the Fraser River in northwestern Abbotsford, B.C.
 - **Ravine:** A deeply incised gully, and sometimes referred to as “the gully”, which originates immediately north of the Notch and extends in a north-easterly direction through the south-easterly third of the Property toward the Fraser River. The Ravine continues on to the Neighbour Property.
 - **Release:** The Full and Final Release dated June 20, 2001, executed by the Plaintiff.
 - **Right of Way:** The Right of Way described in the Statutory Right-of-Way Agreement and shown in a plan attached thereto and which generally follows the Ravine on the Property.
 - **Road:** Marsh McCormick Road is a roadway within the bounds of the Defendant Municipality which runs approximately in an east-west direction and provides road access to the south end of the Property.
 - **Statutory Right-of-Way Agreement (ROWA):** The agreement made March 26, 2001, which is Part 2 to a general instrument dated June 28, 2001 and was executed by the Plaintiff on June 20, 2001.

III. ISSUES

[6] The issues raised by the Plaintiff are: nuisance, negligence and breach of contract with regard to three areas of the Property and surrounding area: the Ditch, the Right of Way, and the Ravine including the Property and the Neighbour Property.

[7] The Plaintiff states that the two Overflow Events were due to the capacity of the Culvert not being sufficient to handle the flow of water in the Ditch. He further alleges that the flow of water in the Right of Way is excessive or that it exceeds 1.5 m³/s.

[8] The Plaintiff seeks damages including damages for nuisance and negligence as a result of erosion and damage to the Property; aggravated damages and punitive damages as a result of the City acting in a high-handed and arbitrary manner; and damages for emotional and mental distress. He also seeks special costs.

[9] The Plaintiff seeks an injunction to restrain further diversion of the water through the Right of Way.

[10] The City says that its decisions regarding management and operation of its drainage works are bona fide policy decisions not subject to review.

[11] The City relies upon the provisions of the Right of Way Agreement, the Minutes of Settlement and the Release which were signed by the Plaintiff.

[12] The City further relies upon the provisions of the *Local Government Act*, R.S.B.C. c. 1996, c. 323 (“LGA”) particularly ss. 288 and 315.2.

[13] Alternatively, the City alleges contributory negligence on the part of the Plaintiff.

[14] A preliminary issue raised by the City is the absence of any apparent relationship between the Overflow Events which form the basis for the causes of action, and the damages which are claimed by the Plaintiff. The damages sought

appear to relate to the ongoing diversion of water from the Ditch through the Ravine, rather than being a result of two discreet events.

[15] The City states that these two events have been converted into a claim for remediation of the entire Ravine or renegotiation of the ROWA.

IV. FACTUAL BACKGROUND

A. The Land

[16] Pemberton Hill has an elevation of approximately 150 meters. It is approximately 3 kilometers wide in its east-west direction. It slopes gently downward to the south. The northeast and northwest slopes are steeper and are incised by gullies or ravines approximately 100 to 200 meters apart. Some of the natural drainage flows down these gullies.

[17] There is a creek, referred to as the Unnamed Creek, which flows south and east to the river on the upstream side of the bend in the Fraser River. It also carries drainage from Pemberton Hill to the river.

[18] The Road runs east and west and essentially divides Pemberton Hill into north and south areas. It was constructed prior to 1938.

[19] The Ditch has been on the north side of the Road since at least 1938 as is shown in historical photographs.

[20] Historical photographs also show that the Pemberton Hill area was at one time treed. The area is now rural residential.

[21] The Property is on the north side of the Road. It is in the shape of a long narrow rectangle with the north end of the rectangle fronting on the Road. The Ravine runs in a north-easterly direction through the southeast corner of the Property. The Driveway to the house and the Hangar are at the south-west corner.

[22] Between the north boundary of the Property and the Fraser River are lands owned by the Greater Vancouver Regional District (GVRD), and railway tracks which run parallel to the river.

B. Chronological Overview

[23] Mr. Drader purchased the Property in 1989 in order to build a home for his family and facilities for the operation of his helicopter logging business. At the time of purchase, the land was vacant.

[24] In 1989 when the Culvert was installed under the Driveway to the Property, the City made the Notch in the bank above the Ravine to the Ditch's north side to divert the ditch water through the Property.

[25] In 1992, the Notch was enlarged and the Berm was added in the Ditch adjacent to and south of the Property. From that time, all ditch water to that point flowed into the Ravine rather than the 90% previously diverted.

[26] The home was completed in 1992, and the Hangar was built between 1993 and 1995. Substantial clearing of the Property was done in the course of construction.

[27] Abbotsford Municipal Policy No. 900-5-04 was approved by Abbotsford City Council on January 1, 1995. It states:

The maintenance of City facilities, such as roads, lanes, sidewalks, curbs, gutters or installations placed within roads, lanes or sidewalks, which are part of the sanitary or storm sewer, drainage or water utility system, including those facilities within park or public recreation areas, shall rely solely on reports of observed defects by the city staff or members of the public.

[28] The Plaintiff constructed the Drader Ditch to run north-south on the west side of the Property between 1993 and 1996.

[29] In April, 1996, a slope failure occurred within the headwall area of the Ravine. As a result, a large and treed chunk of land next to the Hangar and Driveway

travelled through the Ravine on the Property and the Neighbour Property and was deposited at the bottom of the Ravine on GVRD and CN railway lands.

[30] Litigation ensued; the 1996 Action was commenced. After five years a settlement was entered into at a Settlement Conference with Mr. Justice Burnyeat.

[31] As a result of the settlement, the parties signed the Release and a Memorandum of Settlement and Mr. Drader granted the City of Abbotsford the Right of Way through his land. He received a sum of money for the Project which was to place rock fill at the base of the Ravine on property including the Property and the Neighbour Property.

[32] Mr. Drader carried out part of the Project with the money provided by the City and his own money. However, it was not possible to complete the Project in the Ravine on the Neighbour Property as the easterly neighbours at the time would not give permission for access to or remediation of their portion of the Ravine.

[33] In January 2004, the first Overflow Event occurred, during which the level of the ditch water exceeded the top of the Culvert, flowed into the Drader Ditch, crossed the Property and Driveway, and entered into the Ravine from its top, resulting in some erosion rills and damage to the Driveway.

[34] This Overflow Event, and the concerns of Mr. Drader regarding the water-handling ability of the City's drainage system, which involved its Ditch, its Culvert under Mr. Drader's Driveway, the Notch into the Property, and the Ravine, were brought to the attention of the City of Abbotsford.

[35] This led to this matter being brought before the Court, by way of first an attempt to revive the 1996 Action, and then a new action in 2004. The 2004 action was to be set for hearing before Mr. Justice Burnyeat in accordance with the Plaintiff's interpretation of the dispute resolution provisions of the settlement agreement.

[36] However, the City of Abbotsford contested the matter coming before Mr. Justice Burnyeat. In the final result, Mr. Justice Burnyeat excused himself.

[37] In January 2006, the second Overflow Event occurred with storm water exceeding the top of the Culvert, flowing across the Drader Driveway, and into the Ravine.

[38] The City did repairs to the Drader Driveway. However it declined to accept any responsibility or take any steps to abate the ongoing erosion and slippages which were occurring in the Ravine.

[39] In 2008 and 2009, because of his concerns regarding the bank below the Hangar and the home, Mr. Drader undertook, at his own expense, various activities in shoring up the banks, including the dumping of thousands of kilograms of rip rap into areas identified as unstable. This work was carried out with the advice and supervision of GeoPacific Consultants

[40] It is Mr. Drader's evidence that the Property continues to suffer from erosion, instability, and subsidence including large areas of the bank below the house and Hangar.

C. 1996 Action and Settlement

[41] The slope failure on the Property in April 1996 was the genesis of the 1996 Action.

[42] The 1996 Action was settled in June, 2001 together with an Expropriation application which is not relevant to the present action. That settlement was reflected in three documents: (1) the Memorandum of Settlement ("MOS"); (2) the Statutory Right of Way Agreement ("ROWA"); and (3) the Release.

[43] The relevant terms of the MOS, ROWA and Release are set out below.

1. The Minutes of Settlement (“the MOS”):

WHEREAS each of these actions relate to a landslide which occurred on April 23, 1996 in a ravine (the “Ravine”) located at 29325 Marsh McCormick Road (the “Drader Property”);

...

AND WHEREAS as a part of such a settlement all parties except for the Greater Vancouver Regional District wish to provide for certain renovation work to be carried out within the Ravine and to establish a Ravine Renovation Trust Fund from which to pay for that work (the “RRTF”);

...Action No. S6532 will be referred to as the “Drader Action”, Action No. C970690 will be referred to as the “GVRD Action” and Action E.C.B. No. 39/97 will be referred to as the (“Expropriation Action”);

1. Settlement of the Drader Action

With respect to the Drader Action, the parties to that action agree as follows:

- (a) The Plaintiffs shall forthwith execute and forward to the Defendant a Consent Dismissal Order and a full Release...;
 - (b) The Plaintiffs shall grant to the Defendant a right-of-way through the Ravine for the purpose of accommodating the flow of water from the ditch which borders the north side of Marsh McCormick Road and which enters the Ravine at its southerly end and flows in a north easterly direction through the Ravine...;
 - (c) Except as the Right-of-Way may expressly provide, it shall not constitute any restriction or limitation upon those rights which the Defendant may have under Section 560 of the *Municipal Act*.
- ...
- (e) Immediately upon registration of the Right-of-Way at the Land Title Office, to occur no later than the Disbursement Date, the Defendant shall:
 - (i) pay to the Plaintiffs’ solicitor, Brent Lokash, in trust, an amount of \$45,000; and
 - (ii) pay to the RRTF an amount of \$130,000.

...

4. Administration of the RRTF

All parties agree that:

- (a) the RRTF shall be an interest bearing trust account...;
- (b) the RRTF shall be used to pay all costs incurred from and after February 28, 2001 related to the placing of rock fill for the purpose of restricting, as much as is practically possible, erosion of the bed of the stream which flows through the Ravine over property which includes but is not limited to the Drader Property (the “Project”). These costs

shall include but not be limited to the costs of design, administration, permit application, materials and labour;

- (c) No work on the Project shall be carried out on any property but the Drader Property without the written consent of the property owners;
- (d) It is the intention of the parties that the Project shall be a compromise of the work recommended by GeoPacific Consultants Ltd. in a report to D.K. Heli-Cropper Int'l Ltd. dated November 21, 2000 and the work recommended by Golder Associates in a report to Messrs. Alexander, Holburn, Beaudin & Lang dated January 9, 2001;
- (e) ...No party shall be obliged to contribute any additional funding to the RRTF for whatever purpose. The cost of the Project shall not exceed \$130,000;
- (f) Immediately after the RRTF has been fully funded, Mr. Matt Kokan of GeoPacific Consultants Ltd. ("GeoPacific"), shall be retained and instructed by Eugene Harold Drader to proceed with the Project by preparing a design and a budget and completing all necessary permit applications by July 1, 2001 at the latest;
- ...
- (k) Upon completion of the Project and payment of all related costs, any funds still remaining in the RRTF, including any interest which may have accrued, shall be paid directly to Eugene and Julia Drader or as they may direct.

5. Dispute Resolution

All parties agree that:

- (a) each of them will make their best efforts to do everything necessary to ensure that the Project is completed in accordance with this Memorandum.
- (b) to the extent that a dispute arises among the parties concerning the rights and obligations of the parties set out in this Agreement, which the parties in good faith cannot resolve on their own, the dispute shall, at the instance of any one party, be submitted to Mr. Justice Grant Burnyeat of the Supreme Court of British Columbia for summary resolution. For this purpose all parties agree that notwithstanding the dismissal of the Drader and GVRD Actions, Mr. Justice Burnyeat shall remain seized with both of these matters. All parties consent to be bound by any Order which Mr. Justice Burnyeat may make. ...

(Underlining added.)

2. The Statutory Right of Way ("the ROWA"):

EUGENE HAROLD DRADER ... (the "Grantor");

CITY OF ABBOTSFORD ... (the "City");

A. ...Grantor is the registered owner...;

B. The Grantor will construct and maintain the Works defined herein;

C. The City requires, and the Grantor has agreed to grant to the City, the Statutory Right-of-Way defined herein;

...

1. ...Grantor does hereby grant, in perpetuity, to the City a Statutory Right-of-Way and the full, free, uninterrupted, and unrestricted right and liberty at all times to :

(a) ..lay down, construct, operate, inspect, maintain, alter, enlarge, remove, repair, replace, renew, or otherwise service the Statutory Right of Way running from the road side ditch running along Marsh McCormick Road (the "Ditch"), through a notch adjacent to the Ditch and then through the Lands, which the Statutory-Right-of-Way permits the discharge of water from the Ditch through the Lands, together with all ancillary attachments and fittings.

(the "Works")

to facilitate the construction, operation, and maintenance of the Works;

- (b) bring on to the Statutory Right-of-Way all materials and equipment it requires or desires for the foregoing purposes;
- (c) clear the Statutory Right-of-Way and keep it clear of anything which, in the opinion of the City, constitutes, or may constitute, an obstruction to the use of the Statutory Right-of-Way or to the Works;
- (d) cross over the Lands for reasonable access to the Statutory Right-of-Way, and make reasonable ancillary use of the Lands in respect of the Works; and
- (e) do all acts which, in the opinion of the City, are incidental to the foregoing.

2. The Grantor hereby covenants and agrees with the City:

...

(f) to construct and, subject to Section 4, maintain, at its own costs, the Works and the Statutory Right of Way to standard acceptable to the City;

(g) that, should the Grantor fail to maintain the Works as required herein, the City may, but is not obligated to, at any time upon 30 days written notice from the City to the Grantor, and at any time, if in the opinion of the City, an emergency exists, at the cost of the Grantor take whatever action the City, in its sole discretion, deems necessary to bring the Works up to standards acceptable to the City, the costs of which may be added to the municipal taxes on the Lands; and

(h) subject to Section 5, to indemnify and hold harmless the City from and against all manners of action, causes of action, claims, debts, suits, demands, and promises whatsoever at law or at equity, whether known or unknown, which the Grantor now has, or may at any time have by reason of the

granting, existence or use of the Statutory Right-of-Way or of the Works, or of the carrying out of or failing to carry out of the construction or maintenance of the Works or of the flooding of the Lands or any damages to any improvements on the Lands thereon.

3. The City hereby covenants and agrees with the Grantor that should the City maintain the Works pursuant to Section 2(g), the City will do all works and things hereby authorized to be done by the City over, through, under, and upon the Statutory Right-of-Way in a good and workmanlike manner...;
4. The City covenants and agree that upon receipt of prior written notice from the Grantor that maintenance is required in that area of the Statutory Right of Way, to:
 - (a) Maintain the Ditch; and...
5. Should:
 - (a) the water flow from the Ditch through the Statutory Right of Way exceed the boundaries of the Statutory Right of Way; and
 - (b) the volume of water flow through the Ditch into the Statutory Right of Way exceed 1.5 cubic metres per second; and
 - (c) damages occur to the Statutory Right of Way or the Lands that are caused by 1 and 2;

the Grantor shall have no obligation to indemnify and hold the City harmless as set out in Section 2(h);

...

7. It is mutually understood, agreed, and declared by and between the parties hereto that:
 - (a) all expenses incurred in the initial construction of the Works and the maintenance and repair thereof shall be borne and paid by the Grantor;
 - (b) despite anything herein contained, there are hereby reserved to the City all its rights and powers of expropriation or other powers reserved to the City or enjoyed by it, by or under any Act of the Legislature of the Province of British...;

(Underlining added.)

3. Release

FULL AND FINAL RELEASE

FOR, AND IN CONSIDERATION of the payment to D.K. Heli-Cropper Int'l Ltd., and EUGENE HAROLD DRADER and JULIE ANN DRADER, (together the "Releasor") or to their solicitors, Brent Lokash, of the Province of British Columbia, the sum of \$1.00, the

receipt of whereof is hereby acknowledged; THE RELEASOR DOES HEREBY REMISE, RELEASE, AND FOREVER DISCHARGE, the CITY (“Releasee”), of and from any and all actions, causes of action, claims, suits, liens, debts, demands, damages, interest, costs, expenses and compensation of whatsoever kind and howsoever arising, whether known or unknown, and which the Releasor now has or any time hereafter can, shall or may have in any way resulting or arising from any cause, matter or thing whatsoever existing up to the present time, and in particular, but without restricting the generality of the foregoing, of and from or in connection with the subject matters of an action commenced by the Releasor as Plaintiff against the Releasee as Defendant in the Supreme Court of British Columbia Action No. S6352, Chilliwack Registry.

IT IS FURTHER UNDERSTOOD AND AGREED that for the consideration herein the Releasor expressly agrees not to make any further claim or take any further proceedings with respect to any matters which are the subject this Release against the Releasee or any other persons, companies, corporations or other legal entities whom might claim contribution or indemnity from the Releasee either in the Provinces of Canada, or elsewhere.

IT IS FURTHER UNDERSTOOD AND AGREED that for the consideration herein the Releasor expressly agrees not to make any further claim or take any further proceedings with respect to any matters which are the subject of this Release against the Releasee or any other persons, companies, corporations or other legal entities who might claim contribution or indemnity from the Releasee either in the Provinces of Canada, or elsewhere.

V. EVIDENCE AT TRIAL AND FINDINGS OF FACT

A. Witnesses

[44] The witnesses in the trial were the Plaintiff, his wife and two of his sons, Nicholas and Shane; officers and employees of the City; and expert witnesses on behalf of both parties.

[45] Witnesses from the City were: Art Kastelein, Keijoon Kim, Dick Penner, and Judy Swann.

[46] Five expert witnesses gave evidence at the trial: Matthew Kokan and Dr. Stephen Ramsay testified for the Plaintiff. Mark T. Bradshaw, Christopher T. Coles, and Chris Johnston testified on behalf of the City. Their areas of expertise included geotechnical engineering and hydrology.

B. The Plaintiff's Evidence regarding his Property

[47] The Plaintiff testified at length regarding the process of clearing the land for the construction of the house, Hangar and Driveway as well as the history of the Property from the 1996 slope failure, the 2004 and 2006 Overflow Events and other erosion and damage that he has observed on the Property.

[48] The Plaintiff describes the 1996 slope failure at the head wall of the Ravine to the east of the Driveway as being on land fully treed at the time.

[49] The remedial works access road is a switchback type road between the Right of Way and remediation works carried out since 2001. This area is visible in the photographs as a long triangular area covered in large rocks or concrete blocks.

[50] There were slides in 2004 at the bottom of the Right of Way in triangular areas on the Neighbour Property northwest of the forked maple.

[51] Further remedial work was carried out by the Plaintiff in 2008 and 2009 in the area at the bottom of the 2001 remediation works and which extends, as do the 2001 remediation works, a short distance on to the Neighbour Property. The work was done in 2008 and 2009 by the Plaintiff in order to arrest further landslides.

[52] The area above the 2008/2009 remedial works was shown to Mr. Kim in 2004 as being a slide area.

[53] There is presently an area of movement or continuing slope subsidence below the cat road and to the west of the remedial works access road.

[54] There are stepped landslides below the point of the triangle formed by the intersection of the cat road and the toboggan slope. Above those stepped slides is an area at the bottom of the intersection of the cat road and the toboggan slope where in 1998 weight was taken off the high point on the advice of the geotechnical engineer, Mr. Kokan.

[55] In the area adjacent there is a large continuing land slide area which starts at the bottom of the cat road and crosses the Property line to the Neighbour Property in an arc ending at the forked maple.

[56] At present the triangle of land bounded by the eastern portion of the road, the property line of the Neighbour Property and the southerly portion of the Right of Way indicates land sliding towards the Right of Way.

[57] Most recently, just prior to the commencement of the trial in June 2011, a new crack appeared in the Ditch beside Marsh McCormick Road to the east of the Notch and Berm.

[58] Mr. Drader is passionate about his Property. He has extensive knowledge of it and is able to observe from his helicopter. I accept that his descriptions of these locations are accurate. However, the dates of the subsidence and changes to the Property are not the subject of clear recollection or forthcoming evidence on his part. For example, he could not confirm whether some of the exposed blue clay is a residue of the 1996 slide path.

C. Expert Witnesses

1. Overview

[59] The evidence of the five expert witnesses is set out below and will be discussed further in the sections regarding nuisance, negligence and breach of contract.

[60] The evidence of the expert witnesses is relevant to the factual issues of: whether the flow of water in the Right of Way exceeded 1.5 m³/s; the capacity of the Culvert; the operation of the Culvert at the two Overflow Events; the damage if any to the Right of Way as a result of the flow of water through it; the damage if any to the Property as a result of the flow of water in the Right of Way; and the damage to the Property from erosion on the Neighbour Property if any and its cause. It is also relevant to the question of whether the Ravine is a natural waterway or watercourse.

[61] Mr. Kokan and Mr. Bradshaw were the geotechnical engineering experts. Dr. Ramsay, Mr. Coles and Mr. Johnston were qualified as experts in hydrology.

2. Plaintiff's Expert Witnesses

a) Matthew J. Kokan

[62] Matthew Kokan of GeoPacific Consultants Ltd. gave expert evidence on behalf of the Plaintiff. He has a Masters Degree in Applied Science, Civil Engineering and a Bachelor of Applied Science in Geological Engineering and was qualified as a geotechnical engineering expert with regard to slope stability factors. Mr. Kokan is very familiar with the Property having been retained by the Plaintiff in 1996 after the slope failure. He provided technical assistance to Plaintiff's counsel for the 1996 Action. He was present at the Settlement Conference and advised on the stabilization of the Ravine.

[63] Six reports authored by Mr. Kokan or GeoPacific Consultants Ltd. were filed and he gave evidence at the trial regarding the reports, observations and opinions.

[64] The first geotechnical report of GeoPacific Consultants is dated March 2, 2004, and describes a visit to the Property on February 10, 2004, as a result of a request from the Plaintiff to visit the Property after the first Overflow Event in January 2004.

[65] It describes erosion rills that developed in the Driveway as a result of the water overtopping the Drader Ditch. It concludes that the volume of water exceeded the capacity of the Culvert. The report does not consider the possibility that the Culvert was blocked or restricted.

[66] The first report continues with a discussion of the Ravine below the Drader Property and states that: "As a consequence of the lack of support at the toe of the slope, a number of landslides have developed above the base of the Ravine and appear to be propagating up the slope".

[67] It further states:

If the City of Abbotsford continues to allow water to enter into the top of the Ravine then we would expect down cutting to continue. Either the volume of water entering the Ravine should be controlled and maintained at historical levels (below current levels) or the water should be carried down the ravine in a pipe. Regardless it may be necessary to stabilize the bottom of the ravine now that the slopes have become unstable. This could take the form of infilling the ravine below the area that has been recently done.

[68] The second report, dated September 11, 2007, is authored by Mr. Kokan. The purpose of the visit for the report was to “assess the effectiveness of the stabilization measures implemented in the summer of 2001 and to determine if additional measures were required to stabilize the 29325 Marsh McCormick Road property”.

[69] Mr. Kokan concludes that “The treatment areas as well as the slopes adjacent to the treatment area appear stable. No obvious changes to the slopes were visible during my visit”. I note that the treatment areas referred to were included in the Project as described in the MOS.

[70] Mr. Kokan describes the Ravine on the Neighbour Property which is below and to the northeast of the Ravine on the Property. He states as follows:

My examination of the northern extent of the stabilized zone revealed very significant erosion and down cutting of the unprotected channel base and slopes to the north of the rock fill stabilized channel. The channel base north of the stabilized area is on adjacent private property (29399 Marsh McCormick Road) and therefore was not stabilized during the original stabilization program since access was not available on the adjacent property. As indicated in our original cost estimate for restoration, dated December 28, 2000, the original intent of the stabilization program was to fill the ravine base with rock both on 29325 and 29399 Marsh McCormick Road. Since access to 29399 Marsh McCormick Road could not be secured during the time of the 2001 channel restoration program, the recommended work was never completed. Based on my observations, I would estimate that the ravine channel has been down cut by between 0.5 and 1.0 meters north of the treatment area since the summer of 2001. The down cutting has resulted in fresh soil exposures along the lower ravine slopes. Photo 2, below shows the condition of the slope immediately down slope and north of the treatment area.

...

The stabilization works undertaken in 2001 appear to have been largely successful in controlling further down cutting in the base of the ravine on the 29325 Marsh McCormick Road property. This is evident from the stable

condition of the slopes on both sides of the ravine fill. In contrast, down cutting has continued north of the stabilize area, and this down cutting has destabilized the slopes on both the wet (sic) and east sides of the ravine.

(Underlining Added.)

[71] I note that the Project contemplated work on the Property and on the Neighbour Property.

[72] Mr. Kokan provides in this report a cost estimate to complete the repair and stabilization recommended on the portion of the Ravine that is located on the Neighbour Property and is directly below the Property.

[73] He refers to the Culvert having overtopped on a “number of occasions”. He expresses concern about the capacity of the Culvert. The assumption is that the Culvert is functioning and inadequate for the flow. He also provided an estimate for the Driveway and slope repairs due to surface water flows down the Driveway and into the top of the slope area. For the Driveway the estimate was \$4,150 and for fill in the Ravine on the Neighbour Property it was \$193,000 plus GST.

[74] Mr. Kokan reviewed the report of Dr. Stephen Ramsay in his report dated December 3, 2010. He concludes that there are no changes necessary to his September 11, 2007, report as a result of the report of Dr. Ramsay. His conclusion remains that the cause of the erosion is that excess flows are being directed into the Ravine on the Property, and that the repair costs remain applicable.

[75] Mr. Kokan also notes that although the enclosed pipe option was to be preferred, the solution of placing rock fill in the Right of Way appears to have been effective on the Property. He notes that the owner of the Ravine on the Neighbour Property below the Right of Way has benefited from the work done on the Right of Way as it has re-supported the Ravine slopes on both sides of the Ravine.

[76] The report of March 14, 2011, confirms that “erosion is ongoing in the base of the Ravine east of your [Mr. Drader’s] eastern property line”. He also notes continued down-cutting of the Ravine bottom in the Neighbour Property, and

movement of materials from the Ravine slopes into the base of the Ravine and down the Ravine.

[77] Mr. Kokan describes a number of changes observed within the Ravine since September 2007, including on the Property, the “progressive movement of a failure surface perpendicular to the ravine, on your property, just below the main residence.

[78] Mr. Kokan’s preferred solution remains the closed pipe option from the Ditch to the base of the Ravine. He was requested to consider a repair to achieve a longer 50 year design life for the slopes adjacent to the Ravine. The total cost for phase 1 which includes rock fill, design, engineering, equipment and labour is \$366,600. For phase 2 involving culvert installation the additional costs are \$211,137 for a total of \$577,737 plus HST.

[79] The location of the majority of the rock fill work would be on the Neighbour Property. He notes:

... A significant amount of rock fill would be required to in fill the eroded base of ravine and support the culvert and the majority of this work would be done on property owned by others. Right of way would need to be established to permit this work to be done as well as to permit the culvert to me (sic) maintained.

...

... coarse rip rap fill is also required within the ravine on the 29399 Marsh McCormick Road to stabilize the lands directly below the main residence at 29325 Marsh McCormick Road. As shown on the photos in Appendix A, the base of the ravine continues to be down cut by the flow of water and the amount of fill required to stabilize the base of the ravine and the rise of future soil movements on both sides of the ravine will continue to increase over time.

[80] Mr. Kokan reviewed the report of Mr. Bradshaw which was prepared on behalf of the Defendants. His comments are found in his letter dated April 5, 2011. Mr. Kokan agrees with Mr. Bradshaw’s observations and opinions in some areas. He agrees that there are slope failures within the gully on the Property that are not related to the water flow within the creek channel, although he notes that those are generally along the upper slopes of the gully. He notes that the erosion at the base of the gully is not being experienced elsewhere in the Pemberton Hill area.

[81] Mr. Kokan refers to the history. He understands that the ditches were constructed on the north and south sides of Marsh McCormick Road in 1963 and that they increased the drainage which naturally flowed into the head of the gully. The Notch and Berm later installed further increased the drainage into the gully.

[82] Mr. Kokan agrees with Mr. Bradshaw's opinion that the rock fill in the Right of Way has provided a stabilizing effect on the adjacent slopes. However, he says that there has been some settlement and shifting that would require additional fill.

[83] Mr. Kokan agrees with Mr. Bradshaw's opinion that the Overflow Events did not destabilize the fill materials in the gully.

[84] Mr. Kokan also agrees that the rock fill within the gully on the Property has buttressed or supported the lower gully slopes on the Property.

[85] The area of disagreement between Mr. Kokan and Mr. Bradshaw is with respect to the cause of instability in the lower portion of the gully which is northeast of the Property on the Neighbour Property. Mr. Kokan notes that significant erosion is ongoing in that portion of the Ravine and that a step has developed in the channel bottom below the protective coarse rock fill. The estimated result is the equivalent of "2.4 meters over 10 years which is a very high rate of slope loss and well beyond what would be expected in a natural gully setting". Mr. Kokan does not agree that the cause is the 1996 slope failure which removed the protective cover.

[86] The last report from Mr. Kokan is dated June 7, 2011, as a result of his visit to the Property on June 4, 2011, regarding a recent instability in the Ditch adjacent to the Property and east of the Berm. The new crack is on the south side of the gully extending about 20 meters east to west with maximum separation of 1.2 meters. Mr. Kokan concludes that he has insufficient information to determine the cause of the movement but states that it is possibly as a result of ditch water seeping into smaller pre-existing cracks.

[87] Mr. Kokan testified that he does not believe that the recent crack is related to something below, such as the work in the Right of Way, but to something above,

such as water in the Ditch, coming from the Road percolating down and causing lubrication on the other side.

[88] The reports and evidence of Mr. Kokan conclude that the rock fill placed within the gully on the Property (which is the Right of Way on the Property) has been effective in stabilizing the area of the Ravine on the Property. Minor additions have been done to fill depressions. The 2004 and 2006 overflow events did not affect the stability of the Property.

[89] It is Mr. Kokan's opinion that the ongoing erosion in the lower Ravine on the Neighbour Property is the cause of some of the slumping on the Plaintiff's Property. Down cutting in that part of the Ravine is releasing carpets of soil in the direction of the centre of the Ravine. This is progressing backwards toward the Property such that the western limit is below the cat track on the Property. The direction of movement is down slope and the shape of the affected area is long and narrow.

[90] The work recommended by Mr. Kokan for the Neighbour Property is an update of what was originally contemplated by the Project described in the MOS and which was not then done. It is now referenced in 2011 dollars and with the longer 50 year return period. Notwithstanding the longer time period, the Project work completed on the Property remains effective.

b) Dr. Stephen Ramsay

[91] Dr. Stephen Ramsay is an environmental engineer having obtained a Bachelor of Science Degree in Civil Engineering and a Master of Science Degree in Mechanical Engineering from the University of British Columbia and a PhD in applied Mathematics and Theoretical Physics from the University of Cambridge. His expertise includes air quality management, risk assessment, process design, optimization, and project management.

[92] Dr. Ramsay refers to himself as an Environmental Engineer. Hydrology makes up a substantial part of his work. Hydrology is the study of the distribution, the improvement and the quality of water on the surface of the earth.

[93] He also has expertise in matters related to engineering meteorology which is related to hydrology. He was qualified to give expert evidence as a hydrological expert regarding the hydrological factors relevant to the case at bar. He was not tendered as a geoscientist or as a geotechnical engineer.

[94] In his report titled “Analysis of Hydrological Factors contributing to gully Erosion and Instability at 29325 Marsh McCormick Road, Abbotsford, B.C.” on behalf of the Plaintiff, Dr. Ramsay addresses questions posed to him. The following is a summary of his “Summary and Conclusions” of the questions and his responses:

7. SUMMARY & CONCLUSIONS

...

1. Does the right-of-way through the gully located on the Drader property accommodate the flow of water which comes from the ditch which borders the north side of Marsh McCormick Road, enters the gully at the southerly end, and flow in a north-easterly direction through the gully?

a. No. The gully does not accommodate the flow of water from the ditch on the north side of Marsh McCormick Road.

b. We distinguish here between:

i. The “natural” drainage pattern for the Drader gully i.e. the drainage associated with the long term geological history of the area surrounding area, and

ii. The “current” drainage pattern due to the construction of the berm in the ditch on the north side of Marsh McCormick Road and diversion of the flow from the ditch into the Drader gully.

c. Hydrological analysis indicates that the natural drainage basin of the Drader gully is approximately 1.63 ha. Due to the berm constructed in the Marsh McCormick ditch and the diversion into the Drader gully the drainage basin for the Drader gully has been increased to approximately 14.7 ha. Hence the drainage area contributing to flow into the Drader gully has been increased by a factor of approximately 8.

...

e. The corresponding drainage flows have been determined using hydrological analysis using the TR55 model and a Type III storm. The drainage flow to the Drader gully from the natural drainage basin is approximately 0.18 m³/s based on a 10 yr storm. The flow into the Drader gully from the current drainage is 1.49 m³/s based on the same storm. ...

- f. Due to the increased drainage area contributing to flow into the Drader gully and consequential increase in flow into the Drader gully the erosion rate in the Drader gully has increased. This is the primary mechanism associated with the erosion and instability observed in the Drader gully.
2. Can the gully on the Drader property safely and properly handle the water flowing through the right-of-way?
- a. No. The Drader gully cannot accommodate the flow of water flowing through the right-of-way.
- ...
3. Has the right-of-way in the gully experienced water flows in excess of 1.5 cubic meters per second since March 26, 2001? In particular, has this occurred on January 29, 2004 and January 13, 2006?
- a. Yes. Flows in excess of 1.5 m³/s have occurred on January 29, 2004 and January 13, 2006.
 - b. Hydrological analysis based on the Abbotsford A meteorological records provides a detailed list of occurrences of flows exceeding m³/s into the Drader gully.
 - c. On the basis of hydrological analysis the storm on or about January 13, 2006 would produce a flow into the Drader gully exceeding 1.5 m³/s.
 - d. The AES (Atmospheric Environment Service) IDF (Intensity Duration Frequency) curves for Abbotsford A indicate that flows in excess of 1.5 m³/s have occurred into the Drader gully.
 - e. On the basis of the hydrological model flows in excess of m³/s will occur into the Drader gully approximately once every 10 years.
- ...
4. Given the topography of the lands adjacent to the gully, and the hydrological factors involved, can it be expected that the right-of-way will receive flows in excess of 1.5 m³/s? If so, how frequently will this occur?
- a. Yes. Hydrological analysis, which includes an analysis of the topography of the area surrounding the Drader property to determine the drainage basin (natural and current) of the Drader gully indicates that flows in excess of 1.5 m³/s will occur more frequently with recent trends to more intense storms.
- ...
5. Has there been sloughing, subsidence, or erosion of the lands directly adjacent to the right-of-way, specifically the banks above the water course through the gully, since 2001? If so, what is the cause of this erosion?

- a. Yes. Sloughing, subsidence and erosion have occurred and are evident in the Drader gully.
 - b. The approximate date of the erosion events can be determined from the disturbance of the overlying vegetation (eg grass). The sloughing or slumping is occurring at a rate exceeding the rate of growth of the overlying vegetation. Furthermore, this sloughing or slumping is not observed in other gullies along the perimeter of Pemberton Hill that are not subjected to increased flow above that due to their natural drainage areas.
 - c. The primary mechanism for the erosion observed in the Drader gully is flow induced erosion (i.e. gully erosion) which is a well understood phenomenon. There is an extensive literature on gully erosion and the factors contributing to gully erosion.
 - d. The gully erosion process involves the removing of sediment and transport downstream by the flow of water. Eventually, the erosion leads to instability of the banks of the gully.
6. If there has been erosion, and it has occurred since 2001, what issues does this raise for the efficacy of right-of-way as a drainage system, and can the gully continue to be used safely as it is currently being used as a water course by the City of Abbotsford (in particular, with reference to the safety of Mr. Drader, his family, his property, or his neighbours' property)?
- a. The flow of water in the gully exceeds the natural capacity of the Drader gully.
 - b. Due to the flow exceeding the natural capacity of the Drader gully erosion rates are increased leading to increased removal of sediments from the gully and a tendency towards instability in the slopes of the Drader gully.
 - c. The Drader gully cannot continue to handle the flow from the current drainage area (i.e. due to the berm and diversion in the ditch on the north side of Marsh McCormick Road) without continued erosion and instability as the gully adjusts to the current flow.
7. Are the lands (Mr. Drader's property) being damaged as a result of the use of this gully as a water course? If so, then what observations can be made regarding the volume of water going through the gully in comparison to historical volumes, erosion and the speed at which it is occurring, the potential for further erosion or subsidence, or any other observations relating to damage to the Lands?
- a. Yes. The Drader property (and other adjacent properties) are being damaged due to the higher erosion rates associated with the current drainage area and corresponding flow compared with the natural drainage area and corresponding flow.

- b. The comparison of current flows with natural flows is given above.
8. Did the removal of vegetation by Mr. Drader above the gully prior to the landslide event in 1996 cause or contribute, in any significant way, to the landslide which occurred in 1996?
- a. It is possible that the removal of vegetation in the Drader gully contributed to some instability of the slopes of the Drader gully. It is generally understood that vegetation contributes to the stability of slopes.
 - b. The primary mechanism involved in the erosion and instability observed in the Drader gully is associated with the channel at the base of the gully. This area is outside the area where any vegetation has been disturbed. Furthermore, the instability mechanism is associated with under-cutting and sloughing near the active gully channel.
9. Has Mr. Drader's construction of a drainage ditch, which runs in a north-south direction along the western boundary of his property, and intersects with the City of Abbotsford's drainage ditch running along the northern edge of Marsh McCormick Road contribute at all, or in any significant way, to the overflow events of January 29, 2004, or January 13, 2006 at which time water crossed the Drader Driveway and entered into the gully?
- a. The ditch which runs in the north-south direction along the western boundary of the Drader property lies entirely within the natural drainage basin of the Drader gully. The direction of the ditch approximates the natural flow direction in the natural drainage basin. As such, the ditch does not contribute any additional water to the ditch running on the north side of Marsh McCormick Road and the ditch does not alter the overall drainage patterns associated with the natural drainage to the Drader gully.
- ...
10. Is Mr. Drader's north-south drainage ditch on his property causing erosion, if any, within the gully on his property?
- a. The north-south drainage ditch does not modify or change the flow in the ditch on the north side of Marsh McCormick Road or the Drader gully. The north-south drainage ditch lies entirely within the natural drainage basin of the Drader gully and does not contribute to the erosion in the gully in any significant way.
- ...
11. Does Mr. Drader's north-south drainage ditch on his property affect at all, or in any meaningful way, the historic drainage pattern of the area surrounding Mr. Drader's property or the gully?
- a. The north-south drainage ditch lies entirely within the natural drainage basin of the Drader gully and therefore does not affect drainage to the gully.

- b. The north-south drainage ditch conveys water to the ditch along the north side of March-McCormick Road which corresponds to the natural drainage pattern.
12. In order to prevent any further damage to the Drader property, or any further erosion of the gully, what should be done with the water flowing into and through it? Can the gully handle the amount of water that it may, from time to time, receive? Should the water be directed elsewhere? If it is to continue flowing through the gully, is there a manner in which this should occur? What, in your opinion, is the appropriate level for such a drainage system to be designed for, or for what severity of event would it normally be designed to handle?
- a. The most obvious corrective action is to remove the berm and diversion in the ditch on the north side of Marsh McCormick Road allowing the flow of water to return to the natural pattern flowing to the east along the north side of Marsh McCormick Road and eventually to the unnamed creek.
 - b. This would also have the effect of reducing the water flow to the Drader gully below natural drainage levels.
 - c. If the flow of water from the current drainage is to continue in the Drader gully it is likely that the entire water course would need to be contained within a culvert to avoid continuing erosion and damage to the adjacent lands.
 - d. Further hydrological analysis should be performed to confirm the design values for ditches, culverts etc related to the Marsh McCormick ditch option (natural drainage pattern) however a flow in excess of 3 m³/s is indicated by the preliminary hydrological analysis to accommodate normal flows and those associated with plausible problem conditions (eg blockage of the culvert adjacent to 29095 Marsh McCormick Road).
 - e. The ditch on the north side of Marsh McCormick Road must be properly maintained throughout its length to the point of discharge into the unnamed creek to accommodate this option.
 - f. The unnamed creek can accommodate this flow based on hydrological analysis which indicates that this is the natural flow pattern for flow originating in the vicinity of Marsh McCormick Road.
 - g. The design return period for the critical design event should be consistent with standard hydrological design practice. The return period for the Drader gully based on the hydrological analysis is less than 10 year which is not adequate. Given the critical slope stability issues and previous instability event as design return period of at least 100 years should be used.

3. Defendant's Expert Witnesses

a) Mark T. Bradshaw

[95] Mark Bradshaw is a registered professional engineer with a Bachelor of Science Degree in Civil Engineering and a Master of Science Degree in Geotechnical Engineering. He has 25 years of experience in Geotechnical Engineering investigation, design and provision of specialist construction services. He is also familiar with the stabilization and remediation of slope failures located throughout the lower mainland area of British Columbia. He was qualified as an expert witness in the area of geotechnical engineering.

[96] Mr. Bradshaw was originally retained by the City in 1996 shortly following the slope failure that occurred within the gully at the Property. Since then he has visited the Property on several occasions.

[97] The report of Mr. Bradshaw took the form of questions followed by his analysis and response. The following summary includes the questions and a summary of his responses.

[98] The first question is: "What is the form and character of the slope failures that have occurred within the gully located at the southeastern portion of the 29325 Marsh McCormick Road property and nearby sites?"

[99] Mr. Bradshaw addresses two aspects of the Property in this portion of his opinion. With regard to the April 23, 1996, slope failure, he notes that it was preceded by extensive land clearing, vegetation removal, slope disturbance, drainage redirection and fill placement by Mr. Drader within and adjoining the gully. He states: "It was and is my professional opinion that these activities carried out by [Mr.] Drader were the principal factors that caused the April 1996 slope failure, which resulted in extensive soil and vegetation disturbance at the base of the gully and extending several meters up the steeply-sloping banks of the gully."

[100] As a result of his site observations he notes that the natural sub-surface conditions within the gully generally comprise 3 types of soil being a relatively thin

surficial layer of organic top soil, underlain by weathered surficial soils comprising of a relatively thin layer of weak silty clay derived from natural weathering of the underlying more competent soils, and very strong un-weathered silt and clay soils which can be described as hard clay not disturbed. He notes that the most prevalent type of slope failure is the down slope movement of the surficial organic material and the weathered or weakened silt and clay soils which is referred to as surficial sloughing type slope instability. That is a natural mass wasting process common within steeply sloping terrain which can be exacerbated by inappropriate land development activities. Deep-seated failures are rare due to the strength of the underlying un-weathered soils.

[101] Mr. Bradshaw noted widespread evidence of the surficial type of slope instability. Some are related to areas disturbed by the clearing and development of the land or the disturbance caused by the April 1996 slope failure. Other areas of slope failures are in his opinion the result of natural mass wasting processes within the gully that continued to occur due to its significant height, steepness and marginally stable nature.

[102] The second question is: “Do you agree with Ramsay’s opinion that other gullies on the perimeter of the Pemberton Hill area of Abbotsford show no evidence of instability?”

[103] Mr. Bradshaw disagrees with Dr. Ramsay’s opinion in this regard. He notes that no details or supporting information is provided.

[104] Mr. Bradshaw reviewed historical aerial photographs taken of the Pemberton Hill area between 1938 and 2004. In those photographs he notes evidence of several inferred slope failures that have occurred within the steeply sloping terrain located to the north of Marsh McCormick Road on other properties. He particularly notes a failure inferred to have occurred between 1954 and 1963 at a tributary to the Drader gully which is shown in a 1963 photograph.

[105] Mr. Bradshaw has also noted evidence of slope failures on the banks of the Ravine on the Neighbour Property that in his opinion are not related to water flow in the creek channel or the April 23, 1996, failure. He again attributes those surficial slope failures to the terrain which is steeply sloping combined with the soil conditions in the Pemberton Hill area which make it susceptible to shallow, surficial, sloughing-type of slope failure.

[106] The third question is: “Do you agree with Ramsay’s and Kokan’s opinions that the City of Abbotsford redirected the flow of water from the northern roadside drainage ditch on Marsh McCormick Road to the Drader gully?”

[107] Mr. Bradshaw further references historical aerial photographs taken of the area after 1938. He concludes that Marsh McCormick Road was constructed prior to 1938. It is his opinion that the 1938 images show that the drainage ditch at the north side of Marsh McCormick Road discharged to the Drader gully since at least that time. 1963 and 1969 photos show natural and man-made watercourses also leading to the headwall area of the Drader gully.

[108] He concludes that the only significant changes to the drainage system at the Property since the 1960’s were the changes made by Mr. Drader together with possible changes made by previous owners of the Property. Those include filling, leveling and developing the watercourses that previously crossed the southern portion of the Property, and the construction of the north/south ditch, the Drader Ditch.

[109] The fourth question is: “Has the fill material placed within the gully by Drader stabilized the gully slopes at his property?”

[110] In responding to this question Mr. Bradshaw notes that Mr. Drader placed a significant quantity of fill materials within the upper limits of the gully on the Property prior to the April 23, 1996, slope failure. That material was a significant contributing factor to that slope failure and most of it was transported down slope in the gully at the time of that failure.

[111] The fill material now in the gully extends approximately 10 meters eastward onto the Neighbour Property. As the surveyors were denied access by Mr. Drader for surveying in the area located to the north of the area which has been filled, the present topography is not known, but it is visible from photographs.

[112] Mr. Bradshaw understands that the rock fill constructed by Mr. Drader in the gully was designed by Mr. Kokan. That fill provides a buttressing effect that has improved the stability of the gully slopes adjoining the fill zone but some potential remains for surficial slope instability as a result of the original development of the Property or the 1996 slope failure or the continuation of the natural mass wasting processes over time.

[113] The fifth question is: “Did the overflow of the drainage ditch that occurred on January 29, 2004, and January 13, 2006, destabilize the fill materials placed by Drader within the gully at his property?”

[114] Mr. Bradshaw notes from his review of the historical aerial photographs that the natural watercourses and drainage ditches that previously crossed the southern portion of the Property in a west-east direction and conveyed storm drainage to the Ravine were modified by Mr. Drader. He also notes the construction of the Drader Ditch, and interprets the surveys to conclude that the lowest point in the drainage system is the eastern bank of the Drader Ditch near the southwestern portion of the Property.

[115] On Mr. Bradshaw’s inspection of the Property on March 12, 2004, after the first Overflow Event he observed that water had recently flowed across the land and caused “relatively minor surface erosion and rilling of the near-surface soils. On his inspection on September 23, 1997, he observed no residual effects or damage attributable to the Ditch overflow.

[116] As a result of the thickness of the coarse and highly permeable rock fill and concrete rubble within the gully he opines that overflow from the Ditch is unlikely to

have caused any damage or had any deleterious effect on the stability of the slopes at the Drader gully or elsewhere on the Property.

[117] The sixth question is: “Is the water flowing within the drainage Right of Way at the Drader property causing damage or slope failures at the Drader property?”

[118] As a result of the fill, which is coarse rock and concrete rubble several meters thick within the gully, the Right of Way and creek channel are obscured and cannot be inspected. Mr. Bradshaw observed no other evidence indicating that the water flow in the Right of Way is causing damage or slope failures on the Property.

[119] It is Mr. Bradshaw’s understanding based on Mr. Coles’ opinion that the flow rate of 1.5 m³/s described in the Right of Way agreement has not been exceeded. In that regard he states:

In my professional opinion the design and construction of the rock fill and concrete rubble fill zone should have been carried out by Kokan and Drader to accommodate the existing and foreseeable site conditions, including the potential for water flows within the drainage right of way of up to 1.5 m³/s. In my opinion, any damage caused by the creek flow within the drainage right of way is attributable to limitations or deficiencies in the design of these works, their construction or both.

[120] The seventh question is: “Is the water flowing within the creek channel at the adjoining property to the east (29399 Marsh McCormick Road) causing damage or slope failures at the Drader property?”

[121] This question deals with any consequences from water in the Ravine or creek channel on the Neighbour Property affecting the Property. After a discussion of the effects of the 1996 slope failure, Mr. Bradshaw states the following:

Prior to April 23, 1996 slope failure, the base and banks of the creek channel were most likely covered by a layer of colluvial soil and vegetation that provided some protection to the base of the creek channel against erosion, and some protection to the banks of the creek channel against slope instability. These soils also provided some buttressing effect to the soils that mantled the slopes of the gully above the zone of active creek flow. As described in my previous reports, the April 23, 1996 slope failure extensively disturbed and/or removed the soils and vegetation from the base and banks of the creek channel within the approximate limits shown in Drawing 8496-10, and thus exposed the underlying soils to erosion and destabilized the banks

of the channel. Further, removal of these soils removed the buttressing support they provided to the soils lying higher on the slope, thus reducing their stability and increasing the likelihood for shallow, surficial sloughing-type instability both within the zone of disturbance and higher on the gully slopes.

In my professional opinion, any soil erosion or bank instability caused by water flow within the creek channel at the 29399 Marsh-McCormick Road property is mostly attributable to the damage and disturbance caused by the April 23, 1996 slope failure, which removed the surficial soils and vegetation from the creek channel that previously protected the creek channel from excessive soil erosion. Further, it is my professional opinion that any instability that occurs at the banks of the creek channel that may be attributable to water flowing within the base of the gully is indistinguishable from instability that occurs due to the other factors outlined above. [the original site development, the April 1996 slide and its effects and natural mass wasting.]

[122] He concludes that shallow, surficial type failures will likely continue on the Neighbour Property and throughout the gully including on the Property.

[123] The eighth question is: “Kokan’s report dated March 14, 2011, summarizes his observations of new evidence of ground movement and slope instability at Drader’s property since September 11, 2007, do you agree with Kokan’s opinions on the nature and cause of these features?”

[124] Mr. Bradshaw responds to the six changes which Mr. Kokan notes at the Drader Property.

[125] Subheading 1 of question eight is: Failure of the slopes within the gully located to the east of the main residence. This refers to the “Failure surface perpendicular to the ravine, on your property, just below the main residence.” Mr. Kokan was concerned that the continuing loss of support at this slide zone could make the bench adjacent to the main residence more at risk.

[126] Mr. Bradshaw notes that the area described by Mr. Kokan is an area where Mr. Drader removed vegetation and carried out excavation, fill placement and access roadway construction prior to and following the April 23, 1996, slope failure. Mr Bradshaw sees Mr. Drader’s clearing work and the 1996 slope failure as the most likely factors in the recent soil slumping-type failures which he has observed. He has not observed evidence that the failures are attributable to soil erosion in the creek

channel. He notes that soil on the upslope side of some mature trees indicate that the slope failure is not initiated from the creek channel down slope of the tree position.

[127] He further notes that the area in question now has a northeast-southwest aligned access roadway [the cat road] which was constructed by Mr. Drader. He opines that the construction of this roadway which changed the surface drainage pattern contributed to slope instability.

[128] He further notes that as the surveyors were not allowed access to this area when they did their work in January and February 2011, there is no recent survey of the alleged slope failure features available for his review.

[129] Subheading 2 of question eight is: Additional rock fill and concrete rubble placed within the gully by Drader. Mr. Bradshaw understands that the additional rock fills were placed by Mr. Drader on the geotechnical engineering input of Mr. Kokan.

[130] Subheading 3 of question eight is: Settlement and shifting of the coarse rock fill and concrete rubble at the base of the gully. As Mr. Kokan did not specify the location of the area of settlement and shifting of the fill at the base of the gully, Mr. Bradshaw could not locate it and it was not apparent on inspection. Again, he notes that this fill was placed with the geotechnical engineering input of Mr. Kokan, after the ROWA was in place. The ROWA contemplated water flow up to 1.5 m³/s, and the design and construction should have been carried out to accommodate that potential period.

[131] Subheading 4 of question eight is: Soil erosion at the base of the creek channel at the 29399 Marsh McCormick Road property.

[132] Mr. Bradshaw has observed some evidence of soil erosion and instability in the banks of the creek channel on the Neighbour Property. This is largely attributable to the disturbance from the April 23, 1996, slope failure as well as the natural mass wasting processes that have been active within the gully since its formation.

[133] Mr. Bradshaw has “not observed evidence that slope failures have occurred on the Neighbour Property due to soil erosion within the creek channel that have subsequently caused slope failures at the Drader Property.” He further states that even if such failures have occurred it would not be possible to distinguish them from slope failures caused by the disturbance that resulted from the 1996 slope failure.

[134] Subheading 5 of question eight is: Slumping of soils from the gully slopes into the creek channel.

[135] Mr. Bradshaw describes this as part of the natural mass wasting process that led to the formation of the gully which was accelerated by the residual effects of the 1996 slope failure. He also attributes soil slumping failures on the steeply sloping banks as a residual effect of the “significant disturbance to the surficial soils and vegetation that resulted from Drader’s land clearing and construction on his lands and the subsequent April 23, 1996, slope failure caused by this construction.”

[136] Subheading 6 of question eight is: Settlement of the ground located to the west of the exposed rock fill zone within the gully, including settlement of the asphalt-surfaced Driveway.

[137] Mr. Bradshaw attributes the relatively minor subsidence of an area on the Driveway near the garage which forms a narrow east-west depression in the asphalt as likely attributable to settlement of fill or loss of ground within a trench excavation containing buried piping. It does not appear related to the gully slopes.

[138] The area between the garage and the gully slope crest is likely attributable to the stability of a fill zone. Any movement within the rock or concrete rubble fill zone was not able to be confirmed but would be a consequence of a limitation or deficiency in the design or construction.

[139] With regard to Mr. Kokan’s recommendation and cost estimate for fill materials on the Property and the Neighbour Property, no designs were presented. Mr. Bradshaw was therefore unable to make any meaningful comment.

[140] In cross-examination Mr. Bradshaw agreed that there was some exposure of deeper blue clay but could not say if that occurred in 1996.

[141] It is Mr. Bradshaw's opinion that the slumping on the Property and the Neighbour Property is due to natural factors and the continuing effects of the 1996 slide. Slope failures on the Neighbour Property are not causing failures on the Property.

b) Christopher T. Coles

[142] Christopher T. Coles is a registered professional engineer having obtained a Bachelor of Science Degree in Civil Engineering and a Master of Applied Science Degree in Civil Engineering. He has over 14 years experience in Hydrotechnical Engineering including rainfall/runoff analysis and culvert and open channel flow assessments. The calculation of water flows and the capacity of pipes are significant parts of his expertise. He was qualified as an engineer with a particular expertise as a hydrologist in water resources and hydrologic computer modelling.

[143] At the request of the City he carried out a Hydrotechnical analysis of the watershed which flows to the Right of Way, and a review of the report of Dr. Ramsay.

[144] In his Hydrotechnical Engineering opinion report, Mr. Coles discusses the following questions:

1. What is the hydrological setting of the lands which drain to the Right of Way?
2. Has the flow in the Right of Way exceeded 1.5 m³/s since March 26, 2001?
3. Did the flow in the Right of Way exceed 1.5 m³/s on January 29 and 30, 2004 or January 13, 2006?

4. Given the nature of the Right of Way watershed and the hydrological factors involved can it be expected that the Right of Way will receive flows in excess of 1.5 m³/s? If so, how frequently will this occur?; and
5. What is the maximum capacity of the Culvert under the Driveway which leads from Marsh McCormick Road to the Drader Property?

[145] In order to calculate the volume of water flowing into the Right of Way, Mr. Coles first discusses the area from which the water flows, or the watershed. He began his analysis with a topographic map purchased from the City, and then identified the particular surfaces which contribute runoff to the Right of Way. The boundaries of the resulting map were verified with site observations.

[146] He concluded that the watershed area is 11.6 ha. This is smaller than the 14.7 ha area reported by Dr. Ramsay because the flow from one area is conveyed away from the Right of Way by a culvert adjacent to 29095 March McCormick Road. There was no evidence of that culvert being blocked as Dr. Ramsay assumed it may be.

[147] Another variable to be considered is land use and surficial geology. The land use is developed with homes, pastures, treed area and driveways. The surficial geology influences the rate at which rainfall infiltrates into the ground and therefore influences the amount of direct runoff. The surficial soil is stony silt or loamy clay which results in comparatively low infiltration rates and higher runoff rates.

[148] The “time of concentration” of a watershed is the amount of time it takes for runoff from the most distant point to reach the outlet. It is used to determine the duration of a storm event which would produce the maximum runoff. Mr. Coles estimates the time of concentration of this watershed to be 0.20 hours or 12 minutes which is very similar to the estimate of 0.19 hours or 11.4 minutes in the Ramsay report.

[149] Rainfall data is an important factor. Mr. Coles relies on the Environment Canada data from the meteorological station at the Abbotsford Airport which is

approximately 15 km south of the Property. Although the Property is about 50 m higher than the airport, this precipitation data, which is from a higher elevation than the Mission station, is considered representative. However, as no short duration records are available for the Abbotsford Airport station after 2002, there is no record of actual storms that would be part of the critical duration for this watershed after 2002. He therefore relied on short duration precipitation data from other nearby meteorological stations for the period from March 26, 2001 to December 31, 2010.

[150] The two precipitation events which were identified as having the highest potential runoff rate were August 9, 2008 and September 19, 2010. The rainfall figures were respectively a one day total precipitation of 32.8 mm and 41.8 mm, and a peak 15 minute intensity of 43.7 mm/hr and 32 mm/hr. For the purposes of the second date, it was conservatively assumed that the soil conditions were saturated at the time of this event as it had been raining on the previous days.

[151] The dates of the two Overflow Events were also evaluated. January 29 and 30, 2004, had a total precipitation of 34.8 mm and a peak 15 minute intensity of 11.6 mm/hr. On January 13, 2006, the one day total precipitation was 61.2 mm and the peak was 8.0 mm/hr. It was also conservatively assumed that the soil conditions were saturated at the time of these events.

[152] Mr. Coles concludes that the Overflow Events of 2004 and 2006 are not considered to be extreme and that the precipitation depths recorded on these days have been exceeded numerous times between March 26, 2001 and December 31, 2010.

[153] In order to answer the second question regarding the flow in the Right of Way since March 26, 2001, Mr. Coles utilizes the same two methodologies as in the Ramsay report in order to be consistent and since he finds those to be reasonable for the intended use. His opinion is that the peak rate of runoff from the watershed was 0.66 m³/s or 0.53 m³/s depending on the method used.

[154] The Rational Method is a relatively simple methodology. It is a form of coefficient that relates physiographic characteristics of the watershed to its hydrologic response to rainfall. Mr. Coles selected the highest value of 0.40 for the coefficient "C" to provide a conservatively high estimate of peak runoff rate.

[155] The analysis was completed for the dates of the two highest potential runoffs: August 9, 2008 and September 19, 2010. The results indicate that the peak rate of runoff from the Right of Way since March 26, 2001 was 0.66 m³/s. No comparison to the Ramsay report was possible as, although it utilizes this method, it does not present a value.

[156] The TR-55 hydrologic modelling platform was also used by Dr. Ramsay. Using the TR-55 methodology, Mr. Coles opines that the peak rate of runoff from the Right of Way since March 26, 2001, is 0.53 m³/s. The CN value of 79 was used in the TR-55. For the September 19, 2010, event it was adjusted based on the assumption that the soil was saturated from several prior days with rain.

[157] The model accepts one day precipitation events with several predefined design precipitation distributions, I, IA, II, and III. Mr. Coles chose the Type IA storm which is recommended by the USDA for the region near Abbotsford. The model used by Dr. Ramsay was the Type III storm which the USDA recommends for use only near the Gulf of Mexico and along the coast of the Atlantic Ocean.

[158] On the basis of his analysis, it is his professional opinion that the rate of runoff from the watershed has not exceeded 1.5 m³/s since March 26, 2001.

[159] The third question addressed is whether the flow in the Right of Way exceeded 1.5 m³/s on the dates of the Overflow Events on January 29 and 30, 2004 and January 13, 2006. He concludes that it did not.

[160] Mr. Coles answers this question similarly by using the Rational Method and the TR-55 methodology. The Rational Method results in runoff rates for those two dates of 0.15 m³/s and 0.10 m³/s. Since no results were provided in the Ramsay report, no comparison was possible.

[161] The application of the TR-55 methodology results in peak runoffs of 0.26 m³/s and 0.17 m³/s for the dates of the Overflow Events. The Ramsay report reached a conclusion that the peak runoff rates exceeded 1.2 m³/s, but as no clear indication of model results was provided in the Ramsay report, Mr. Coles could not make any further comparisons.

[162] It is the professional opinion of Mr. Coles that the flow in the Right of Way did not exceed 1.5 m³/s on January 29 and 30, 2004 or January 13, 2006.

[163] The fourth question addresses the likelihood and frequency of flows in excess of 1.5 m³/s in the future. In responding, Mr. Coles refers to the “return period” which indicates the statistical probability of an event of the corresponding magnitude or larger occurring within a given year. He explains that if the return period of an event is two years, the probability of this event being equalled or exceeded in any given year is 1/2 or 50%. If the return period is 100 years, the probability is 1/100 or 1%.

[164] The TR-55 Methodology was applied to simulate several 24 hour duration design storm events using the Type IA design storm distribution recommended for this region. The CN was increased to 90 to maintain the conservative assumption that the ground was saturated.

[165] The results of the model indicated that the peak rate of runoff from the Right of Way watershed for a 24 hour 100-year return period storm event would be 0.73 m³/s. The Rational Method, which produces conservatively higher peak flows, resulted in a 1.24 m³/s runoff rate for a 100-year return period. No comparisons could be made with the Ramsay report for the same reasons as noted above.

[166] It is Mr. Coles’ professional opinion that the likelihood that the Right of Way will receive flows in excess of 1.5 m³/s is low and less than 1% in any given year. He concludes that: “An event with a return period in excess of 100 years would be required to produce a runoff rate of 1.5 m³/s from the Right of Way watershed”.

[167] He notes that these results differ significantly from those presented in the report of Dr. Ramsay where the Type III design storm distribution was applied. Mr.

Coles states that it is his opinion that: “Dr. Ramsay made an inappropriate choice by selecting a design storm distribution that the USDA recommends for use only near the Gulf of Mexico and along the coast of the Atlantic Ocean ...”. Data from the comparison of a Type III storm calculation and actual Abbotsford Airport precipitation illustrates why the use of the Type III design storm is not recommended for this geographic area. The chart shows that a Type III storm calculation is almost two times the actual precipitation.

[168] The final area of Mr. Coles’ report and testimony was the maximum capacity of the Culvert under the Driveway. The Culvert is 500 mm in diameter. He performed the analysis using a computer program called HY-8 which is a culvert analysis program distributed by the United States Federal Highways Administration. This analysis indicated that the Driveway would start to be over topped at a flow rate of 0.25 m³/s.

[169] The maximum capacity of the Culvert was checked using a culvert design chart from the B.C. Ministry of Transportation Design Guide. This chart indicates that the maximum capacity of a 500 mm diameter culvert would be 0.21 m³/s, an amount which is expected to be lower because of the design criteria inherent in the chart.

[170] Mr. Coles notes that Dr. Ramsay concludes that the maximum capacity of the Culvert was 1.2 m³/s. He opines that Dr. Ramsay made a mistake when calculating the maximum capacity of the Culvert, which has led to his significant overestimate of the flow. The mistake is in using a diameter of 0.9 m to 1.1 m, which is approximately double the diameter and four times the flow area, in applying the American Concrete Pipe Association design sheet, rather than the correct diameter of 0.5 m.

[171] It is Mr. Coles’ professional opinion that the maximum capacity of the Culvert without overtopping the Driveway would be approximately 0.25 m³/s and that this capacity would be greatly reduced if the Culvert or the Ditch were obstructed or blocked with grass, leaves and gravel.

c) Chris Johnston

[172] Chris Johnston testified on behalf of the City. He is a registered professional engineer with a Bachelor of Applied Science in Civil Engineering. He has 22 years of experience in hydrology, hydraulics, storm water management and flow monitoring. His report is as a result of having been retained to review the storm water modelling done by Dr. Stephen Ramsay in regards to the flows at the Property.

[173] The specific questions posed to Mr. Johnston were:

- (1) Has the Right of Way in the gully experienced water flows in excess of 1.5 m³/s since March 26, 2001?;
- (2) Did the Right of Way in the gully experience water flows in excess of 1.5 m³/s on either of January 29, 2004, or January 13, 2006?;
- (3) Based on the description of the Driveway Culvert provided by Dr. Ramsay do you agree with his conclusion that the maximum capacity of the Culvert is 1.2 m³/s?

[174] Mr. Johnston did not perform a site visit as part of his assessment as the relevant parameters that could be observed in the field were well documented in both the reports written by Dr. Ramsay and Mr. Coles.

[175] In order to determine the water flows, Mr. Johnston used the XP-SWMM hydrologic modelling software. The reason for the use of this program rather than the TR-55 model is that it is a single event simulation model and XP-SWMM is a continuous simulation model capable of running a data series over multiple years. It analyzes the actual soil moisture conditions prior and following each rainfall event. His firm has extensive experience with this program having recently completed two major watershed studies in the Abbotsford area using this model.

[176] Mr. Johnston used the parameters from the Ramsay report of 14.7 ha of catchment area, more conservative than Mr. Coles, and a ground slope of 8%. With regard to determining rainfall the City of Abbotsford Marshall 2 station data was

available from September 2003 in 5-minute increments. The Maple Ridge Kanaka Creek station, which is across the Fraser River and is the closest to the Property, had on average 34% more precipitation than the Marshall 2 station. Mr. Johnston scaled up precipitation from Marshall 2 by 34% in order to use the highest rainfall numbers in order to obtain the most conservative results for the continuous simulation.

[177] With regard to the first question as to whether the Right of Way experienced water flows in excess of 1.5 m³/s since March 26, 2001, Mr. Johnston concludes that the Right of Way has not experienced flows in excess of 1.5 m³/s since September 2003 (the date of rainfall data availability), and that it is unlikely that such a high flow occurred from March 26, 2001 to September 2003.

[178] In addressing the second question regarding the water flows in the Right of Way on the dates of the Overflow Events, Mr. Johnston notes that both of the rainfall events on those dates are not extreme events. The predicted peak flow during the January 29, 2004 event is 0.12 m³/s and on January 13, 2006, it is 0.16 m³/s.

[179] It is his professional opinion that the Right of Way did not experience flows in excess of 1.5 m³/s during either the January 29, 2004 or January 13, 2006, Overflow Events.

[180] With regard to the maximum capacity of the Culvert, Mr. Johnston considers, as requested, whether he agrees with the opinion of Dr. Ramsay.

[181] He estimates that the full pipe flow is 0.29 m³/s using Manning's formula. With reference to the opinion of Mr. Coles that the Driveway would be overtopped when the headwater elevation exceeds the Culvert crown by 0.11 m., he concludes that the unobstructed capacity of the Culvert in this surcharged condition is approximately 0.26 m³/s and would be lower with the accumulation of debris or sediment at the Culvert inlet.

[182] It is Mr. Johnston's professional opinion that the Culvert capacity of 1.2 m³/s given in the Dr. Ramsay report is incorrect. A far larger culvert would be required to convey 1.2 m³/s.

D. The Evidence Regarding the Overflow Events and the Finding

[183] The Ditch runs along the north side of the Road and the south boundary of the Property. The flow of water in the Ditch is from west to east. The Culvert is underneath the Driveway which connects the Property to the Road. The Drader Ditch joins the Ditch at a point immediately west of the entrance to the Culvert and extends north from the Ditch along the western boundary of the Property. The effect is that the Ditch and the south end of the Drader Ditch form a T-junction at the west end or entrance to the Culvert.

[184] On the night of January 29 and 30, 2004, and on January 13, 2006, some of the water flowing east in the Ditch turned north and flowed into the Drader Ditch instead of its usual course through the Culvert. The water level in the Ditch exceeded the top of the Culvert but did not exceed the top of the Ditch.

[185] The evidence of Mr. Drader and his sons establishes that on both dates there was an overflow from the Drader Ditch which flooded the Driveway and continued to the Ravine and down the Ravine.

[186] It is also the evidence that the Overflow Events were the only such events which occurred in the 10 years between June 20, 2001 and June 8, 2011. Each event lasted some hours. There is no evidence that the water in the Ditch overflowed onto the Property on any other occasion.

[187] There is no evidence that any developments had occurred upstream from the Property which might have increased the flow of water in the Ditch since 2001. The Road, the Ditch, the Culvert, the Berm, the Notch and the seasonal flow of water in the Ditch remained unchanged from 2001.

[188] It is the submission of the City that the Overflow Events on both occasions were caused by a blockage of the Culvert.

[189] The factors relevant to the cause of the overflows are the provisions of the ROWA, the Drader Ditch and the evidence, including photographs regarding the events.

[190] In cross-examination, the Plaintiff confirmed his statement made on discovery that when he went out to look at the flooding on the night of January 29 and 30, 2004 the flow through the Culvert was “definitely restricted”.

[191] In the course of his cross-examination, the Plaintiff acknowledged that the photographs taken following the 2004 Overflow Event accurately reflected the intake end of the Culvert. He confirmed his agreement on discovery that a photograph showed that the intake end of the Culvert was overgrown with grasses and other debris.

[192] During his Examination in Chief, the Plaintiff acknowledged that one of the photographs showed the Culvert after it had been cleaned out by the City following the January 2004 Overflow Event.

[193] Following the Overflow Event of January 29/30, 2004, Mr. Keijoon Kim of the City attended at the Property and took various photographs of the Culvert. In particular photograph No. 2851 taken by Mr. Kim shows the outlet end of the Culvert to be obstructed by small bush, grasses and debris.

[194] On March 2, 2004, the Plaintiff wrote to Justice Burnyeat. In his letter he stated:

The water from the city ditch once again failed to be contained in their ditch and flowed down my Driveway and additionally failed to flow down the right of way which the city holds within my property.

[195] On cross-examination, the Plaintiff said, with regard to a question of whether the problem in January of 2004 was a problem of lack of water flowing down the

Right of Way that: “the problem was that the water was not going through the Culvert, it was going on my Property.”

[196] The 2006 Overflow Event occurred during daylight hours so that the Plaintiff was able to take photographs. On cross-examination, the Plaintiff acknowledged a photograph taken from the Driveway looking west. He acknowledged that as the water flowed toward the photographer, the water level in the Ditch appeared to increase in depth. He also acknowledged a photograph which shows a view across the Driveway and down the Ditch looking east. He acknowledged that in that photograph, beyond the Driveway, the water in the Ditch was barely noticeable in contrast to the flooded appearance of the Ditch in the foreground.

[197] Those photographs show high water levels above the entrance to the Culvert on the west side of the Driveway with only modest flows issuing from the Culvert on the east side of the Driveway. In cross-examination, the Plaintiff confirmed his statement on discovery that these photographs were taken in sequence. With reference to these photographs, the Plaintiff agreed in his discovery that, given the volume of water backed up at the west end of the Culvert and the relatively modest flow from the east end, it is reasonable to assume that the Culvert had become plugged.

[198] On the morning of January 13, 2006, the Plaintiff called the City, whose record of the call states that the Plaintiff reported “the Culvert is blocked again”. Ms. Swann, who testified with respect to this telephone call, stated that it was her practice to record the caller’s exact words and read them back to the caller. In his cross examination, the Plaintiff acknowledged that he might possibly have made that statement.

[199] In the course of his cross-examination, the Plaintiff confirmed his statements on Discovery that within two hours of his call to the Defendant on the morning of January 13, 2006, a City crew came out and cleaned out the Culvert, which immediately relieved the problem of the flooding so that the water receded and flowed through the Culvert and into the Right of Way.

[200] Mr. Penner testified that it was he who responded to the Plaintiff's call on the morning of January 13, 2006. Although the call was a long time ago, he recalled that when he attended at the Property he observed that the Culvert appeared to be blocked. He cleared the Culvert and observed that the water then flowed freely through it and continued to the east to the Notch.

[201] On cross-examination, the Plaintiff confirmed that he understood from the language in the ROWA that the City would maintain the Ditch if he gave them notice that maintenance was required.

[202] Section 4 of the ROWA provides:

The City covenants and agrees that upon receipt of prior written notice from the Grantor that maintenance is required in that area of the statutory right of way, to:

(a) maintain the ditch...

[203] The Plaintiff also agreed that he had not given any notice, written or otherwise to the Defendant requesting maintenance of the Ditch prior to the Overflow Events in January 2004 and January 2006 respectively.

[204] On cross-examination, the Plaintiff acknowledged that he had dug the Drader Ditch for the purpose of intercepting drainage coming from the property of his neighbour to the west. Originally, he had been reluctant to complete the Drader Ditch all the way south to the Ditch because the ground began to slope upwards at the southern end of his Property and he was concerned that the water in the Drader Ditch might reverse and flow from south to north.

[205] Subsequently, and despite these concerns, the Plaintiff continued the Drader Ditch to intersect with the Ditch. In doing so, he dug a notch in the north bank of the Ditch.

[206] The Plaintiff acknowledged that by creating this break in the north bank of the Ditch, he opened the Property to the possibility that water from the Ditch would flow up into his land and particularly flow towards the low point of his land. In cross-

examination, the Plaintiff acknowledged that this was what had occurred during the Overflow Events.

[207] The precipitation on those dates was not extreme. I accept the evidence of Mr. Coles and Mr. Johnston who concluded respectively in their reports:

It is my professional opinion that the events of 2004 and 2006 are not considered to be extreme and the precipitation depths recorded on these days have been exceeded numerous times between March 26, 2001 and December 31, 2010. [Mr. Coles at s. 4.1.4]

Both the January 29, 2004 and January 13, 2006 rainfall events are not extreme events. The rainfall intensities during these two storms are lower than a 2-year return for all durations ... as given on the Abbotsford Airport IDF curve. [Mr. Johnston at page 4]

[208] I find that on both Overflow Events, the increase in water level in the Ditch west of the Culvert was caused by a blockage of the Culvert. The result was that most of the water flowed north into the Drader Ditch and overflowed the Driveway.

E. The Evidence Regarding the Flow of Water through the Right of Way and the Finding

[209] The evidence which addresses the issue of the quantity of water through the Right of Way is the testimony and reports of Dr. Ramsay, Mr. Coles and Mr. Johnston.

[210] The Plaintiff relies entirely upon the opinion evidence of Dr. Stephen Ramsay to establish that the flow of water through the Culvert to the Ditch into the Right of Way exceeded 1.5 m³/s. Absent such proof, the indemnification provisions contained in s. 2(h) of the ROWA would bar the Plaintiff from pursuing a claim against the City.

[211] The City disagrees with Dr. Ramsay's opinion and has adduced the expert evidence of Mr. Coles and Mr. Johnston, both of whom have expressed the opinion that the flow of water from the Ditch into the Right of Way has not exceeded 1.5 m³/s since March 26, 2001, (Mr. Coles) and since September 2003 (Mr. Johnston). Mr. Johnston's opinion is that it is unlikely such a high flow occurred between March 2001 and September 2003.

1. The Opinion Evidence of Dr. Ramsay

[212] Dr. Ramsay's opinion that the flow of water from the Ditch into the Right of Way has exceeded 1.5 m³/s is ultimately based upon his calculation that the capacity of the Culvert is 1.2 m³/s and that the Culvert overflowed on two occasions which he describes as observational evidence.

[213] Dr. Ramsay agreed that, to the extent that the water in the Ditch flowed through the Culvert and did not overflow the Ditch, the flow of water in the Ravine could not have exceeded 1.2 m³/s. Absent the overflow of the Ditch, it follows from Dr. Ramsay's evidence that the Culvert governs the maximum flow from the Ditch into the Right of Way.

[214] Based on this evidence and the evidence of the Plaintiff that there have been only two Overflow Events since June 20, 2001, it is reasonably concluded that the flow of water from the Ditch into the Right of Way exceeded 1.5 m³/s on only two occasions, January 29/30, 2004 and January 13, 2006.

[215] Dr. Ramsay also agreed that if the Culvert had been constricted on those two occasions, his estimates of flow, based upon capacity of a maximum 1.2 m³/s were no longer reliable.

[216] The City raises a number of concerns with Dr. Ramsay's report.

[217] It says that Dr. Ramsay's resume is exceptional but it shows little or no focus upon the area of hydrological analysis undertaken in his Report. As an expert witness in other matters, Dr. Ramsay has provided expert testimony in a variety of areas including: engineering meteorology, air pollution control, risk assessment, air quality, and boundary layer meteorology. In cross-examination, Dr. Ramsay agreed that in the course of his career he had become "more of a manager and less of a soldier" although he still attempted to "keep [his] finger in the ...in the process", wherever he could.

[218] The City submits that although Dr. Ramsay is a sophisticated expert, his career has taken him into esoteric areas of hydrology in the particular service of the oil and gas and chemical processing industries. Unlike Mr. Coles and Mr. Johnston, it is not Dr. Ramsay's daily practice to analyze and design storm water management works. Additionally, Dr. Ramsay has taken on senior administrative roles which have limited his exposure to the day-to-day calculations involved in simple flow analysis. It submits that these factors all contribute to an understanding of how an expert with Dr. Ramsay's qualifications could commit the errors and mathematical miscalculations which are apparent in his report.

[219] The City further submits that Dr. Ramsay's opinions exceed his area of expertise. In his report, Dr. Ramsay responded with answers to 12 questions. A number of those questions seek responses with respect to the occurrence and degree of "sloughing, subsidence, and erosion in lands adjacent to the Right of Way". While Dr. Ramsay responded to these questions without qualification, he agreed on cross-examination that he was not qualified as a geoscientist and was not qualified to opine generally upon the stability of the Ravine. He stated that his expertise was limited to opining only upon erosion and instability in the "immediate vicinity of the watercourse at the bottom" of the Ravine.

[220] It is also submitted that Dr. Ramsay's report contains textual inconsistencies and direct contradictions. Dr. Ramsay's report is structured as a response to 12 specific questions. The language used in the questions is frequently vague and imprecise.

[221] In response to Question 1, which relates to the right-of-way, Dr. Ramsay responded by referring to the "gully", which he defines at page 4 of his report to mean the entire Ravine. In fact, Dr. Ramsay does not answer question 1 as it relates exclusively to the Right of Way which is the southern part of the Ravine. This type of language may have contributed to the confusion in Dr. Ramsay's replies.

[222] At page 22 of his report, paragraph 3, Dr. Ramsay makes the statement:

“Hourly historical rainfall data for the Abbotsford A Station has been obtained for the period from 1944 - 2007 (see attachment 10).”

[223] In fact, there are no hourly rainfall figures from Abbotsford A Station from 2002 onwards which is the critical time. Dr. Ramsay admitted that his statement in paragraph 3 above was incorrect.

[224] At page 21 of his report, Dr. Ramsay makes the following statement:

The rainfall data has been obtained from the Abbotsford A Station (1100030) located at the Abbotsford Airport. The Abbotsford A Station has been chosen as the most representative of rainfall occurring in the vicinity of the Drader gully. The Abbotsford A Station is located approximately 15 km south of the Drader gully. The elevation of the Abbotsford A Station is comparable with the elevation of the Drader gully drainage basin. The regional climatology of rainfall has been examined to ensure that [sic] and spatial variations over this distance are inconsequential for the subsequent hydrological analysis.

[225] Following receipt of the report of Mr. Chris Coles, Dr. Ramsay issued a critical reply of that report (Exhibit 21), in which he stated, amongst other things:

The Abbotsford A meteorological data used (by Coles) is obtained from a meteorological station at the Abbotsford Airport located on relatively flat unobstructed terrain at an elevation of approximately 58 m. The Drader gully drainage is located on Pemberton Hill at an elevation of approximately 150 m which suggests the possibility of significant orographic intensification of rainfall. Furthermore, it is well known that rainfall within the Lower Mainland region varies widely with location and elevation. It is therefore unlikely that the Abbotsford A rainfall data could be used to analyze the Drader gully flow without some correction to account for the setting.

[226] In cross-examination, when this contradiction was pointed out to Dr. Ramsay, he fairly noted:

A. Yes, I can see that this is in fact a contradiction. I am not able to explain why I would have written that first statement, or report, or allowed it to be presented, as I don't agree with it.

[227] That Dr. Ramsay's report contains several significant omissions is a further criticism by the City. Having identified the possibility of "significant orographic intensification of rainfall" between the Abbotsford A Station and the Property, Dr. Ramsay did nothing to determine whether the difference in elevation between Abbotsford A and the Property did in fact increase the rainfall and, if so, to what degree. In his evidence Mr. Coles testified that, having read Dr. Ramsay's reply, he

examined meteorological data from Mission which is located across the Fraser River and at a higher elevation than the Property. From that analysis he determined that the increase in altitude did not result in any substantial increase in rainfall.

[228] In his report, Dr. Ramsay commenced his hydrological analysis by referring to the “Rational Method” reflected by the formula, $Q=CIA$. In cross-examination, Dr. Ramsay agreed that this was the basic formula “that would be taught in an undergraduate course on hydrology”. Dr. Ramsay stated that the Rational Method might not “reach a terribly subtle result, but it will reach a result which is fairly reliable”.

[229] Dr. Ramsay’s report is based upon computer modelling using the TR-55 program. Despite his references to the Rational Method, Dr. Ramsay’s report contains no indication that he attempted to apply the Rational Method either as a primary analysis or to cross check the results of his computer modelling.

[230] However, on cross-examination, Dr. Ramsay acknowledged that he had carried out flow analysis based upon the Rational Method but had not included the results in his report.

[231] Subsequently, he confirmed that the results of his application of the Rational Method were quite inconsistent with his computer results, and more consistent with the application of TR-55 using model storm 1A.

[232] The City submits that the exclusion of this analysis from his report indicates that Dr. Ramsay’s report was a subjective, results-oriented exercise and not an objective analysis.

[233] The purpose for which the Plaintiff relies upon Dr. Ramsay’s opinion is to establish that the flow from the Ditch into the Right of Way during the Overflow Events exceeded $1.5 \text{ m}^3/\text{s}$. Despite that purpose, Dr. Ramsay’s report contains no analysis of the flow in the Ditch on either January 29/30, 2004 or January 13, 2006. The City submits that the omission by Dr. Ramsay to conduct a simple flow analysis

based on the actual rainfall on the two overflow dates is a fundamental flaw in his opinion.

[234] With regard to the calculation of flow, Mr. Coles testified that the data used by Dr. Ramsay in the TR-55 program, including rainfall data, watershed characteristics and area were similar to those which he had identified. The single exception noted by Mr. Coles was Dr. Ramsay's choice of the rainfall distribution type. Dr. Ramsay explained that the critical feature of this item is "the timing and intensity of that storm". He agreed that it is a "very sensitive parameter".

[235] Mr. Coles explained that the TR-55 program included four "design" storms intended to represent rainfall intensity within various geographic regions.

[236] Dr. Ramsay acknowledged these four storm types. In his report Dr. Ramsay included three separate analyses using a type IA storm, a type II storm and a type III storm, which generated a 100-year return flow respectively of 0.60, 3.42, and 2.37 m³/s. Dr. Ramsay selected the type III storm for his analysis.

[237] Excerpts from the TR-55 program entitled "Urban Hydrology for Small Watersheds, TR-55" were introduced to Dr. Ramsay on cross examination. Dr. Ramsay confirmed that he was familiar with this material. The Type III storm was intended to represent "Gulf of Mexico and Atlantic coastal areas where tropical storms bring large 24-hour rainfall amounts". It is apparent from Dr. Ramsay's results that the flow generated through calculations using a type III storm is almost four times greater than the flow generated by a type IA storm intended to represent "the Pacific Maritime climate with wet winters and dry summers".

[238] The issues raised by the City are valid. One of the most concerning is the method of calculating flow. It is my conclusion that, and I agree with the City that, notwithstanding inconsistent results achieved through the Rational Method and inconsistent results reflected by the use of a type IA storm, Dr. Ramsay tailored his calculations to generate abnormally high flow numbers based, apparently, on his

understanding of the Overflow Events. He sought results that reflected his understanding of those events.

[239] Although he considered that the culvert under the Road at 29095 Marsh McCormick Road may have become blocked, he did not consider that the Culvert under the Driveway may have been blocked. He assumed that the Culvert was fully operational and sought a higher flow volume. Further he did not analyze the actual flow on the dates of the Overflow Events.

[240] Dr. Ramsay indicates that he analyzed flow on the basis of the TR-55 model, the results of which he then calibrated to attain consistency with what he described as “observational evidence”. In describing why he disregarded the Rational Method results, he replied: “What do we have to do here in order to make these numbers consistent with this evidence of flooding over the driveway.”

[241] By incorporating the Type III storm, the use of the TR-55 model is not helpful and the results are not reliable. I conclude that Dr. Ramsay tailored his analysis to achieve an outcome based upon his calculation of the capacity of the Culvert and the two Overflow Events. I cannot rely on Dr. Ramsay’s report as it relates to the volume of water flow.

[242] Finally the City submits that Dr. Ramsay’s Report contains fundamental errors of calculation.

[243] Dr. Ramsay calculates that the Culvert “can only accommodate a peak flow of approximately 1.2 m³/s ...”. He references an attachment to his report, which is an excerpt from a design data manual issued by the American Concrete Pipe Association. Dr. Ramsay does not provide his actual calculations to arrive at the 1.2 m³/s figure.

[244] In his report Mr. Coles analyzed the capacity of the Culvert, using first a computer program HY-8 and subsequently a culvert design chart issued by the British Columbia Ministry of Transport Design Guide. Mr. Coles calculated that the maximum capacity of the Culvert was between 0.21 and 0.25 m³/s. Using the British

Columbia Ministry of Transport Design Guide, Mr. Coles concluded that a culvert more than twice the size of the Culvert would be required to accommodate a flow of 1.2 m³/s. Dr. Ramsay did not challenge these conclusions in his reply nor was Mr. Coles' evidence challenged on cross-examination.

[245] Mr. Johnston's report also analyzed the capacity of the Culvert. He concluded that "the unobstructed capacity of the Culvert under this surcharged inlet condition is approximately 0.26 CMS. This capacity would be lower if debris or sediment was allowed to accumulate at the Culvert inlet."

[246] Both Mr. Coles and Mr. Johnston, using various alternate means of calculation, conclude that Dr. Ramsay's calculation of the capacity of the Culvert is significantly in error overstating the capacity by as much as five times. I agree.

[247] With respect to erosion, Dr. Ramsay confirmed that his expertise did not extend to an analysis of the stability of the Ravine as a whole. His opinion that "increased water flow will increase erosion", which appears throughout his report, is self-evident. His opinions involving geoscience exceed the area of his expertise and the area of his qualification as an expert witness. I cannot rely on his evidence in this regard.

2. The Opinion Evidence of Mr. Coles and Mr. Johnston

[248] The opinion of Mr. Chris Coles was:

- (i) Based upon analysis of rainfall data of the two precipitation events between March 26, 2001 and December 31, 2010, which had the highest potential run-off rate were August 9, 2008 and September 19, 2010. The Overflow Events of 2004 and 2006 were not considered to be extreme and the precipitation depths recorded on those days had been exceeded numerous times between March 26, 2001 and December 31, 2010;
- (ii) Using both the Rational Method and the TR-55 methodology, the rate of run-off from the Right of Way watershed has not exceeded 1.5 CMS since March 26, 2001;
- (iii) Using the Rational Method and the TR-55 methodology, the flow in the Right of Way did not exceed 1.5 CMS on January 29/30, 2004 or January 13, 2006;
- (iv) Dr. Ramsay made an inappropriate choice by selecting a design storm distribution that the USDA recommends for use only near the

- Gulf of Mexico and along the coast of the Atlantic Ocean. The type IA storm would have been a more appropriate choice; and
- (v) Using the HY-8 computer program checked by reference to the British Columbia Ministry of Transport Design Guide, the maximum capacity of a 500 mm diameter culvert was 0.21 CMS. Dr. Ramsay has made a mistake in calculating the maximum capacity of the Culvert, which has led to his significant overestimate of flow.

[249] Mr. Johnston's significant comments and findings are as follows:

- (i) Based upon rainfall data taken from a triangulation of meteorological stations including Maple Ridge, Kanaka Creek, Mission West Abbey and Abbotsford Airport, and using the XP-SWMM hydrologic modelling software, the Ravine has not experienced flows in excess of 1.5 CMS since September 2003 and it is unlikely that such a high flow occurred from March 26, 2001 to September 2003;
- (ii) On the same basis, the January 29/30, 2004 and January 13, 2006 rainfall events were not extreme events. The rainfall intensities during those two storms were lower than a two-year return period for all durations;
- (iii) The Right of Way and the gully did not experience flows in excess of 1.5 CMS during either the January 29/30, 2004 or the January 13, 2006 rainfall events;
- (iv) The pipe-controlled capacity (full pipe flow) of the 500 mm diameter Culvert is estimated to be 0.29 CMS; and
- (v) On the basis of the information available and Mr. Johnston's analysis, the calculation of the capacity of the Culvert of 1.2 CMS given by Dr. Ramsay is incorrect.

[250] I prefer the evidence of Mr. Coles and Mr. Johnston. The expertise of Mr. Coles is specifically relevant to the determination of the issue. His calculations include a return greater than 100 years indicating a cautious approach. A conservative approach was also taken by Mr. Johnston who used higher rainfalls consistent with the evidence of the Plaintiff who testified that rainfall on the Property exceeds that of surrounding areas. Mr. Johnston and his firm have recently been involved with two major watershed studies in the Abbotsford area. Their expertise is specifically applicable and was conservatively applied.

[251] Further, there is no evidence of errors or miscalculations in their reports, either with regard to flows or the capacity of the Culvert.

[252] On the basis of their evidence, I find that the flow of water through the Right of Way has not exceeded 1.5 m³/s since March 26, 2001. Specifically it did not exceed 1.5 m³/s on the dates of either of the two Overflow Events.

[253] The capacity of the Culvert is as calculated by Mr. Coles and Mr. Johnston, between .25 and .26 m³/s.

VI. POSITIONS OF THE PARTIES

A. Plaintiff's Position

[254] The Plaintiff's claim involves three areas of the Property and the land adjacent to the Property: the Ditch; the Right of Way; and the Ravine below the Right of Way.

[255] The relief sought is: an injunction against the City of Abbotsford from any further diversion of its ditch water through the Property (including a cancellation of the Right of Way if deemed necessary), together with damages for past remedial work on stabilizing the slopes of the Ravine in the amount of \$159,887.11, and costs to be assessed of all repairs necessary to fully stabilize the Property, including near the new crack adjacent to Marsh McCormick Road, and above the easterly neighbour's property on the East side portion of the Property.

[256] Alternatively, the Plaintiff seeks an award of damages to compensate him for his losses arising from negligence, nuisance, and breach of contract, including:

- (a) Past damages of \$159,887.11 consisting of:
 - (i) rip rap - 2004 to present \$148,943.89;
 - (ii) engineering costs - 2004 to present \$10,410.28;
 - (iii) CAT operation - \$10,500.00 (Mr. Drader's 100 hours, not including the purchase cost for the CAT); plus
 - (iv) equipment rental - \$532.94; plus
- (b) Future stabilization costs, consisting of either:

- (i) the full implementation of option 1, including a pipeline - \$577,737.00, plus HST (to be done by the Plaintiff); or, alternatively,
- lii) the full implementation of option 2, involving rock stabilization of the Ravine only - \$366,600.00 plus HST (to be done by the Plaintiff);
- (c) An award of damages for mental distress - \$50,000.00; and
- (d) An award of aggravated damages and punitive damages - \$500,000.00.

[257] The plaintiff also seeks compensation pursuant to s. 33 of the *Community Charter*, S.B.C. 2003, c. 26.

B. Defendant's Position

[258] The City submits that the action against it should be dismissed in all respects with costs.

[259] The City relies on defences arising from the provisions of the *LGA*, Municipal Policy no. 900-5-04, and from the interpretation of the *ROWA*, *MOS* and *Release*.

[260] It says that the defences to the claims apply as follows:

- (a) Nuisance with regard to the ditch - s. 288 of the *LGA*;
- (b) Nuisance with regard to the right of way - the *ROWA* and s.315.2 of the *LGA*;
- (c) Negligence with regard to the Ditch - Municipal Policy 900-5-04 and s.4 of the *ROWA*;
- (d) Negligence with regard to the Right of Way - the *ROWA* and s.315.2 of the *LGA*;
- (e) Negligence with regard to the Ravine below the Right of Way - the *Release*, the *MOS*, and s.315.2 of the *LGA*; and

- (f) Breach of Contract - the provisions of the MOS and ROWA, and s. 315.2 of the *LGA*.

[261] The City further says that the Plaintiff, by his actions in clearing and developing the land, has been contributorily negligent.

VII. DISCUSSION

A. Nuisance

[262] The overflow of water onto a neighbour's property may constitute an actionable nuisance.

1. The Ditch

[263] Although the pleadings in the Further Amended Statement of Claim do not claim that the actions of the City constitute a nuisance regarding the Ditch, the issue was canvassed at trial and was the subject of closing submissions of the Plaintiff and is before the Court.

[264] The Plaintiff's claim for damages for nuisance with respect to the Ditch arises as a result of the two Overflow Events on January 29/30, 2004 and January 13, 2006, when the water in the Ditch immediately west of the Driveway reached a level which permitted it to flow north along the Drader Ditch to a low point on the Property where it flowed from the Drader Ditch over the Driveway and east into the Ravine.

[265] I have found on the evidence as set out above that the two Overflow Events in 2004 and 2006 occurred as a result of the flow in the Culvert being blocked on both occasions. As a result, most of the water flowed north in the Drader Ditch rather than through the Culvert, along the Ditch and into the Right of Way.

[266] The City submits that the blockage is a breakdown or malfunction of the Culvert, and thus the provisions of s. 288 of the *LGA* apply. That section states:

Immunity against certain nuisance actions

288 A municipality, council, regional district, board or improvement district, or a greater board, is not liable in any action based on nuisance or on

the rule in the *Rylands v. Fletcher* case if the damages arise, directly or indirectly, out of the breakdown or malfunction of

- (a) a sewer system,
- (b) a water or drainage facility or system, or
- (c) a dike or a road.

[267] Section 288 provides immunity from claims in nuisance or based on the rule in *Rylands v. Fletcher* (a specific type of nuisance where a property owner has a duty to prevent substances that would cause damage or mischief from escaping from his or her land), if the damages arise out of the breakdown or malfunction of a sewer system, water or drainage facility or system, or dyke or road.

[268] Firstly, I find that the Ditch, Culvert and Right of Way constitute a drainage system. Together they are a system designed to drain water. In *Medomist Farms v. Surrey* (1990), 1 M.P.L.R. (2d) 46 (B.C.S.C.); (1991), 62 B.C.L.R. (2d) 168 (C.A.) and *Kerlenmar Holdings v. Matsqui* (1989), 40 B.C.L.R. (2d) 230 (S.C.), drainage ditches similar to the one in the present case were found to come within the purview of the section (although both of those cases found the overflow events at issue not to constitute breakdowns or malfunctions, and so found that the immunity provisions ultimately did not apply).

[269] Secondly, I must determine whether the events in question constituted a “breakdown or malfunction” of the drainage system. A good discussion of this section is found in the case of *British Columbia v. Vancouver (City)*, 2005 BCSC 747 [*Vancouver*], where Goepel J. stated:

19 The Supreme Court of Canada has endorsed E.A. Driedger’s approach to statutory interpretation that “the words of an act are to be read in their entire context, in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament” (*Construction of Statutes*, 2nd ed. (Toronto: Butterworths, 1983), at p. 87); *A.U.P.E. v. Lethbridge Community College*, 238 D.L.R. (4th) 385 (S.C.C.).

20 Such an approach is consistent with s. 8 of the *Interpretation Act*, R.S.B.C. 1996, c. 238, which states:

Every enactment must be construed as being remedial, and must be given such fair, large and liberal construction and interpretation as best ensures the attainment of its objects.

21 Although the legislative history cannot be used to interpret the specific provisions in the act, it is admissible for the purpose of showing the mischief that the legislature was attempting to remedy with the legislation: *R. v. Heywood*, [1994] 3 S.C.R. 761; *Golden Valley Golf Course Ltd. v. British Columbia (Minister of Transportation and Highways)*, 200 D.L.R. (4th) 248 at [paragraph] 76 (B.C.C.A.).

22 In this case, the legislative history makes clear that the mischief that the legislative amendment was attempting to remedy was municipal liability for nuisance claims. In providing that remedy the legislature did not provide local governments with blanket immunity from all nuisance claims. They chose instead to limit that immunity to claims that arose directly or indirectly from the breakdown or malfunction of certain named systems.

23 “Breakdown” and “malfunction” convey different meanings. The *Canadian Oxford Dictionary* defines “breakdown” as a “mechanical failure”, while “malfunction” is defined as a “failure to function in a normal or satisfactory manner”. “Function”, in turn, is defined as an “activity by which a thing fulfils its purpose”.

24 The purpose of a sewer system is to take sewage from point “A” to point “B”. In this case, because of an unknown obstruction, the sewer system failed to take sewage from point “A” to point “B”. The obstruction prevented the system from fulfilling its purpose in a normal or satisfactory manner, which by definition constitutes a malfunction. This situation can be readily contrasted with that in *Medomist Farms* where the drainage ditch continued to function.

25 I find that the damages giving rise to this action arose directly or indirectly out of a malfunction of the sewer system. Section 294(9)(a) of the *Charter* provides a complete defence to the claim. The Province’s claim is dismissed.

[270] The court in *Vancouver* drew a distinction between situations where a sewer system became blocked and situations where an unblocked sewer system was simply overwhelmed by the volume of water. Only in the former case does the section apply.

[271] I agree with the reasoning in *Vancouver*. It is equally applicable to a drainage system. The purpose of s. 288 is not to immunize municipalities where they have built predictably inadequate drainage systems that are unable to handle the volumes of water that they receive. However, where a drainage system malfunctions - that is, where a drainage system which had normally handled the volume of water overflows due to a blockage - the legislature has seen fit to immunize the city in nuisance.

[272] As I have found that the two Overflow Events in the present case were a result of a blockage in the Culvert, s. 288 of the *LGA* applies. The City is not liable in nuisance.

2. The Right of Way

[273] The Plaintiff submits that the nuisance arises in this regard as a result of the City's actions since January 2003 in permitting an amount of water through the Right of Way which is in excess of 1.5 m³/s or which is an excessive amount. It is alleged that the water is adversely affecting and damaging portions of the Property outside of the Right of Way.

[274] The City relies on para. 2(h) of the ROWA and states that the Plaintiff's claim is barred.

a) ROWA para. 5

[275] The reference of the Plaintiff to the diversion of water in excess of 1.5 m³/s through the Right of Way as a basis for its claim in nuisance raises the issue of the interpretation of paragraph 5 of the ROWA. Paragraph 5 is an exemption from the "hold harmless" clause in paragraph 2(h). Both paragraphs are reproduced here for ease of reference:

Paragraph 2(h):

subject to Section 5, to indemnify and hold harmless the City from and against all manners of action, causes of action, claims, debts, suits, demands, and promises whatsoever at law or at equity, whether known or unknown, which the Grantor now has, or may at any time have by reason of the granting, existence or use of the Statutory Right-of-Way or of the Works, or of the carrying out of or failing to carry out of the construction or maintenance of the Works or of the flooding of the Lands or any damages to any improvements on the Lands thereon.

Paragraph 5:

Should:

- (a) the water flow from the Ditch through the Statutory Right of Way exceed the boundaries of the Statutory Right of Way; and
- (b) the volume of water flow through the Ditch into the Statutory Right of Way exceed 1.5 cubic metres per second; and

(c) damages occur to the Statutory Right of Way or the Lands that are caused by 1 and 2;

the Grantor shall have no obligation to indemnify and hold the City harmless as set out in Section 2(h).

[276] Paragraph 2(h) of the ROWA states the agreement of the Plaintiff to indemnify and hold harmless the City from any and all claims, including in nuisance, arising out of the granting, existence or use of the Right of Way or the Works.

[277] The exception to this is on the occurrence of all three pre-conditions set out in paragraph 5: if the water through the Right of Way exceeds the boundary of the Right of Way; if the volume of water flowing into the Right of Way exceeds 1.5 m³/s; and if damages occur to the Right of Way or the lands which are caused by the first two conditions. Then the Plaintiff has no obligation to indemnify the City and hold it harmless pursuant to ss. 2(h) of the ROWA. The Plaintiff in those circumstances would be free to pursue an action against the City.

[278] I find as discussed above, relying on the evidence of Mr. Coles and Mr. Johnston, that the volume of water flowing into and through the Right of Way has not exceeded 1.5 m³/s.

[279] I also find, based on the evidence of Mr. Coles and Mr. Johnston that the peak runoff through the Right of Way since March 26, 2001 was on the two dates of the highest recorded precipitation, August 9, 2008 and September 19, 2010. The rates of runoff on those dates, as calculated using the three methodologies described in their reports, range from .42 to .81 m³/s for the first of those dates, and from .41 to .89 m³/s on the second date.

[280] By way of comparison, for the two Overflow Events the peak rate of runoff ranges from .12 to .26 m³/s for the first Event, and from .10 to .17 m³/s for the second Event with the same three measuring methodologies.

[281] Mr. Coles calculates future peak runoff estimates in answering the question regarding whether it can be expected that the Right of Way will receive flows in excess of 1.5 m³/s, and how frequently. Using return periods of 2 to 100 years, he

finds a maximum flow rate of .34 to 1.24 m³/s. For a 24 hour long, 100-year return period storm event, the flow rate would be 1.24 m³/s using the TR-55 method, and 0.73 m³/s using the Rational Method.

[282] These peak flow amounts are to be compared with the maximum flow contemplated in s. 5 of the ROWA - 1.5 m³/s. The evidence of Mr. Kokan, who advised and attended at the Settlement Conference was that that number, 1.5, was a negotiated figure including discussions about the 100-year flow rate. A hydrologist was retained to assist the Plaintiff's counsel at the time.

[283] The drainage system has worked as contemplated by the agreements executed on the settlement of the 1996 Action as is evidenced by the fact that there were only two Overflow Events, both of which were caused by a blockage and that Mr. Kokan and Mr. Bradshaw agree that the Project completed on the Property has been effective.

[284] Given that the drainage system has been effective, and the terms of the agreement between the parties at the time of the settlement, I cannot find that the peak flows occurring since March, 2001 or predicted to occur up to a 100 year return period are excessive.

[285] I note that both Mr. Kokan and Dr. Ramsay refer in their reports to the excessive flows through the Right of Way. Those opinions are not supported by this finding of fact.

[286] With regard to the first pre-condition, there is no evidence that the water flow from the Ditch through the Right of Way exceeded the boundaries of the Right of Way. As the Right of Way is approximately 6 meters wide throughout its length and since it is covered in approximately 3 meters of rock, the flow of water through the Right of Way is not visible.

[287] The Overflow Events do not constitute water flow from the Ditch through the Right of Way since the Ditch itself is not part of the Right of Way. The water which was diverted up the Drader Ditch to the low point on the Property and from there

across the Driveway to the head of the Ravine finally dropped into the rock fall. It did not “exceed the boundaries of the Statutory Right of Way”.

[288] The third of the three pre-conditions in para. 5 of the ROWA is also not met. As the flow did not exceed 1.5 m³/s nor did it exceed the boundaries of the Right of Way, there is no damage thus caused.

[289] There is no evidence of damage to the Right of Way in any event. Mr. Kokan testified in cross-examination that the stabilization work which he had designed and overseen in the Spring of 2001 covered the Right of Way from top to bottom. In a letter addressed to Mr. Lokash dated June 4, 2001, Mr. Kokan wrote:

The restorative works were completed in about mid-to-late March 2001, to the extent that we satisfied that the risk of a significant future landslide on the Drader property had been significantly reduced...

No further work was required within the ravine channel on the Drader property.

[290] In his report of September 11, 2007, which followed the 2006 Overflow Event by more than a year, Mr. Kokan observed:

The treatment areas as well as the slopes adjacent to the treatment area appears stable. No obvious changes to the slopes were visible during my visit.

[291] With reference to his report of September 11, 2007, Mr. Kokan confirmed on cross-examination:

Q. and if you turn over to page 3 you’ve - second paragraph there, you’ve said:

The stabilization works undertaken in 2001 appear to have been largely successful and controlling further down-cutting the base of the ravine on 29325 ...

which is Mr. Drader’s property. And that was your observation?

A. Yes.

Q. And you found that to be evident from the stable condition of the slopes on both sides of the ravine fill. So far as you could see, there was no damage or slipping or sloughing adjacent to the 2001 fill area?

A. Not between the time the stabilization was completed and the time this letter was repaired that’s correct.

[292] In his later reports he notes some minor settling of the rock fill in the gully which has been topped up. This is not referred to as nor do I find it to be damage.

[293] With respect to the “crack” above the Right of Way which appeared in the Ditch on the eve of trial, Mr. Kokan testified that he had not yet reached a conclusion as to its cause:

...but I don't believe it's related to something happening from below. I think it's happening from above.

[294] Mr. Kokan's evidence in this regard was consistent with the evidence of Mr. Bradshaw, who testified that he had physically examined the rock fill which covered the Right of Way and found no areas of instability in the area immediately uphill of the Right of Way and below the newly developed crack.

[295] The minor damage caused to the Driveway by the Overflow Events was not caused by a flow of water which exceeded the boundaries of the Right of Way or exceeded the volume of 1.5 m³/s.

[296] The Plaintiff alleges further damage to his Property as a result of erosion on the Neighbour Property. That issue will be dealt with below in the section regarding the Ravine below the Property.

[297] The provisions of the ROWA therefore bar any action in nuisance against the City because the factual bases for the application of the exemption from the hold harmless clause in s. 2(h) are not present.

[298] The effect of the occurrence of the three pre-conditions set out in ss. 5(a), (b) and (c) of the ROWA is not that there is automatic liability by the City to the Plaintiff, but that the Plaintiff is then able to commence an action for damages against the City. Subparagraph 7(b) of the ROWA permits the City to raise any defences available to it including the provisions of now s. 315.2(7) of the *LGA*.

b) s. 315.2 of the *Local Government Act*

i. Overview

[299] For the reasons that follow, even if I had found that the pre-conditions had occurred, I would find the City immune from liability under s. 315.2 of the *LGA*. It states:

District municipality drainage works

(1) A district municipality may

(a) collect the water from any highway by means of drains or ditches, and

(b) convey the water to, and discharge the water in, the most convenient natural waterway or watercourse.

(2) A municipality proposing to construct drains or ditches authorized by subsection (1) must publish a notice in accordance with subsection (3) in a newspaper once a week for 4 consecutive weeks.

(3) The notice under subsection (2) must state that

(a) the municipality intends to undertake the works,

(b) plans and specifications of the works may be inspected at the municipal hall, and

(c) all claims for damages or compensation arising out of the construction, maintenance, operation or use of the works must be filed with the municipality within one month from the date of the fourth publication of the notice.

(4) No person has a claim for damages or compensation arising out of or by reason of the construction, maintenance, operation or use of the drains or ditches unless the person has filed a claim referred to in subsection (3) (c) within the time period established by that subsection.

(5) If the municipality proceeds with the works or a portion of them, every claim must be determined in accordance with Division 4 [*Expropriation and Compensation*] of Part 3 of the *Community Charter*.

(6) If the construction of the drains or ditches is not started within one year from the date of the fourth publication of the notice under subsection (2), the construction must not proceed unless new notice is given in accordance with that subsection.

(7) No action arising out of, by reason of or in respect of the construction, maintenance, operation or use of a drain or ditch authorized by this section, whenever the drain or ditch is or was constructed, may be brought or maintained in a court against a district municipality.

(8) This section does not restrict the powers of the municipality under this Act or another enactment and, in the case of a conflict, this section prevails.

[300] The City submits that ss. 315.2(7) provides a full defence against all of the Plaintiff's claims.

[301] Section 315.2 of the LGA provides a broader immunity than s. 288, as ss. 315.2(7) is not limited to nuisance and bars any court action against a municipality in respect of a drain or ditch authorized under s. 315.2. However, unlike s. 288, s. 315.2 does not apply to any drainage system as the immunity provision in ss. 315.2(7) only applies to the construction, operation or use of a drain or ditch authorized by ss. 315.2(1). Sub-Section 315.2(1) authorizes municipalities to construct drains or ditches to collect water from highways and discharge the water into the most convenient natural watercourse or waterway.

[302] The predecessor to s. 315.2 was considered by the Supreme Court of Canada in *Corporation of the District of North Vancouver v. McKenzie Barge & Marineways Ltd.* (1965), 51 W.W.R. 193 (S.C.C.) [*Mckenzie Barge*]. In that case the municipality dug a ditch leading to a creek in order to drain water from two highways. Water carried by the ditch eroded its banks and carried the eroded material into the creek, and thence to the waters of Burrard Inlet. The silt deposited built up a delta at the mouth of the creek which interfered with the operation of McKenzie's ship repair business.

[303] McKenzie alleged that the municipality was negligent in its design and construction of the ditch and had created a nuisance. The court made two findings. The court first found that the section equivalent to 315.2(1) was enough to provide the municipality with a defence. That is, the mere fact that the municipality was permitted to drain water provided protection. This is no longer good law as the defence of statutory authority has since been qualified by the more recent Supreme Court of Canada cases of *Tock v. St. John Metropolitan Area Board*, [1989] 2 S.C.R. 1181 and *Ryan v. City of Victoria*, [1999] 1 S.C.R. 201. However, the court in *Mckenzie Barge* also found that the equivalent of ss. 315.2(7) barred liability, stating at pp. 199-200. Section 527 the equivalent of new ss. 315.2(1) and s. 529 is now ss. 315.2(7):

The wording of sec. 529 is not limited to preventing legal action against the appellant, in respect of the construction and operation of its ditch, only in cases where the appellant was not negligent, or could not exercise its powers without creating what, at common law, would have been a private nuisance. If it were to be so limited, the section would have no practical effect whatsoever because, in either of such cases, an action could not succeed against the appellant even if sec. 529 were not there at all. In my opinion, this section, coupled with the powers granted to the appellant by sec. 527, prevented anyone from making any claim in damages, in a court of law, against the appellant, in respect of any ditch which it constructed, pursuant to the powers granted to it by sec. 527.

[304] In 2001, the British Columbia Court of Appeal clarified the law in this area and the holding in *Mckenzie Barge* in the case of *Bavelas v. Copely*, 2001 BCCA 160 [*Bavelas*]. In *Bavelas*, the Municipality of Saanich appealed from a decision finding it liable for a nuisance created on its land by a third party. The Plaintiff, Bavelas, owned land adjacent to property owned by the Defendant, Copely. Heavy rains caused a water back-up on Copely's property. While Bavelas was away, Copely dug a ditch across Bavelas' land in order to allow the water from his property to drain into a nearby marsh. Although Bavelas complained to the Municipality, the situation was not remedied. The court found that the equivalent of s. 315.2(7) provided a complete defence. The court also clarified the distinction between the defences of statutory authority and statutory immunity. Post-*Mckenzie Barge*, as noted above, the Supreme Court of Canada fine-tuned the defence of statutory authority, requiring that harm be unavoidable before a municipality could rely on statutory authority (a provision such as 315.2(1)). *Bavelas* clarified that there is no such requirement in cases of statutory immunity. Immunity is just that – if the municipality fits into the section, they are immune.

[305] The city is therefore immune from liability under ss. 315.2(7) if the water in question was collected from a highway and then discharged into the most convenient natural watercourse or waterway.

ii. Water from a highway

[306] In *Jansen Contracting Ltd. v. North Cowichan (District)*, [1998] B.C.J. No. 1478 (S.C.) [*Jansen*], the court first said the following with respect to the

requirement that water be collected from a highway. Section 560 is the predecessor section to s. 315.2 of the LGA:

26 Before the Defendant can rely on s. 560 as a defence to a claim in negligence or nuisance, the water flowing through the culvert must be water collected from a highway, and the discharge from the culvert must be to a natural waterway or watercourse.

27 “Highway” is defined under s. 1 of the Municipal Act and includes “a street, road, lane, bridge, viaduct and any other way open to public use, but does not include a private right of way on private property”

28 Assuming that the ditch on the north side of Gibbins Road is within the part of the land dedicated to the road, the Defendant maintains that the ditch is part of the “way open to public use” and part of the highway. The water which is discharged onto the lands is therefore water collected from a highway.

29 The Plaintiff says that the water which flows to its lands, is not water from a highway, but is water collected in a ditch adjacent to a highway which originates elsewhere. At best it is water collected at a highway. I agree.

30 “Way” is defined in *The Concise Oxford Dictionary*, 9th ed. (New York: Oxford University Press Inc., 1995) at page 1585, to mean “a road, track, path, etc., for passing along.” A street, road, lane, bridge, and viaduct, which are all included in the definition of highway, are for passing along, and open to public use. I do not think it can be said that a ditch is for passing along, nor do we commonly think of a ditch as a way open to public use.

31 If “highway” included ditch, then s. 560(1)(a) would mean that a municipality has the right to collect the water from any ditch by means of drains or ditches. That would not make sense. Ditches are the means of collecting water from a highway. The purpose of the section is not to provide for the collection of water from ditches.

[307] In *Jansen*, the court also found that the water was not discharged into a natural watercourse or waterway and ultimately decided that the section did not provide a defence.

[308] However, after the decision, the municipality was concerned that if the water was not water collected from a highway, then it did not actually have the authority to comply with the court’s remedy and divert the water elsewhere as the equivalent of s. 315.2(1) would not apply. The court in *Jansen* released supplementary reasons clarifying that the water was collected from a highway. These reasons are cited at [1998] B.C.J. No. 1950 (S.C.). The court stated:

4 The difficulty is raised in part from the following passages in my reasons for judgment:

[29] The Plaintiff says that the water which flows to its lands, is not water from a highway, but is water collected in a ditch adjacent to a highway which originates elsewhere. At best it is water collected at a highway. I agree.

[31] If “highway” included ditch, then s. 560(1)(a) would mean that a municipality has the right to collect the water from any ditch by means of drains or ditches. That would not make sense. Ditches are the means of collecting water from a highway. The purpose of the section is not to provide for the collection of water from ditches.

5 Much of the water in the ditch came not from the highway, but from a ditch leading to the roadside ditch from an upland owner. Nevertheless, water collected in a ditch by the side of a road generally falls within section 560(1)(a). There should be no distinction between water which falls directly onto the surface of the road as rain, and surface water from higher land that would otherwise flow onto the road but for the ditch. Water from both sources must be collected and diverted by the drains or ditches contemplated in section 560.

6 Grist J. considered a similar question in *Drader v. Abbotsford (City)*, [1997] B.C.J. No. 2359, (30 June 1997), New Westminster 56532 (B.C.S.C.). At pages 3-4 he stated:

On this third application, the Plaintiff says that there are further facts that should come into play. Section 560 in my view allows the municipality to collect water from any highway, no matter how that water comes to the highway or to the property marked as highway, whether it be by way of direct runoff from rain that falls upon the surface of the highway, whether it be from the groundwater, or whether it be from water that comes on to the highway property by virtue of discharge from higher properties.

Once that water is collected, the Municipality in my view has the authority to discharge to the most convenient natural waterway or water course. This particular watercourse, the Ravine, has discharged water to the edge of the Fraser River below, for as long as anyone can remember from their contact with this property.

...

In this case, it is said that the water from adjacent owners uphill of the Plaintiff’s property is directed by them through ditches to the road ditch and eventually down through the Plaintiff’s property, and that this makes a difference such that the whole operation of the discharge of water is not validated by Section 560.

The evidence that I have by way of the affidavit the Municipality presented here today indicates that those are unauthorized discharges. It also seems that there are only a few properties that really make use of that, but no matter how that water comes to the highway it seems to me and as is reinforced by the decision of then Judge Boyd in *Brine v. North Vancouver*, once brought to the highway, the city has the right to discharge as the statute allows.

7 Boyd Co. Ct. J. in *Brine v. North Vancouver* (1990), 46 M.P.L.R. 202 at pages 204 to 205:

Secondly, the Plaintiffs say that s. 598 [now s. 560(1)] cannot be relied upon as a bar to their claims since here the individual landowners have been allowed to connect their drain tile systems to the municipal storm and sewer system. Since the construction of the individual drain tile systems has not proceeded under the authority of s. 596 of the *Municipal Act*, the Plaintiffs submit that the protection offered by s. 598 is unavailable. In other words, where the Municipality goes beyond collecting water from the roads and highways and collects water from the non-highway sources - that is, the private properties along the system - and where this greater now of water is then "directed" onto the Plaintiffs' properties, the Municipality should be liable regardless of the protection offered by s. 598.

I cannot accept this line of argument. The entire municipal drainage system, including the leaders to individual homeowners' drain tile systems, is constructed pursuant to s. 596 of the *Act*. To accept the Plaintiffs' line of argument would effectively render s. 598 meaningless.

8 Accordingly, the water which flows through the culvert under Gibbins Road and into a gully on the Plaintiff's lands is water which is subject to section 560 of the *Municipal Act*.

[309] In *Bavelas*, the water also did not flow directly from a highway onto the Plaintiff's lands. The water drained off a highway into a catchment area in the Defendant's land, and then flowed through a culvert, under the highway, into a ditch which passed through the Plaintiff's lands. This is consistent with the supplementary reasons in *Jansen* which establish that there is no requirement that the water flow directly from a highway onto the aggrieved party's lands without passing through some type of intermediate drainage vehicle.

[310] Highway drainage systems must be considered in their entirety. Accordingly this branch of the test has been satisfied.

iii. The most convenient natural watercourse or waterway

[311] The evidence in this regard is from Mr. Kokan, Mr. Bradshaw, Dr. Ramsay and Mr. Kastelein.

[312] Dr. Ramsay describes the “Drader gully natural drainage basin” as being 1.63 ha. It “has existed ... for most of the approximately 11,000 years since the formation of Pemberton Hill at the end of the last (Wisconsin) ice age.” That 1.63 ha, he states, drains naturally into the Fraser River.

[313] Mr. Kokan agreed that the ravine has been carved out over thousands of years at least in part by a stream which ran down the ravine to the Fraser River. Post-glacial it would have had continuous flows.

[314] Mr. Bradshaw notes that the historical “photographs clearly show the existence of natural and man-made watercourses and drainage ditches that lead to the headwall area of the Drader gully” including ditches that extend from the northern roadside ditch at the Road.

[315] It was Mr. Kastelein’s evidence as the City Manager of Special Projects, including drainage, that the Right of Way is the most expedient and most economical drainage.

[316] The meaning of natural watercourse or waterway has been discussed in the case law. The original reasons in *Jansen* are also useful in this regard:

32 The parties appear to be in agreement that the water collected in the ditch and discharged from the culvert is surface water as opposed to a waterway or watercourse. The question is whether the water discharged from the culvert is discharged into a natural watercourse or waterway. Neither “watercourse” or “waterway” is defined by the *Municipal Act*.

33 J.M. Gould, *A Treatise on the Law of Waters, Including Riparian Rights, and Public and Private Rights in Waters Tidal and Inland*, 2nd ed. (Chicago: Callaghan and Company, 1891) at pages 101 to 102 defines river and watercourse as follows:

A river is a running stream of water pent in on either side by banks, shores, or walls; and it bears that name as well where the waters flow and reflow with the tide as where the current is always in one direction. Every river consists of: (1) the bed; (2) the water; (3) the banks or shores; and it also has a current. It is a river or watercourse from the point where the water comes to the surface and begins to flow in a channel until it mingles with the sea, the arms of the sea, lakes, etc. It may sometimes be dry, but in order to be within the above definition it must appear that the water usually flows in a particular direct, and has a regular channel, with bed, banks, or sides.

34 The gully which the Defendant says is a natural waterway or watercourse begins approximately three metres below the discharge point of the culvert. From there it does not flow into a channel or in any particular direction, at least not for any significant distance. Instead it flows approximately 30 metres to the flat area of the land where it spreads out with no definition and lies on the ground until it is absorbed. There is no natural watercourse, outlet, or drainage for the water to follow. Mr. MacKay, for the Plaintiff, concedes that once the water gets to the bottom of the gully it reaches a flat area and has no natural watercourse to follow from that point on to its eventual outflow, Inwood Creek.

35 In *Edwards v. Rural Municipality of Scott*, [1934] 1 W.W.R. 33, [aff'd] [1934] S.C.R. 332, [1934] 3 D.L.R. 793, Martin J.A. for the Saskatchewan Court of Appeal defined watercourse at page 38 as follows:

A watercourse is defined as a stream, usually flowing in a definite channel, having a bed and sides or banks and discharging itself into some other stream or body of water. It must be something more than surface water, spread over a tract of land, caused by unusual freshets or other extraordinary causes. A depression or natural draining which merely carries water in a rainy season is not a watercourse; nor is a ravine which at certain seasons facilitates the drainage of the country a watercourse. A watercourse must have the characteristics of a flowing stream, it must have source, outlet and channels; the water need not, however, flow continually...

36 *The Concise Oxford Dictionary* defines waterway to include a channel for the escape or passage of water; a route for travel or transport by water; a river, canal, or a portion of a sea or lake, viewed as a medium of transport; the breadth of a navigable watercourse; an opening for the passage of vessels. "Channel" is defined to include the hollow bed of running waters; a stream; a gutter; a piece of water, somewhat wider than a strait connecting two larger pieces, usually seas.

37 *Black's Law Dictionary*, 6th ed. (St. Paul: West Publishing Co., 1990) at page 1592 defines waterway as water course. It also defines watercourse and natural watercourse as follows:

WATER COURSE. A running stream of water; a natural stream fed from permanent or natural sources, including rivers, creeks, runs, and rivulets. There must be a stream, usually flowing in a particular direction, though it need not flow continuously. It may sometimes be dry. It must flow in a definite channel, having a bed or banks, and usually discharges itself into some other stream or body of water. It must be something more than a mere surface drainage over the entire face of the tract of land, occasioned by unusual freshets or other extraordinary causes.

NATURAL WATER COURSE. A natural stream flowing in a defined bed or channel; one formed by the natural flow of the water, as determined by the general superficies or conformation of the surrounding country, as distinguished from an "artificial" water course, formed by the work of man, such as a ditch or canal.

38 It therefore appears that “waterway” is generally a larger body of water than a watercourse.

[317] The analysis continued at para. 43:

43 I conclude that the channel in the gully is poorly defined, and after a short distance when it reaches the flat area of the lands, the channel no longer exists. There is no natural drainage course, and the water simply sits until it is absorbed into the soil. If there was at one time a natural outlet to Inwood Creek, it has been obliterated over time.

[318] The trial judgment in *Bavelas* ([1999] B.C.J. No. 955 (S.C.)), although overruled on other grounds, did include a discussion of whether the water had been discharged into a natural watercourse or waterway. This finding was not interfered with on appeal. The court found that a watercourse need not be a present watercourse and that evidence that there used to be a watercourse in the past which was subsequently moved underground through a pipe to enable the growing of hay militated in favour of a finding of the section’s applicability. At para. 99, the court also said the following:

A succinct and, I believe, accurate definition of what constitutes a watercourse is found in the *Canadian Encyclopedic Digest (Western)*, Third Edition, Volume 34, under the title “Waters and Watercourses”. There, at p. 149-26, it is stated that:

To constitute a watercourse, the flow of water need not be continuous or constant, but the bed and banks must be defined and distinct enough to form a channel or course that can be seen as a permanent land mark on the ground....Moreover, the mere fact that for a short distance a natural watercourse expands into a slough or swamp through which no defined banks can be traced does not deprive it of the character of a watercourse throughout, if through this expansion there is a current from a higher to a lower level.

[319] The evidence of the expert witnesses establishes that the Ravine is a natural watercourse with flow derived from sources which include rainfall and tributary streams.

[320] I conclude that the area of discharge, the Ravine including the Right of Way, is a natural watercourse or waterway. As previously discussed, the water in question is flowing towards a larger body of water, the Fraser River, although its progress is now impeded by the railroad tracks. It is travelling along the same route that had

served as a watercourse for many years in the past. The water is not simply dissipating after a very short distance as in *Jansen*.

[321] Although the evidence of Dr. Ramsay, Mr. Kokan and Mr. Bradshaw establishes that the Ravine is a natural watercourse, the Plaintiff argues that the Ravine is not a natural waterway for the *volume* of water that is being diverted. This argument does not find support in the case law, and further is not grounded in the context of the section. If water is being diverted through a waterway, than clearly there will be a greater volume of water in the waterway than there would be naturally in the absence of a diversion. If the Plaintiff only had to establish that diversion of water led to greater volumes than would be found in the absence of a diversion, then s. 315.2 would be rendered meaningless. I accordingly reject this argument.

[322] I accept Mr. Kastelein's evidence and find that the City's use of the Ravine for drainage is the most convenient natural watercourse.

[323] Considering all of the evidence, I find that the drainage water in question is discharged into the most convenient natural watercourse or waterway. Consequently, I find that s. 315.2(7) applies and operates as a complete defence.

c) s. 33 of the *Community Charter*

[324] At trial, the Plaintiff argued that if ss. 315.2(7) of the *LGA* applies, then compensation should still be awarded to him in accordance with s. 33 of the *Community Charter*. Section 33 states:

33 (1) Unless expressly provided otherwise, if a municipality expropriates real property or works under this or any other enactment, compensation is payable to the owners, occupiers or other persons interested in the property for any damages necessarily resulting from the exercise of those powers beyond any benefit that the person claiming the compensation may derive from the work resulting from the expropriation.

(2) If a municipality

(a) exercises a power to enter on, break up, alter, take or enter into possession of and use any property, or injuriously affects property by the exercise of any of its powers, and

(b) exercises a power referred to in paragraph (a) that does not constitute an expropriation within the meaning of the Expropriation Act,

compensation is payable for any loss or damages caused by the exercise of the power.

(3) For the purposes of subsection (2), compensation must be paid as soon as reasonably possible in an amount set

(a) by agreement between the person claiming compensation and the municipality, or

(b) if no agreement is reached, by the Supreme Court.

[325] The answer to this claim is found in subsections 315.2(2-5) of the *LGA* which state as follows:

(2) A municipality proposing to construct drains or ditches authorized by subsection (1) must publish a notice in accordance with subsection (3) in a newspaper once a week for 4 consecutive weeks.

(3) The notice under subsection (2) must state that

(a) the municipality intends to undertake the works,

(b) plans and specifications of the works may be inspected at the municipal hall, and

(c) all claims for damages or compensation arising out of the construction, maintenance, operation or use of the works must be filed with the municipality within one month from the date of the fourth publication of the notice.

(4) No person has a claim for damages or compensation arising out of or by reason of the construction, maintenance, operation or use of the drains or ditches unless the person has filed a claim referred to in subsection (3) (c) within the time period established by that subsection.

(5) If the municipality proceeds with the works or a portion of them, every claim must be determined in accordance with Division 4 [Expropriation and Compensation] of Part 3 of the *Community Charter*.

[326] The Plaintiff points to ss. 315.2(5) as requiring their claim to be determined in accordance with the provisions of the *Community Charter*. I cannot accede to this argument. Subsection 315.2(5) deals with the determination of “claims” but ss. 315.2(4) expressly bars all “claims” where the time requirements in ss. 315.2(3)(c) have not been complied with. Subsection 315.2(3)(c) allows claims to be filed with the municipality within one month of publication of the notice that a municipality is required to publish prior to constructing drains or ditches.

[327] Thus, where a municipality is proposing to construct drains or ditches that may affect a landowner and a landowner files a timely claim, the landowner may apply for compensation under the *Community Charter* where the municipality proceeds with the construction. The statutory language is clear that this is the only situation where ss. 315.2(5) applies. That did not occur here where the drainage system had been in existence long before the present claim.

[328] Accordingly, the provisions of the *Community Charter* do not apply, and the Plaintiff's claim for damages in this respect is dismissed.

B. Negligence

1. The Ditch

[329] The Plaintiff submits that the City was negligent because it failed in its duty of care to maintain the Ditch.

[330] It is the submission of the City that it had no duty or obligation to maintain the Ditch because of the provisions of Municipal Policy No. 900-5-04, and because of s. 4 of the ROWA.

[331] Municipal Policy No. 900-5-04 dated January 1, 1995, states:

1. The maintenance of City facilities, such as roads, lanes, sidewalks, curbs, gutters or installations placed within roads, lanes or sidewalks, which are part of the sanitary or storm sewer, drainage or water utility system, including those facilities within park or public recreation areas, shall rely solely on reports of observed defects by the city staff or members of the public.

[332] Mr. Kastelein testified that Policy No. 900-5-04 had been approved by Abbotsford City Council on January 1, 1995, when Matsqui and Abbotsford joined. It establishes a policy of complaint-driven maintenance for roads and related services including storm sewer and drainage systems.

[333] Mr. Kastelein gave evidence with respect to the reason for the existence of Policy No. 900-5-04. He testified that the Municipality of Abbotsford is one of the largest in British Columbia with approximately 1000 kilometers of roadside ditches.

He explained that in two districts within the Municipality (Prairie Dyking and Drainage District and Sumas Dyking and Drainage District) residents paid special rates for regular-scheduled ditch maintenance.

[334] Mr. Kastelein testified that in 2007/2008, he had been responsible for drafting a bylaw to establish a budget of \$800,000 to be funded by Abbotsford residents in order to support scheduled ditch inspections and maintenance. Mr. Kastelein testified that a public meeting was held to discuss this draft bylaw at which members of the public strongly opposed the bylaw and the imposition of additional rates. Mr. Kastelein testified that without public support or adequate funding, the City withdrew the proposed draft bylaw.

[335] The evidence of Mr. Kastelein establishes that Policy No. 900-05-4 is a policy adopted by the City's city council in good faith on the grounds of reasonable budgetary constraints.

[336] Section 4 of the ROWA establishes a similar "complaint driven" maintenance program to the complaint driven maintenance program established by Policy No. 900-5-04.

[337] Section 4(a) of the ROWA states:

The City covenants and agree that upon receipt of prior written notice from the Grantor that maintenance is required in that area of the Statutory Right of Way, to:

(a) Maintain the Ditch; and...

[338] Mr. Drader's evidence was that he understood this term to mean that the City would maintain the Ditch on his notice to them. He did not give any notice to the City.

[339] With respect to the City's obligation under a complaint driven maintenance program, which is to respond with reasonable promptness to carry out the requisite maintenance, I note the evidence of Ms. Swann and Mr. Penner. They confirm that the City has administrative procedures designed to ensure that requests from citizens for ditch maintenance are addressed in a prompt and effective manner.

[340] The City submits that the decision to set up a complaint-driven maintenance regime was based on budgetary considerations and was therefore a policy decision. The City cites *Just v. British Columbia*, [1989] 2 S.C.R. 1228 [*Just*], for the proposition that a policy decision cannot be subject to a duty of care. The court in *Just* distinguished between decisions about whether or not to carry out inspections (which would generally be policy decisions), and the actual manner in which inspections were carried out if the policy was to have inspections. Only the latter could attract a duty of care.

[341] In *Just*, Cory J. at para. 19, quoting the Australian High Court in *Sutherland Shire Council v. Heyman* (1985), 60 A.L.R. 1, stated the test as follows:

The distinction between policy and operational factors is not easy to formulate, but the dividing line between them will be observed if we recognize that a public authority is under no duty of care in relation to decisions which involve or are dictated by financial, economic, social or political factors or constraints. Thus budgetary allocations and the constraints which they entail in terms of allocation of resources cannot be made the subject of a duty of care. But it may be otherwise when the courts are called upon to apply a standard of care to action or inaction that is merely the product of administrative direction, expert or professional opinion, technical standards or general standards of reasonableness.

[342] This test was more recently articulated in *R. v. Imperial Tobacco Canada Ltd.*, 2011 SCC 42, where the court at para. 87 held that “the weighing of social, economic, and political considerations to arrive at a course or principle of action” is at the heart of what is a policy decision.

[343] The Plaintiff argues that the city’s failure to maintain the Ditch was not a policy decision and cites *Jansen*. In *Jansen* the court stated at para. 54 that “As a matter of ‘policy’ the Defendant decided to install culverts. Having made that decision, it was under a duty to install the culvert so they would not create harm by negligence or nuisance.” The court drew a distinction between the high level decision to have a drainage system and the lower level implementation decisions about exactly how to install culverts. This is consistent with the holding in *Just*.

[344] I am unable to agree that *Jansen* “distinguished the application of the Supreme Court decision in *Just*” as submitted by the Plaintiff. *Jansen* did not change the law in this area. In *Jansen*, it was the implementation of the policy decision to install culverts that was discussed. In the present case, the decision not to inspect but instead to rely on reported complaints was the policy decision. As such, the holding in *Jansen* is not of assistance in the present case.

[345] A municipality will be immune from liability where it makes a decision based on social, economic or political factors about whether and how frequently to inspect and maintain drainage ditches.

[346] I find that the decision to set up this complaint-driven system was dictated by budgetary concerns and was therefore a policy decision. As a policy decision, it is not subject to a duty of care.

[347] The City is not liable in negligence in this regard.

2. The Right of Way

[348] Similarly, the Plaintiff’s claim for negligence in respect of the Right of Way is that the City was negligent for its failure to maintain the Right of Way. He states that the City breached its duty of care by failing to maintain the Right of Way and by allowing water in excess of 1.5 m³/s to flow through the Right of Way.

[349] With regard to the allegation that water in excess of 1.5 m³/s flowed through the Right of Way as a foundation for the claim of negligence, I refer to my finding above. The evidence establishes that the water flow through the Right of Way did not exceed 1.5 m³/s.

[350] With regard to the allegation of breach of duty of care by failing to maintain the Right of Way, pursuant to the ROWA the City has a discretionary right to inspect, maintain and repair the Right of Way but has no obligation to do so (subparagraphs 2(f) and 2(g)). It is the obligation of the Plaintiff to construct and maintain the Right of Way to a standard acceptable to the City.

[351] As with the Plaintiff's claim for nuisance, the provisions of s. 5 of the ROWA apply. This section provides that if the three pre-conditions exist, the Plaintiff has no obligation to indemnify and hold the City harmless as set out in s. 2(h) of the ROWA.

[352] I have dealt with the application of the provisions of s. 2(h) and 5 of the ROWA in the section above on the claim of nuisance with regard to the Right of Way. Those findings are applicable here.

[353] In that section I have also considered the application of the defence available to the City by s. 315.2 of the LGA. For the reasons set out above, even if I had found that the three pre-conditions had occurred, I would find the City immune from liability for a claim in negligence with regard to the Right of Way by virtue of s. 315.2.

3. Ravine Below the Property

[354] The Plaintiff's claim for negligence extends to the portion of the Ravine on the Neighbour Property. It is claimed that the City's negligence in failing to maintain and repair this land adversely affects the Property. The evidence of Mr. Kokan and Mr. Bradshaw addresses this issue of erosion on the Neighbour Property and its effect if any on the Property. They are not in agreement in this regard.

[355] Mr. Kokan's estimate for further repair work is largely with regard to work on the Neighbour Property.

[356] It is the City's position that the Ravine below the Property is included in the MOS and the Release and that the Plaintiff is thus barred from any claim arising from the lower part of the Ravine.

[357] I agree with the submissions of the City. The MOS provides in its essence that the Plaintiff will execute a Consent Dismissal Order and a Release and grant a right of way to the City. In turn, the City will pay to the Plaintiff's solicitor the sum of \$45,000 and to the Ravine Renovation Trust Fund (the RRTF) the sum of \$130,000 for "certain renovation work to be carried out within the Ravine". The City paid this amount as agreed.

[358] The funds in the trust, the RRTF were to be used to pay for the Project. The Project was to place rock fill in the Ravine which extends both on and further north from the Drader property. It was clearly contemplated by the MOS and was a term of the MOS that the remedial work in the Ravine included work on the Ravine on the Neighbour Property. The City paid for rock fill to also be placed on the Neighbour Property. Mr. Drader completed the part of the Project on his Property. The then neighbours did not give consent for the Project to be completed on the Neighbour Property.

[359] The Release must be interpreted in the context of the MOS which was executed on the same date. In the Release, the Plaintiff releases the City from the enumerated claims including those "...in any way resulting or arising from any cause, matter or thing whatsoever existing up to the present time...".

[360] The legal principle regarding the interpretation of a release is stated in *Keefer Laundry Ltd. v. Pellerin Milnor Corp.*, 2009 BCCA 273 at para. 59:

...the interpretation of a release requires the Court to determine as a matter of fact what was in the parties' contemplation when the release was executed:

A release is a contract, and the general principles governing the interpretation of contracts apply equally to releases. However, there is also a special rule which is superadded onto regular ones. This rule comes from *London and Southwestern Railway v. Blackmore*, an 1870 decision of the House of Lords. The rule in *London and Southwestern Railway* holds that a release is to be interpreted so that it covers only those matters which were specifically in the contemplation of the parties at the time the release was given. The rule allows the Court to consider a fairly broad range of evidence of surrounding circumstances in order to ascertain what was in fact in the specific contemplation of the parties at the relevant time, and it is not uncommon for a significant amount of extrinsic evidence to be examined when the rule is applied. However, like the law of contract, interpretation generally, the scope of permissible extrinsic evidence does not extend to evidence of the parties' subjective intentions; such evidence is strictly inadmissible.

[361] The City submits that the subject matter of the 1996 Action and the settlement of that litigation expressly contemplated erosion of the stream bed within the Ravine on the Neighbour Property. It submits that the Plaintiff now seeks performance of

remedial work which was expressly contemplated by the MOS but which the Plaintiff never carried out.

[362] Pursuant to the MOS, the Plaintiff was paid an amount of \$130,000 for the purpose of:

“... placing of rock fill for the purpose of restricting, as much as is practically possible, erosion of the bed of the stream which flows through the Ravine over property which includes but is not limited to the Drader property”.

[363] On his cross-examination, the Plaintiff acknowledged that he understood that this was the purpose for which the \$130,000 settlement funds were to be spent.

[364] Section 4(d) of the MOS provided that:

“It is the intention of the parties that the Project shall be a compromise of the work recommended by Geopacific Consultants Ltd. in a report to D.K. Heli-Cropper Int'l Ltd. dated November 21, 2000 and the work recommended by Golder Associates in a report to Messrs. Alexander Holburn Beaudin & Lang dated January 9, 2001.”

[365] In cross-examination, the Plaintiff acknowledged that he was aware of and understood this term.

[366] The report of Mr. Kokan dated November 21, 2000, is relevant. In that report, Mr. Kokan states:

“The extent of what I would characterize as very significant disturbance to the ravine channel caused by the erosion and down cutting of the channel bottom extends about 160 to 200 meters northeast of Marsh McCormick Road, beyond the limits of your property. As a result, some of the works which I have proposed must be done on other private property, located east of your property.”

[Underlining added.]

[367] Mr. Kokan attached to this report a drawing which identified “the limit of treatment area” designated by a dark black line which extended from the Notch, across the Property and across two thirds of the property to the east.

[368] In the current action, the Plaintiff relies upon the report of Mr. Kokan dated September 12, 2007. In that report, Mr. Kokan states:

“My examination of the northern extent of the stabilized zone revealed very significant erosion and down cutting of the unprotected channel base and slopes to the north of the rock fill stabilized channel. The channel base north of the stabilized area is on adjacent private property (29399 Marsh McCormick Road) and therefore was not stabilized during the original stabilization program since access was not available on the adjacent property. As indicated in our original cost estimate for restoration, dated December 28, 2000, the original intent of the stabilization program was to fill the ravine base with rock both on 29325 and 29399 Marsh McCormick Road. Since access to 29399 Marsh McCormick Road could not be secured during the time of the 2001 channel restoration program, the recommended work was never completed.”

[Underlining added.]

[369] In his cross-examination, the Plaintiff acknowledged that the work proposed by Mr. Kokan in his report of November 21, 2000, included work to be done on the Neighbour Property. He confirmed that, ultimately, the work which was done extended only to the eastern boundary of the Property because the neighbours did not want him going onto their land. The Plaintiff could not recall whether all of the money which he received in the 2001 settlement was spent on repairs of the Right of Way.

[370] I note that although the remedial work extends approximately 10 metres onto the Neighbour Property, Mr. Kokan said that that was inadvertent as the boundary was not clearly delineated.

[371] On the basis of the evidence, I conclude that when the Release was executed in June 2001, it was contemplated by all parties that what was being settled was all of the Plaintiff’s claims for damages, past and future, arising from the diversion of water from the Ditch into the Ravine, including damages caused by the erosion of the Ravine on both the Plaintiff’s property and the Neighbour Property.

[372] The Plaintiff’s claim in negligence with regard to any damage arising from the water flow in the Ravine on the Neighbour Property is barred by the Release.

[373] Further the provisions of s. 315.2 of the LGA also apply. The lower portion of the Ravine is part of the most convenient natural waterway or watercourse. The City is therefore immune from liability.

[374] Given my finding, it is not necessary to determine if erosion in the Ravine below the Property caused or is causing damage to the Property. Mr. Bradshaw and Mr. Kokan disagree on the cause of the ongoing slumping on the Property. Mr. Kokan concludes that it is because of the erosion in the Ravine on the Neighbour Property. Mr. Bradshaw opines that the scouring of the Ravine in the 1996 slide has an ongoing effect on erosion in the unremediated lower part of the Ravine; and that the clearing of the Property together with natural processes are the causes of any slumping there.

C. Breach of Contract

[375] The Plaintiff states that the City is in breach of contract with regard to the provisions of the MOS and the ROWA regarding the Ditch, the Right of Way and the Ravine below the Property.

[376] The particulars of the breaches alleged are: failing to maintain the Ditch; failing to maintain, repair or replace the Right of Way; permitting more than 1.5 m³/s to flow from the Ditch to the Right of Way; failing to inspect the Right of Way; and, failing to maintain and repair land on the Property adjacent to the Right of Way forming the slopes above the Right of Way.

[377] The Plaintiff submits that since the City was responsible for the drafting of the MOS and the ROWA, the principle of *contra proferentem* must be applied to their construction.

[378] The City replies that the Plaintiff was represented by counsel and had the advice of Mr. Kokan who was also present at the Settlement Conference. Mr. Kokan testified that he was present at the Settlement Conference. He also testified that there was an issue as to the volume of water through the Right of Way. Mr. Lokash, the Plaintiff's lawyer retained an engineer who was a hydrologist. The Plaintiff was well-represented at the time that the 1996 Action was settled.

[379] The City submits that the terms of the contracts relied upon by the Plaintiff disclose no breach on the part of the City, and that Mr. Drader is in breach.

[380] There is no obligation on the part of the City to maintain the Ditch. Section 4 of the ROWA requires maintenance by the City on notice by the Plaintiff. There was no notice given by the Plaintiff to the City that the Ditch required maintenance.

[381] With regard to the Right of Way, the City submits that the relevant provisions of the MOS and ROWA are:

Paragraph 1(e) of the MOS states:

Immediately upon registration of the Right of Way at the Land Title Office ...the Defendant shall:

- (i) pay to the Plaintiff's solicitor, Brent Lokash, in trust, an amount of \$45,000; and
- (ii) pay to the RRTF an amount of \$130,000.

Section 1(c) of the MOS provides:

Except as the Right-of-Way may expressly provide, it shall not constitute any restriction or limitation upon those rights which the Defendant may have under section 560 of the Municipal Act.

[382] Relevant provisions of the ROWA are as follows:

The "Works"

- (i) Section 1 defines the term "the Works" to mean:
 - 2. ...lay down, construct, operate, inspect, maintain, alter, enlarge, remove, repair, replace, renew or otherwise service the statutory right-of-way ...

The Obligation to Carry Out the Works

- (ii) In Section 2(f), the Plaintiff, as Grantor, covenants and agrees to construct and, subject to Section 4, maintain, at its own costs, the Works and the statutory right-of-way to standards acceptable to the City.
- (iii) This obligation is reinforced by Section 7(a) as follows:
 - 7. It is mutually understood, agreed, and declared by and between the parties hereto that:
 - (a) all expenses incurred in the initial construction of the Works and the maintenance and repair thereof shall be borne and paid for by the Grantor;

The Right to Carry Out the Works

- (iv) Under Section 1, the Plaintiff, as Grantor, grants to the Defendant the “*unrestricted right and liberty*” to perform the Works;
- (v) Section 2(g) confirms the discretionary nature of this grant and provides that:
 - ...Should the Grantor fail to maintain the Works as required herein, the City may, but is not obligated to, at any time upon 30 days written notice from the City to the Grantor...take whatever action the City, in its sole discretion, deems necessary to bring the Works up to standards acceptable to the City, the costs of which may be added to municipal taxes on the Lands.

The Indemnification Agreement

- (vi) In Section 2(h), the Plaintiff agreed:
 - to indemnify and hold harmless the City from and against all manners of action, causes of action, claims, debts, suits, demands and promises whatsoever at law or of equity, whether known or unknown, which the grantor now has, or may at any time have by reason of the granting, existence or use of the statutory right of way or of the Works, or of the carrying out of or failing to carry out of the construction or maintenance of the Works or of the flooding of the Lands or any damages to any improvements on the Lands ...
- (vii) Section 5 relieves the Plaintiff of this obligation to indemnify the City in the event that:
 - (a) the water flow from the Ditch through the Statutory Right-of-Way exceed the boundaries of the Statutory Right-of-Way; and
 - (b) the volume of water flow through the Ditch into the Statutory Right-of-Way exceed 1.5cubic metres per second; and
 - (c) damages occur to the Statutory Right-of-Way or the Lands that are caused by (1) and (2).

[383] I agree with the City that the following conclusions are properly drawn from these sections:

- (i) It is the obligation of the Plaintiff to inspect, maintain and repair the Right of Way;
- (ii) The Defendant has a discretionary right to inspect, maintain and repair the Right of Way but has no obligation to do so. In any case the related costs are to be borne by the Plaintiff;

- (iii) The Plaintiff must indemnify and hold harmless the City from any and all claims arising out of the granting, existence or use of the Statutory Right of Way or the Works; and
- (iv) In the event that the water flow from the Ditch through the Statutory Right of Way exceeds the boundaries of the Right of Way and exceeds 1.5 m³/s and, in the result, causes damage to the Statutory Right of Way or the Property, the Plaintiff shall be free to pursue an action against the Defendant.

[384] There is no contractual obligation on the part of the City to maintain and repair land on the property adjacent to the Right of Way, either on the Plaintiff's Property or the Neighbour Property.

[385] We return to s. 5 of the ROWA. If all three of the pre-conditions described therein occur, the Plaintiff would be relieved of its obligation to indemnify the Defendant under s. 2(h) of the ROWA and free to pursue a claim for damages against the Defendant.

[386] Absent the presence of those three pre-conditions the Plaintiff is bound by the "hold harmless" provision in s. 2(h) of the ROWA with regard to all claims, including for breach of contract, for the Right of Way or the works.

[387] The three pre-conditions and my conclusions have been discussed above. They are not established on the evidence.

[388] Even assuming that all of the three events described in s. 5(a), (b) and (c) of the ROWA had occurred, there is no automatic liability by the Defendant to the Plaintiff. The occurrence of all events frees the Plaintiff to commence an action for damages against the Defendant. In that action, the Defendant may raise any defences available to it including the provisions of s. 315.2(b) of the *LGA* and the Plaintiff's negligence in causing the 1996 slide.

[389] Section 315.2 of the LGA has been discussed above. It also provides a defence to the claims for breach of contract.

1. Dispute Resolution Provision

[390] Although it was not plead in the Further Amended Statement of Claim, the Plaintiff submits that the City breached the dispute resolution provision of the MOS with a bad faith refusal to comply with its obligations to refer any disputes to Mr. Justice Burnyeat. That provision states:

5. Dispute Resolution

All parties agree that:

- (a) each of them will make their best efforts to do everything necessary to ensure that the Project is completed in accordance with this Memorandum.
- (b) to the extent that a dispute arises among the parties concerning the rights and obligations of the parties set out in this Agreement, which the parties in good faith cannot resolve on their own, the dispute shall, at the instances of any one party, be submitted to Mr. Justice Grant Burnyeat of the Supreme Court of British Columbia for summary resolution. For this purpose all parties agree that notwithstanding the dismissal of the Drader and GVRD actions, Mr. Justice Burnyeat shall remain seized with both of these matters. All parties consent to be bound by any Order which Mr. Justice Burnyeat may make.

[391] The evidence with respect to the involvement of Justice Burnyeat is as follows. In early January 2001, shortly before a scheduled trial date, Justice Burnyeat conducted a successful settlement conference involving the issues raised in the 1996 Action (the “Mediation”).

[392] The Plaintiff testified that he was gratified by the involvement of Mr. Justice Burnyeat and that he was reassured by knowing of his continued availability.

[393] At the Mediation, certain fundamental terms were agreed to with the details and documentation to be negotiated. The negotiation process was difficult, lasting almost six months and involving at least one threatened return before Justice Burnyeat.

[394] The MOS, ROWA and Release were executed on June 20, 2001.

[395] From June 2001 until January 29, 2004, the Plaintiff observed no problems with the drainage of water through the Property.

[396] On January 29/30, 2004, water from the Ditch was diverted up the Drader Ditch, across the low point of the Property and into the Ravine.

[397] On March 2, 2004, the Plaintiff wrote to Justice Burnyeat describing the January 29 and 30 Overflow Events from the Ditch across the Property.

[398] In response to this letter, the Plaintiff received a phone call from the court clerk advising him that it was inappropriate to correspond directly with a Judge so that Justice Burnyeat would not be able to answer his letter.

[399] The Plaintiff subsequently instructed his counsel to make an application to Justice Burnyeat in the style and cause of the 1996 Action. Justice Burnyeat dismissed that application on the grounds that he could not hear proceedings in the style and cause of the 1996 Action. In disposing of the Plaintiff's application, Justice Burnyeat stated that he would become seized of any new action which the Plaintiff saw fit to make against the Defendant.

[400] The Defendant objected to and appealed from that portion of the Order of Justice Burnyeat on the grounds that a judge could not seize himself of an action not, as yet, commenced, and who has conducted a mediation in a matter should not preside at a trial of the same matter.

[401] Prior to the hearing of the Defendant's appeal, Justice Burnyeat advised the parties that he would decline to hear future proceedings between the parties.

[402] The events as they unfolded were not within the ambit of the contractual provision. The City cannot be faulted for taking the position which it did in filing the appeal. I do not find that the City was in breach of the Dispute Resolution provision.

2. Implied Term of Safety

[403] The Plaintiff further submits that it was an implied term of the contractual agreements that the drainage system would be safe.

[404] The City submits that there are no implied terms in the agreements.

[405] The Plaintiff submits that he has well-established and long-accepted precedent to support this proposition as a result of the law surrounding rights of way and easements.

[406] He cites *Gale on Easements*, 18th ed. (London: Sweet & Maxwell, 2008), in which the authors note, dating back to the late 18th century, that “he who has the use of the thing ought to repair it”, which leads to the legal proposition that the grantee of a right of way, though not necessarily compellable to repair it, may be “practically obliged to do so in order to avoid committing a trespass or nuisance” (*Gale on Easements* at p. 55).

[407] This portion of *Gale on Easements* was quoted with approval in 1994, in *Central Coast Power Corp. v. B.C.*, [1994] B.C.J. No. 1330 [*Central Coast*], where the Court adopted the legal principle that the grantee of a right-of-way would have to effect necessary repairs of the right-of-way, to avoid committing a nuisance. In that case, the Court granted the plaintiff landowner compensation for having to do the repairs itself because the defendant had not.

[408] In *Central Coast*, the dominant tenant had laid pipes along a right of way over the property of the servient tenant and had a duty to maintain the pipes so that water did not escape, causing a nuisance. The dominant tenant is in the same position as a neighboring property owner who would also ordinarily have a duty to ensure that water did not escape from its property and spill onto that of its neighbour. The principle of safety with respect to easements puts the dominant tenant on the same legal footing as a neighbouring property owner. Each, generally, has a duty to make sure that their property (or right of way) does not endanger their neighbours (or servient tenant).

[409] However, the principle that easements are no exception to the general rule is of no assistance to the Plaintiff in the present case. The principle articulated in *Gale on Easements* simply extends the liability of neighbours to easement holders, but since the City is immune from liability generally in these circumstances, it is not liable as an easement holder.

[410] Further, I do not find that there is an implied term of safety in the contractual documents. The MOS, ROWA and the Release are comprehensive. Together they set out a complete scheme.

[411] As there is not an implied term of safety, there is no breach in this regard.

VIII. INJUNCTION

[412] The Plaintiff submits that there has been irreparable harm to the Property and that, in cases of nuisance, injunctive relief remains the preferred or ordinary remedy: Robert J. Sharpe, *Injunctions and Specific Performance*, loose-leaf (Aurora: Canada Law Book, 2010) at pp. 4-8 to 4-12.

[413] Injunctive relief is often favoured in cases of nuisance because injunctive relief is seen to more closely fit the nature of a property right. In the present case, however, none of the Plaintiff's claims have succeeded. I have found there to be no nuisance, negligence, or breach of contract. In the absence of such findings, there can be no basis on which to grant a permanent injunction. At p. 1-1 of *Injunctions and Specific Performance* it is stated that "[t]he most common form of injunction is the prohibitive order which restrains the defendant from committing a specific act. At the heart of the injunctive process is the prohibition, permanently or temporarily, of wrongful conduct or conduct which would interfere with the rights of another."

[414] A further statement can be found in Spry, *The Principles of Equitable Remedies*, 6th ed. (Agincourt: Carswell, 2001), where at p. 394 it is stated:

When a perpetual injunction is sought to restrain performance of acts that involve a breach of the legal rights of the plaintiff, as a first step it is necessary that the plaintiff should show that those acts would, if they took place, be unlawful, and so far as the question is the existence of legal rights,

he must ordinarily, in a court of combined legal and equitable jurisdiction, establish the existence of those rights on a balance of probabilities.

[415] In the present case, as detailed in these reasons, the City has not engaged in any wrongful conduct and the Plaintiff has no legal right to prevent the City from continuing to administer its drainage system in the present manner. No injunction could be granted restraining the City from doing what it has established that it has the legal right to continue doing. Consequently, I dismiss the Plaintiff's request for a prohibitive injunction.

IX. CLAIM FOR WORK TO BE DONE FOR THE NEIGHBOUR

[416] A substantial part of the Plaintiff's claim for damages is for the cost of doing remedial work on the Neighbour Property.

[417] Shortly before the trial the Plaintiff received a letter from the present owners of the Neighbour Property. They indicate that they are now prepared to allow the Plaintiff to carry out work on their property if a right of way agreement is negotiated with the City. It states:

Re: 29399 Marsh McCormick Rd. Abbotsford, BC

I/we Christian Zane Erickson, Chantel Rae Erickson give permission to Gene Drader & Gillian Drader 29325 Marsh McCormick Rd. Abbotsford BC Canada to carry on remedial work to stabilize their property by means of a rock fill on our property 29399 Marsh McCormick Rd. Abbotsford BC, Canada. It is understood that good engineering practices will be used and that any work carried out on 29399 Marsh McCormick Rd. will not affect our property in a negative way and that due care and attention will be taken. We understand that a drainage pipe is being proposed to run on top of the fill so that it can be periodically inspected to ensure proper drainage; however, we do not agree to any water being drained through our property without a proper legal right of way. We understand that we will not be charged for any work undertaken.

[418] The City submits that as Mr. Ericsson is not a party to this litigation, the Court has no jurisdiction to award damages equal to the value of carrying out work on Mr. Ericsson's property.

[419] It is trite law to state that absent a specific exception, a court does not have jurisdiction over a non-party.

[420] There is no specific exception present here. Indeed, the Plaintiff agreed in the MOS to carry out the Project which included work on the Neighbour Property. That work could not then be done due to the neighbours' objection. If the funds in the RRTF have been otherwise expended, that does not require the City to pay an additional amount.

[421] Further, the neighbours now seek to enter into a right of way agreement with the City before any work is done. It is to be decided between the City and Mr. and Mrs. Ericsson if they wish to do so. It does not form any part of the issues before the Court in this proceeding.

[422] With regard to the claim for damages for the cost of doing remedial work on the Neighbour Property, this claim, like the claim for an injunction discussed above, must be grounded in a cause of action. That the City is not liable in nuisance, negligence, or breach of contract, is a complete answer. For there to be any liability, any damage caused to the Plaintiff by the lack of fill on the Neighbour Property must be as a result of the City's nuisance, negligence, or the breach of a contract. I have found that none of negligence, a nuisance or a breach of contract occurred. Accordingly, the claim for damages for the cost of doing remedial work on the Neighbour Property is dismissed.

X. DAMAGES

[423] Given the conclusions that I have reached on liability it is not necessary to deal with the Plaintiff's damage claims.

[424] I note however that the claims include those for punitive and aggravated damages arising from allegations of the City's egregious conduct, high-handed actions and bad faith breaches of the MOS and ROWA.

[425] The basis of those claims includes a number of allegations of misconduct against the City generally and one employee particularly. After a review of the entirety of the evidence I find that the City, its officials and employees acted at all times in an appropriate manner. I find that those allegations are entirely without any

factual or legal foundation. If the Plaintiff had otherwise succeeded I would not in any event have granted such damages.

XI. CONCLUSION

[426] In conclusion, for the reasons stated above the action is dismissed.

[427] Unless there are matters of which I am not aware, the City is entitled to its costs on Scale B. If either party seeks a different cost result, they are to file a written submission within 30 days of the receipt of these Reasons. Any submission in response should be filed within 21 days thereafter.

“Watchuk J.”

SCHEDULE A

