BRITISH COLUMBIA

Environmental Appeal Board

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APPEAL NO. 2002-HEA-019

In the matter of an appeal under section 8 of the *Health Act*, R.S.B.C. 1996, c.179.

BETWEEN:	Henry Davidson	**APPELLANT**
AND:	Environmental Health Officer	**RESPONDENT**
BEFORE:	A Panel of the Environmental Appeal Board Don Cummings, Panel Chair	
DATE OF HEARING:	September 24, 2002	
PLACE OF HEARING:	Cranbrook, B.C.	
APPEARING:	For the Appellant: Henry Davidson For the Respondent: Dan Byron	

APPEAL

This is an appeal of the July 10, 2002 decision of Dan Byron, an Environmental Health Officer ("EHO") with the Interior Health Authority, Fernie Health Unit, to deny issuance of a permit for a sewage disposal system on Lot 1, Plan NEP 23688, DL 6044 and 16420, Elk Lakes Road (the "Property").

The Environmental Appeal Board has authority to hear this appeal under section 11 of the *Environment Management Act* and section 8(4) of the *Health Act*. The Board, or a panel of it, after hearing all the evidence, may decide to vary, rescind or confirm the decision of the EHO. The Appellant seeks an order rescinding the decision of the EHO.

BACKGROUND

The Property, approximately 43 acres in size, is located adjacent to the Elk River, just north of Elkford, which is approximately 65 kilometres north of Fernie.

On June 18, 2002, the Appellant applied for a permit to construct a conventional sewage disposal system for a three-bedroom house. The house, from photographs submitted as evidence by the EHO, is substantially complete. The following information was shown on the permit application:

- an 800 gallon, polyethylene septic tank
- 380 feet of four-inch PVC drainage pipe

- depth of soil over 1.2 metres (four feet)
- depth to water table over 1.2 metres (four feet)
- percolation rates for two test holes at four minutes per inch each.

On June 26, 2002, the EHO visited the Property and met with the Appellant. The EHO found the soil profile consisted of varying depths of gray sand above sand and gravel, and that the water level in observation holes was 2.5 feet below the ground surface. This indicated to the EHO that, contrary to the information in the permit application, the Property has a seasonal high groundwater table in that it does not have 4 feet of unsaturated soil.

In his field notes, the EHO wrote

- discussed possible modified mound system with Henry Davidson. 4" deep trenches, scarify surface, infiltrator system with [perforated] pipe along trench bottom – cover with mound
- this should allow 2' of soil between effluent discharge and seasonal water table
- told Henry I would need to check Floodplain Mapping to see if property was in Floodplain

On June 28, 2002, the EHO left a message with the Appellant that the Property was within the Elk River floodplain (floodplain mapping had been completed in March 1980).

On July 10, 2002, the EHO again visited the Property to conduct a survey to determine the elevation of the surface of the absorption field. The bench mark used in the survey – a nail in a power pole - was established by a B.C. Land Surveyor in 1997 and was tied into a geodetic elevation. (A bench mark is a fixed reference point or object, more or less permanent in character, the elevation of which is known.) The EHO determined that the finished grade of the absorption field would be approximately 2.5 feet below the bench mark. He also noted that water levels in the observation holes were 2'-8" and 3' below the ground surface.

The EHO then issued a rejection report to the Appellant. The primary reason cited was that the area was subject to flooding. Under the heading of Other Reasons and Comments, the EHO wrote:

- Floodplain mapping by Ministry of Environment circa 1980 indicates property is within 20 year Floodplain Limit
- Transit shots taken July 10, 2002 by P.H.I from existing bench mark indicate proposed field area is 2.5 ft below 20 year limit

The Panel notes that all of the reasons given for refusing the permit are tied to the floodplain mapping and the potential for the field area to be flooded.

On July 11, 2002, the Appellant filed an appeal with the Board.

On July 15, 2002, the EHO wrote to the Appellant correcting an error he made in his rejection report concerning floodplain elevations. The 20-year floodplain elevation shown on the 1980 floodplain map, in the area of the Appellant's proposed absorption field is 1,265.8 metres (including freeboard[1]). Thus, the surface elevation of the absorption field would be approximately two metres (6.5 feet) below the 20-year flood level, not 2.5 feet as stated in his rejection report, and 2.6 metres (8.5 feet) below the level recommended in the 1992 *On-Site Sewage Disposal Policy* (the "*Policy*"), which is discussed later in this decision.

ISSUES

The Panel has characterized the issues to be addressed in the appeal as follows:

1. Whether the EHO erred in relying on the floodplain mapping as the sole reason for rejecting the application.

2. Whether there are any other reasons justifying the granting of a permit to the Appellant.

RELEVANT LEGISLATION AND POLICIES

The *Sewage Disposal Regulation*, B.C. Reg. 411/85 (the "*Regulation*") sets out the general permitting sections, which are produced below.

Permits to construct systems

3 (1) No person shall construct, install, alter or repair a sewage disposal system or cause it to be constructed, installed, altered or repaired unless he holds a permit issued under this section….

…

(3) No permit shall be issued under this section

(a) in the case of construction or installation, until site investigation tests set out in or required by Schedule 1 have been carried out to the satisfaction of the medical health officer or public health inspector, and either of them is satisfied that, having regard to the provisions of that schedule, the construction, installation and ultimate use of the system will not contravene the Act or this regulation, and…

Alternate methods

7 (1) Where a medical health officer or public health inspector is satisfied that it is impossible for a person to comply with

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[1] Freeboard is a safety factor added to a design flood elevation. Typically it is either 0.3 metres if instantaneous peak elevations govern or 0.6 metres if mean daily peak elevations govern.

(a) in the case of a conventional septic tank system, sections 1, 16 or 22 of Schedule 2

...

but that the person can comply with all other provisions of the appropriate schedule, he may issue a permit to construct under section 3, containing conditions that he considers appropriate to meet the omitted standards having regard to safeguarding public health.

Schedule 1 – Site Investigation

2 The ground water table shall be determined as follows

...

(c) In situations where

(i) no records are available, or

(ii) there is a probability of flooding or a high water table

The medical health officer or public health inspector may determine the ground water table.

Schedule 2 – Conventional Septic Tank Systems

1 Septic tank systems are limited to lots where... the ground water table is greater than 1.2 m (4 ft.) below the ground....

...

22 The conventional absorption field shall be constructed in the following manner:

...

The *Policy* provides guidance to administrators of the *Regulation*. It sets out guidelines both for the interpretation of the *Regulation* and for the exercise of discretion, which are produced below.

4.6 Floodplain Sites

Floodplain sites may be established either by identification on a floodplain map or by determining **a probability of flooding in the area** pursuant to Schedule 1, S.2(c)(ii).

On floodplain sites where dyking is not available, as a condition of permit under Section 3(5), the finished grade of disposal fields **should** be above the 20-year flood level. **It is suggested** that approximately 2 feet of elevation enables the sewage disposal system to withstand the physical impact of

> flooding and protects the groundwater table **if the flood is extended over a period of time**. [emphasis added]

DISCUSSION AND ANALYSIS

1. Whether the EHO erred in relying on the floodplain mapping as the sole reason for rejecting the application.

The Appellant testified that he has lived in Elkford for 30 years and has owned the Property for 12 years. He claims his property has never been inundated, even in 1995 when the Elk River reached high levels.

The Appellant submitted a letter from the Mayor of the District of Elkford, which reads in part

> I have lived in Elkford since 1977 and to my recollection, the Elk River in your area has never reached flood conditions that would have affected your property or those other rural properties to the South. Our most serious flood conditions occurred in 1995 and, even at that time, properties in your area were not affected, at least to my knowledge.

The EHO told the Panel that the 1995-year flood was a 70-year flood – that is a flood that one would expect to occur on an average once every seventy years. The Panel notes that the elevation of such a flood would be higher than that of a 20-year flood.

The EHO testified that he has to "believe in the elevations" on the mapping that shows the Property is in the 20-year floodplain. However, he told the Panel that the floodplain elevations "seem overly conservative." He referred the Panel to section 4.6 of the *Policy* that suggests the ground surface of an absorption field be two feet above the 20-year flood event. The Panel notes that even subtracting the freeboard allowance, the proposed absorption field would be well below the suggested elevation.

When the EHO conducted his survey of the Property, he relied on a bench mark established by Frank R. Maag, B.C. Land Surveyor, with the firm of Griffith Surveys. Of note is the first paragraph of Mr. Maag's June 10, 1997 letter to Nancy Davidson, a neighbour of the Appellant, that reads in part

> In attempting to establish the geodetic elevation we encountered various discrepancies within the geodetic control network at Elkford.

Based upon the evidence, the Panel concludes:

1. The floodplain mapping is tied to geodetic elevations.

2. It is possible that the elevations shown on the floodplain map are in error given that they were established in 1980 and the geodetic discrepancies were uncovered in 1997.

While the Panel does not put much weight on hearsay evidence, Mr. Maag's findings appear to corroborate both the Mayor's and the Appellant's claims.

Even if the 1980-floodplain elevations were accurate with respect to geodetic elevations, floodplain mapping can become outdated due to geomorphological changes. Given the severity of the 1995 flood, it may well be that the floodplain mapping is now outdated. One would not expect changes in a reach of river below a dam, for example, but one would expect changes in a reach that is subject to active aggradation or degradation, such as may be the case with the Elk River.

Given the above, the Panel is not confident that the floodplain mapping is accurate and, therefore, relevant. This is a concern since it is apparent from the wording of his decision, and the evidence presented at the hearing, that the EHO relied on this 22-year-old mapping to make his decision. There is no indication that the EHO has training or experience in the field of water resource engineering which would enable him to evaluate the accuracy of the mapping. Further, there is no evidence that the EHO conducted other investigations, such as interviews with those living in the area, to determine "a probability of flooding in the area" as described in the *Policy*.

In addition, the Panel notes that the *Policy* suggests that an absorption field be two feet above the 20-year flood "if the flood is extended over a period of time." The Panel believes this is particularly applicable to areas, such as the lower Fraser Valley, where floods would extend over a period of time as witnessed during the 1948 flood. The question then is whether a flood of the Elk River would extend over a period of time, which is not defined in the *Policy*, or whether it would typically be a "flash" event over a comparatively short period of time. The Panel notes that when the EHO looked at the Property on June 26, 2002, there is no indication that he observed any indicia of prolonged presence of water in the test holes such as the presence of iron mottling.

It is clear from section 2(c), Schedule 1 of the *Regulation* that the EHO has discretion to determine the ground water table when there are no records available or when there is a probability of flooding or a high water table. Given the floodplain mapping, the Panel agrees that there is reason for the EHO to be concerned about the potential for flooding. However, at the hearing he acknowledged that the floodplain elevations seem overly conservative.

Section 4.6 of the *Policy* uses discretionary words and phrases such as "should" and "it is suggested." This is consistent with the EHO's broad discretionary powers under the *Regulation* regarding the construction of absorption fields in a floodplain. The Panel believes, based on the evidence submitted, that the EHO did not consider other relevant factors when exercising his discretion but, instead, fettered it through a rigid interpretation of section 4.6. The words and phrases "should" and "it is suggested" appear to have been interpreted as "must."

This is not to say that protection of the public health should not be the EHO's primary consideration. Indeed, this mandate has been assigned to the EHO under the *Act* and *Regulation*. However, when section 4.6 of the *Policy* is used as the basis for rejection of an application, it is incumbent upon the EHO to thoroughly

investigate the potential threat to the public health should he approve the application. While verification of the mapping is unlikely to occur given the cost of doing so, some of the questions that the EHO should have asked when reviewing the application are:

1. Is the 1980 floodplain mapping still relevant (or have other events occurred that make the mapping outdated e.g., geomorphological changes)?

2. Was the 1995 flood, in fact, a 70-year-flood even for the area? If so, this would put into question the accuracy of the mapping.

3. Does local knowledge of the 1995 flood support the flood elevations as set out in the floodplain mapping and can this local knowledge be relied upon?

4. Is the Elk River most likely to experience a long-term flood event or a short-term event?

5. Given the remoteness of the Property, what is the impact on the public health, should the absorption field be inundated?

No answers to these questions were presented to the Panel.

Given that the basis for his decision was the floodplain mapping and that there are sufficient questions raised about the accuracy of the mapping to put his decision into question, the Panel will rescind the EHO's decision refusing the permit. However, the remedy in this case is not to order that a permit be issued. The Panel recognizes that, "what is called for is a balancing of probabilities and a scale of protection reasonably related to the nature of the threat." (see *Christina Lake Development Ltd.* v. *British Columbia (Ministry of Health, Director)* (1996), 19 B.C.L.R. (3d) 47 (B.C.C.A.), at para. 40). In this case, the Panel is satisfied that there is sufficient evidence to find that the floodplain mapping may not be accurate. While the accuracy of the 1980 mapping is in question, there is not sufficient evidence before the Panel to show the extent of the inaccuracy. If the mapping is fatally flawed, then the basis for the EHO's decision is also fatally flawed. However, if it is accurate, the decision should stand.

If the floodplain mapping is no longer relevant at all to the Property, then the seasonally high groundwater table may be the governing condition. The question then is whether a modified mound system designed to negate the seasonal high groundwater table, as originally envisioned by the EHO, will adequately protect the public health as required by the *Health Act* and the *Regulation*.

The effect of the Panel rescinding the EHO's decision in this case is that the Appellant's application for a permit stands and should be reconsidered based on more complete investigation and information. The Panel recommends that the EHO

1. investigate the accuracy of the 1980 Elk River floodplain mapping through discussions with staff from the relevant government agency with expertise in the field of water resource engineering.

2. determine whether flooding in the area will be a long-term or a short-term event and, if a short-term event, whether section 4.6 of the *Policy* is relevant to the application.

3. investigate whether, in fact, the 1995 Elk River flood was a 70-year flood.

4. determine, to his satisfaction, the impact of flooding on the public health.

2. Whether there are any other reasons justifying the granting of a Permit to the Appellant.

The Panel was told that the District of Elkford contracts with the Regional District of East Kootenay for services involving building permits and inspections. The Panel was told that the Appellant was issued a building permit without first being required to obtain a permit to construct a sewage disposal system.

The Appellant testified that while he was aware that he would have to apply for a sewage disposal permit at some point during construction of his house, he was not concerned. Others, living nearby, had not encountered difficulties in obtaining permits. One neighbour, Harry Huisman, who lives northeast and a short distance from the Appellant, was issued a permit on April 28, 1999 by R.D. Miller, an EHO with the then East Kootenay Health Unit.

The EHO testified that some of the permits, such as the one issued to Mr. and Mrs. Mills, immediately south of the Appellant, pre-dated the 1992 issuance of the *Policy*. Thus, floodplain elevations were not considered. Regarding the permit issued to Mr. Huisman in 1999, the EHO could offer no explanation as to why it was issued when Mr. Huisman's property, from photographic evidence, appears to be at approximately the same elevation as the Property and therefore below the 20-year flood level.

It is unfortunate that the Appellant was issued a building permit and constructed his home before applying for a sewage disposal permit. However, the fact that Mr. Huisman had a system permitted in 1999, appears to have led the Appellant to believe that it would be a routine matter for him to also obtain a permit.

The EHO cannot approve an application that will fail to protect the public health simply because the applicant has already constructed a home on the property, nor is he bound to follow decisions made by other EHOs. Each permit application must be considered on its own merits. If the Appellant has a remedy resulting from the circumstances described above, it is not with the Board. It is not within the purview of the Panel to consider issues regarding building permit procedures, and it cannot issue a permit for the system on that basis.

DECISION

In making its decision, the Panel of the Environmental Appeal Board has carefully considered all evidence and arguments provided during the hearing, whether or not they have been specifically reiterated here. Under section 8(4) of the *Health Act*,

the Environmental Appeal Board or a panel of it, after hearing all the evidence, may confirm, vary or rescind the ruling under appeal.

In the circumstances, the Panel finds that the decision to refuse a permit should be rescinded. The existing application should be reconsidered by the EHO once more complete and accurate information is obtained.

The Panel recommends that the EHO:

1. investigate the accuracy of the 1980 Elk River floodplain mapping through discussions with from the relevant government agency with expertise in the field of water resource engineering.

2. determine whether flooding in the area will be a long-term or a short-term event and, if a short-term event, whether section 4.6 of the *Policy* is relevant to the application.

3. investigate whether, in fact, the 1995 Elk River flood was a 70-year flood.

4. determine, to his satisfaction, the impact of flooding to the public health.

All of his findings will be made available to the Appellant.

The appeal is allowed.

Don Cummings, Panel Chair
Environmental Appeal Board

October 15, 2002