

Appeal No. CA 021-92

L. Kamerman)
Mining and Lands Commissioner) Tuesday, the 26th day
of April, 1994.

THE CONSERVATION AUTHORITIES ACT

IN THE MATTER OF

An appeal to the Minister under subsection 28(5) of the Conservation Authorities Act for the proposed construction of a single family dwelling and the placing of fill on Part of Lot 23, Concession XII in the Township of Otonabee in the County of Peterborough.

B E T W E E N:

SHEILA DENISE McCONKEY

Appellant

- and -

OTONABEE REGION CONSERVATION AUTHORITY

Respondent

ORDER

WHEREAS an appeal to the Minister of Natural Resources was received by the tribunal on November 18, 1992, having been assigned to the Mining and Lands Commissioner (the "tribunal") by virtue of Ontario Regulation 364/82;

AND WHEREAS a hearing was held on October 18, 19, 20, 28 and 29, 1993, in the Council Chambers, County of Peterborough, 470 Water Street, in the City of Peterborough, in the Province of Ontario;

UPON hearing from the parties and reading the documentation filed;

1. THIS TRIBUNAL ORDERS that the appeal from a refusal of the Otonabee Region Conservation Authority to issue permission for the placement of fill and construction of a single family dwelling on Part of Lot 23, Concession XII in the Township of Otonabee in the County of Peterborough is hereby dismissed.

2. THIS TRIBUNAL FURTHER ORDERS that no costs shall be payable by either party to the appeal in respect of this appeal.

Reasons for this order are attached.

DATED this 26th day of April, 1994.

Original signed by L. Kamerman

L. Kamerman
MINING AND LANDS COMMISSIONER

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BETWEEN:

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Appellant

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OTONABEE REGION CONSERVATION AUTHORITY

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REASONS

Sitting in the Council Chambers, County of Peterborough, 470 Water Street, in the City of Peterborough, in the Province of Ontario, on October 18, 19, 20, 28 and 29, 1993.

Appearances:

Lubomir B. Poliacik	Counsel for Sheila McConkey
George W. Coros	Counsel for the Otonabee Region Conservation Authority

Preamble:

The appeal before the tribunal is from a refusal of the Otonabee Region Conservation Authority ("ORCA") to grant permission to place fill and construct a single family residence on Part of Lot 23, Concession XII in the Township of Otonabee in the County of Peterborough (the "subject lands"). The application (Ex. 29) for the placing of fill and construction on the subject lands was made by Sheila McConkey on January 24, 1991. A hearing was held before the Executive Committee of ORCA on October 8, 1992, and a Notice of Decision (Ex. 61) dated October 19, 1992, refusing permission was issued and sent to Mrs. McConkey.

An appeal pursuant to subsection 28(5) of the **Conservation Authorities Act** is to the Minister of Natural Resources. The Mining and Lands Commissioner (the "tribunal") is appointed by virtue of subsection 6(1) of the **Ministry of Natural Resources Act**. The Minister's authorities, powers and duties are assigned to the tribunal by Ontario Regulation 364/82. Pursuant to subsection 6(6) of the **Ministry of Natural Resources Act**, Part VI of the **Mining Act** applies to the hearing of appeals, with necessary modifications.

Background:

The subject lands are located on the McConkey family farm which was purchased by Mrs. McConkey and her husband in 1964. The farm is located on part of Lot 23, Concession XII in the Township of Otonabee. The subject lands are located along part of the western extremity of the farm fronting on Ashburnham Drive, also referred to by several of the witnesses as Crowley Line. To the south along Ashburnham Drive is a severed property formerly owned by Mrs. McConkey (the "Prins property") which was the subject matter of an application by the appellant to ORCA dated August 11, 1988 to place fill, for which permission was granted on September 13, 1988. Mrs. McConkey also owns land north of the subject lands fronting on Ashburnham Drive,

which do not form part of either the current appeal or the earlier application. This northerly portion of the McConkey farm has a high berm of land alongside Ashburnham Drive, which was discussed by several witnesses in testimony. Immediately north of the McConkey farm is a gun club, which also has Ashburnham Drive as its frontage.

In 1988, the permission granted to Mrs. McConkey for the placement of fill on the Prins property authorized placement of 7,428 cubic metres, or 9,731 cubic yards, of fill on the severed lot, which measured 250 feet along Ashburnham Drive by 350 feet deep. Fill was ultimately only placed to a depth of 170 feet. In addition to the placement of fill on the Prins property, fill was placed on the subject lands, at a depth of between six and eight feet, along the entire frontage. This fill extends into the subject lands as illustrated in hatched red lines set out on the Plan and Profile prepared by M.J. Davenport & Associates (Ex. 1 to the Motion dated June 3, 1993), being an irregular shape with a maximum reach of approximately 170 feet at the central extremity of the fill and narrowing out to a berm along the northern portion of the subject lands. This berm, also referred to in evidence as a finger of fill, extends on the McConkey farm beyond the subject lands.

The illegal placement of fill was the subject matter of two Informations laid pursuant to section 24 of the **Provincial Offences Act**, R.S.O. 1980, c. 400. The facts and outcome are set out in sufficient detail in the Reasons to the tribunal's Order dated September 9, 1993, which dealt with ORCA's motion to dismiss the appeal. Further detail of these events will be discussed only as necessary to the facts of this appeal.

Issues:

1. Is the water which flows past the subject lands a roadside drainage ditch or is it a watercourse?
2. If found to be a watercourse, is it part of the Meade Creek watershed or does it drain into the Otonabee River further downstream? If found to be part of the Otonabee River watercourse, have the subject lands been properly characterized for purposes of the exercise of jurisdiction by ORCA initially and by the tribunal on appeal?

3. Further to the above, what is ORCA's jurisdiction over the watercourse or ditch? Is it part of the shaded area in Exhibit 31 or is it only a watercourse which may affect the shaded area of Exhibit 31?
4. What effect, if any, should the illegal placing of fill have on the appeal? What pre-fill conditions should be used by the tribunal in determining whether the proposed placing of fill will affect control of flooding? Similarly, should the tribunal interpolate pre-channelization figures for its determinations?
5. Are the subject lands within a significant wetland which would be effected by the proposed placing of fill? If the characterization by ORCA that the subject lands are within a wetland is inaccurate, does the reservoir function performed by low lying lands impact on the decision?
6. What weight should ORCA's Water Management Policies be given by the tribunal in reaching its determination. If any weight is to be given, should the pre- or post-revision policies be applied?
7. Does the proposed placing of fill affect the control of flooding?

Preliminary Matters:

Mr. Poliacik proposed to introduce the engineering evidence through his witness, Joe Burke. Mr. Coros indicated that, as the matter was a new hearing of the application of Mrs. McConkey regarding the property, and keeping in mind the tribunal's decision of September 9, 1993 on the motion, that the application to be considered is only with respect to the legal placing of fill. In the absence of a finding of the tribunal that evidence and submissions in respect of illegally placed fill would be disallowed, Mr. Coros indicated that any evidence or expert opinions as concerning anything other than the legal aspect of the placement of fill would be objected to.

Mr. Poliacik stated that it would be absurd to consider only the land without the placement of fill. He indicated that his client's case had been prepared with the

understanding that they would be comparing the pre-fill with the post-fill characteristics relevant to the consideration of the tribunal. His case would proceed on the basis that the pre-fill situation would include fill which had been illegally placed by his client, as the actual elevations which did exist prior to the illegal placing of fill are unknown.

Evidence:

Sheila McConkey is currently a real estate broker, specializing in farm properties, having lived in the area since 1939. The farm upon which the subject lands are located has been operated as a dairy farm since its purchase, although the operation is currently run by Joe McGrisken as Mrs. McConkey's husband was killed in a farm accident. Mr. McGrisken occupies the farm house, located on the northeast end of the farm, with his wife and five children. The farm is zoned agricultural, having at one time been zoned industrial and changed back to agricultural. The northeastern portion of the farm is comprised mainly of farmland and pasture.

Mrs. McConkey considers herself most familiar with land in Peterborough County and the Township of Otonabee, being integral to her livelihood, and stated that there are no rivers, streams or watercourses located on the farm.

Wanting to build her retirement home and a residence for her daughter, Mrs. McConkey tried to sever a building lot near the farmhouse but had been told she could not. She then proceeded with the first application on behalf of her daughter, which resulted in construction of a residential dwelling on the Prins property after placement of fill. The application under appeal is for filling and construction of a dwelling for herself.

Schedule 1 to Ontario Regulation 165/90 ("O.Reg. 165/90", "O.Reg. 60/89" or "the regulation") includes the subject lands, the Prins property and the remainder of that portion of the McConkey farm which fronts on Ashburnham Drive. To the south of the Prins property is a dwelling which had been constructed on fill just prior to the 1988 application for the Prins property. This property was referred to as the Carey property and is outside the regulated area.

Mrs. McConkey was asked to describe the southwest portion of her farm, which Mr. Poliacik called the back portion, which fronts on Ashburnham Drive. The land contained birch, maple, some cedar and previously included dutch elm. In recent years,

this portion of the land was susceptible to wetness due to the fact that a culvert under Ashburnham Drive had been removed. Due to its removal and the failure of the Township of Otonabee to clean the ditch along the east side of Ashburnham Drive, spring run-off was allowed to accumulate in the ditch and flow onto her land. Mrs. McConkey testified that there was no other source of water running into the ditch, but spring run-off has difficulty draining every year.

Asked to expand on the removal of the culvert, Mrs. McConkey stated that it had been previously located at the southwest corner of her farm, at the boundary of Lots 22 and 23, in line with the Carey property located at the northwest corner of Lot 22, Concession XII. The water which would have otherwise drained through the culvert to the west side of Ashburnham Drive was allowed to accumulate in the ditch. In past winters, this drainage had created pond on the west side of Ashburnham Drive which children were able to skate on. The direction of flow of the water was east to west through the culvert, having come north from the ditch in front of the Carey property.

To the best of Mrs. McConkey's recollection, the culvert had been removed in the early 80's, although she had no knowledge of who had removed it. The result is that the water now flows north between the west side of the farm and the east side of Ashburnham Drive to the front of the gun club where it crosses under Ashburnham Drive through another culvert.

Asked to describe what action she had taken with regard to the flooding, Mrs. McConkey stated that she had spoken to the Township numerous times, made representations to council and asked that the removed culvert be replaced or that the ditch be cleaned. Ten days prior to the hearing, the second culvert located to the north in front of the gun club was replaced with a larger culvert. Conversations between her and the Township date back five years.

According to Mrs. McConkey, the flooding on her land was due to the removal of the culvert, the filling of land to construct the Carey house and the filling of the severed lot creating the Prins property. Mrs. McConkey had advised the Township that if the ditch were not cleaned or larger culverts installed, she would undertake remedial action herself. As no steps were taken, she hired a contractor to put in larger culverts under the driveways to the Prins property and the subject lands and to dig out the ditch along Ashburnham Drive. It is the newly created elevations resulting from the ditch excavation in front of the subject lands and the remainder of the farm which Mr. Coros

objects to as evidence before the tribunal. The newly created elevation along the Prins property was not objected to, as this had been allowed by the previous application.

The result of the excavation and culverts installed by Mrs. McConkey's contractor, in her evidence, was to thereby reduce the flow of water to her property by increasing flow in the ditch. As a result of the preceding changes on Mrs. McConkey's land, the spring run-off became bottlenecked at the gun club, as the force of the water during spring run-off could not get through. Mrs. McConkey stated that she had also applied for an injunction against the County to stop flooding her lands.

Mrs. McConkey described events surrounding the 1988 application to and permission from ORCA. During a site visit with John Merriam, Water Resource Manager with ORCA, Mrs. McConkey stated that she told him that she wanted to build her retirement home next to the Prins property, although it did not form part of the earlier application. At that time, no stream and no watercourse was found by ORCA on either the Prins property or the subject lands. Mrs. McConkey referred to a letter written to her by Mr. Merriam dated September 13, 1988, (Ex. 1) wherein he states in the second paragraph:

Staff have conducted a site inspection of the property and have determined that is it (sic) subject to flooding from both an agricultural drainage ditch and from a municipal roadside ditch. Since the property is not subject to flooding from a natural watercourse the Otonabee Region Conservation Authority has no objection to the placement of fill on the property to prevent flooding.

Pursuant to a letter dated March 13, 1989 from Mr. Merriam to Mrs. McConkey (Ex. 7) the permission to place fill was extended to June 30, 1989.

Pursuant to the permit, Mrs. McConkey proceeded to have fill placed in the area outlined in red on Exhibit 1 to the motion. Rather than going back the full 350 feet allowed in the permit, fill was only placed to a depth of 170 feet on the Prins property. The total amount of fill permitted, being 7,428 cubic metres or 9,731 cubic yards, was not required on the Prins property. Fill was distributed on the land outlined in hatched red lines on Exhibit 1 to the motion being comprised, in part, of the subject lands. A narrow berm of fill was placed on land owned by Mrs. McConkey located to the north of

the subject lands, and which was not the subject matter of either the 1988 application or the current appeal. Mrs. McConkey agreed that she did not have a permit for the placement of fill for the area hatched in red. As she had understood ORCA's position in regard the land not being subject to flooding from a natural watercourse, she did not anticipate that ORCA would have a problem with the placing of fill beyond the permitted area.

Mrs. McConkey first realized there was a problem in July, 1990, when she received a violation notice under O.Reg. 60/89. By letter dated November 11, 1990 (Ex. 16), Mr. Poliacik on her behalf requested that ORCA consider the circumstances of the placing of the fill, namely that the permitted fill had not been required. He requested that ORCA consider a revised permit or alternatively, its position on the advisability of a new application.

Mrs. McConkey advised that the response had been to issue an Information under the **Provincial Offences Act** sometime in November, 1990. Mrs. McConkey found this out at a Council meeting and subsequently made an appointment to see Mr. Merriam, seeing him in January, 1991. At that time, he indicated that, with the provision of cut and fill, there was a possibility that ORCA might issue a permit. Mrs. McConkey left the meeting on the basis of this understanding, which was followed up in a letter from Mr. Merriam dated January 16, 1991 (Ex. 28) wherein he stated at paragraph 4:

4. The alternative would be to present a properly documented cut and fill proposal that meets Authority policy. This proposal would have to be carried out.

Subsequent to an on-site meeting with Bev Booth of ORCA on February 12, 1991, Mrs. McConkey received a letter dated February 25, 1991 (Ex. 33) from John Merriam setting out, at the last paragraph on the first page, that the authority requires the submission of cut and fill calculations and the appropriate cross sectional drawings to illustrate how the loss in flood storage capacity resulting from both the fill which has already been placed on the site as well as any additional fill, would be compensated for in accordance with the ORCA'S Water Management Policies. Mrs. McConkey indicated that no such proposal was prepared as Mr. Burke had been informed by ORCA that it would not accept cut and fill from her.

Mrs. McConkey filed an application dated January 24, 1991 for the

placement of fill on the subject lands (Ex. 29) which was received by ORCA on February 4, 1991. Due to postponement of hearing the application pending resolution of the Notices of Violation and laying of Informations in provincial court, the matter was not heard until October 8, 1992. The Notice of Decision (Ex. 61) dated October 19, 1992 refused the application, setting out the following reasons:

1. The site for the proposed placement of fill and the proposed construction of a single family dwelling is located within the floodplain of an unnamed watercourse draining into the Otonabee River watershed which may lead to flood depths of 1.36 metres (4.46 feet) during a Regional Storm following the placement of fill in this location. This depth of flooding will result in property damage and represents a threat to life.
2. Flood depths on the Township of Otonabee road may lead to flood depths of 0.97 metres (3.18 feet) during a Regional Storm which is not safe access for pedestrians or vehicular traffic.
3. The overall loss of flood storage capacity by the introduction of 14,400 cubic metres of fill and the construction of the single family dwelling in the floodplain and including the fill that has previously been placed on the site without a permit from the Authority may increase the potential for flooding for other property owners in the same watershed.
4. The site is located within a provincially designated Class 5 wetland. The proposed filling and development of this property will substantially impair the reservoir function of this wetland and increase flooding.
5. This proposal could result in the victimization of future owners through damage to property and risk to life.

Under cross-examination, Mrs. McConkey stated that the back end of her farm was a woods prior to the placement of fill, but that cows do pasture in woods.

Mrs. McConkey stated that when Mr. Merriam viewed the Prins property in 1988 for that application, the property was partially covered with trees. She stated that he had walked into woods on the Prins property and also walked onto the Carey property to the south. At that time the Carey house was under construction. When asked whether she had indicated that she wished the house on the Prins property to be built on fill placed at the same height as the Carey house, Mrs. McConkey stated that, while it was not a major element of their discussion, she had probably indicated that she wished it to be at the same or similar height.

Mrs. McConkey reiterated that she had basically taken Mr. Merriam to the Prins property to discuss the severance of the lot for her daughter. She added that there were no watercourses on the property, watercourses in her understanding meaning having year-round water flowing.

Mrs. McConkey, stating that she was aware of the location of the Otonabee River and its tributaries and described the Meade Creek. Exhibit 1 to the motion indicates that the culvert north of the gun club flows into the Otonabee River to the west. Mrs. McConkey stated that she was not aware that anyone else from ORCA inspected the property in 1988 before the permit was granted.

Regarding the missing culvert, Mrs. McConkey stated that its location was as was set out in the 1:10,000 Ontario Base Map (Ex. 62). She had no doubt of its location, having first become aware of its existence in 1964 or 1965 while walking the fence line with her then neighbour, Frank Fitzgerald, which was done every spring and fall. She believed that the culvert had been removed some time during the early 1980's, although she could not remember the year, other than to indicate that it was between 1980 and 1985. Mrs. McConkey did not see the removal of the culvert. She only noticed it when there was more run off in the ditch than had previously been the case, which has been severe since that time.

Asked to describe the flooding, Mrs. McConkey stated that during spring run-off, a rush of water from the ditch flowing with considerable force would come onto the property from the ditch and run onto the northwest corner of her farm and the gun club property next door. The flow ran north and only entered onto her property when it

went past the berm of land which had been created by the illegal fill. To the north of the gun club there is a huge low lying depression where clay had been removed in an area Mrs. McConkey referred to as the swamp. Mrs. McConkey stated that the County had never properly excavated the ditch. A Bell cable ran through the bottom of the ditch, so that the depression could not be cleaned.

Flooding was described as usually lasting ten days in spring. At the place where the berm is located, the flood waters would flow in behind onto the McConkey land and onto the land owned by the gun club.

When the missing culvert had been in place, the extent of flooding recently experienced did not occur as it had taken water from the ditch under the road along what Mrs. McConkey described as its natural course. Water runs down behind and in front of gun club, into swamp. Asked about the frequency of flooding on her property and behind the gun club after the culvert was removed, Mrs. McConkey stated that up to 1990, flooding occurred every spring, at least once a year, unless conditions were very dry.

Mrs. McConkey could not recall receiving a letter to her from John Merriam dated August 9, 1988 (Ex. 3), which states, "It would appear to be low-lying (sic) and draining towards the southwest."

Mrs. McConkey was asked what the origins of the water flowing from south to north in the ditch were to which she replied that the water drained from the fields to the ditch and either go across the missing culvert or along the ditch.

Asked to recall her conversation with Ms. Booth regarding the second application, Mrs. McConkey was asked whether she indicated where the house would be. Mrs. McConkey stated that she remembered that Ms. Booth attended on her property. She had indicated that she wished the house to be 200 to 250 feet back from Ashburnham Drive. She did not want to put in the road and house near her daughter. The proposed dwelling was to be 3000 square feet of living space plus a three car garage.

Asked whether she had indicated the level of fill to ORCA would be the same as on the Prins property, Mrs. McConkey replied that she always had a problem with ORCA telling her what the fill should be. When fill was actually placed on the two properties, Mrs. McConkey agreed that it had been placed in a triangular pattern and on

the subject lands was at the same level as on the Prins property. Mrs. McConkey could not recall what she had told Ms. Booth, but wanted it to look in line with her daughter's.

In reply to Mr. Coros' question, Mrs. McConkey stated that she took it upon herself to place fill on the subject lands as she felt that the total fill allowed was similar to what would have been required on the whole of her property. She agreed that some fill had been placed on land for which there has never been an application, but stated that it was limited to the berm, which created a little leg of higher land to prevent flooding. At the time the fill was placed, she determined that she did not wish to have it placed behind the house built for her daughter on the Prins property.

Asked why she had created the finger of fill or little berm on lands for which there was no application, Mrs. McConkey replied that it was due to the fact that the Township would not clean the ditch and was the only means of avoiding spring run-off. Prior to the placing of fill at the berm, most of water ran down onto her land to both the front of and behind the gun club.

Under re-direct, Mrs. McConkey stated that her daughter's home was built in 1990. The Carey house had been built the year before on fill trucked in during the 1980's. The natural elevation had inclined towards the McConkey land from the Carey land. Before the placing of fill and construction, there had been water on the Carey land, some of which was stationary and some of which ran into the ditch in front of the McConkey land.

Joseph L. Burke, P. Eng., has been an associate with M.J. Davenport & Associates Ltd. for six years, consulting in civil engineering in the Peterborough area in municipal and water resources, structural engineering, floodplain mapping and storm water run-off management. Mr. Burke stated that he is familiar with HEC 2 modelling, being the most common type of flood analysis used in this region of Ontario. The tribunal accepted Mr. Burke as an expert witness in floodplain mapping and water resources.

Mr. Burke visited the subject lands in 1992 and produced the Plans and Profiles of the subject lands (Ex. 1 to the Motion and Ex. 80 to the Hearing). He also prepared an enlargement (Ex. 85) of the relevant portion of the ORCA map with the farm outlined in red, which also shows that portion of the McConkey farm subject to ORCA's jurisdiction in shading created by dots.

Examining this enlarged map, Mr. Burke testified that ORCA's jurisdiction ends at the south end of Lot 23, coincidental with the McConkey farm. He testified that it does not extend to the Carey property, nor in his opinion, does it include Ashburnham Drive or the land upon which the watercourse/ditch is located. The eastern portion of the McConkey farm is not subject to ORCA's jurisdiction, nor is the land which surrounds it.

Mr. Burke stated that he examined the subject lands and surrounding area himself, having walked up into the field alongside the Carey property. The source of flooding, in his opinion, is from the municipal ditch and from water originating in the agricultural field drains beyond the Carey property.

Referring to Figure 1 of Leslie Benson's Report (Ex. 72) the dark heavy line delineates the drainage area described in Ms. Benson's report. Mr. Burke reproduced Figure 1 in Exhibit 86, outlining the McConkey farm in red and area within ORCA's jurisdiction in green. A total of 340 acres, or 140.5 hectares, drains into the ditch along the west side of the McConkey farm. All of the water from this area ends up in township ditch, which flows in front of the Carey, Prins, McConkey properties and the gun club, where it then crosses under Ashburnham Road through the culvert.

However, a 1979 Drainage Map issued by the Ministry of Natural Resources, scaled at 1:10,000 (Ex. 82), not only confirms Mrs. McConkey's evidence of the existence of the missing culvert, which is clearly shown, but also shows that the flows from the ditch do not form part of the Meade Creek subwatershed. Mr. Burke testified that the water draining from the subwatershed shown on Ms. Benson's Figure 1, which used to flow through the missing culvert and which continues to flow through the culvert in front of the gun club drains in a southwesterly direction to the Otonabee River. Therefore, none of the water in the ditch, in his opinion, ends up in Meade Creek, located north and east of the McConkey farm beyond some areas of higher elevation, which would be impossible to cross under normal conditions. The map clearly shows that it flows south and west into the Otonabee.

Mr. Burke testified that he personally examined the ditch, finding it to have been man-made. Rather than being an agricultural drain, it had straight sides suggestive of having been dug with a backhoe. At the time he saw it, being June 15, 1993, there was no flow, but contained ponded water.

According to Mr. Burke, Schedule 1 of O.Reg. 60/89 contains 22 paragraphs listing various tracts of watercourses or lakes, with the general provision that includes lands within one-half lot of the streams, lakes and watercourses shown on Map OTR1-1 (Ex. 31A). Mr. Burke stated that paragraph 8 refers to Meade Creek and its tributaries "from the boundary between the City of Peterborough and the Township of Otonabee to its source in the Township of Douro in the County of Peterborough. The direction of flow of Meade Creek is shown highlighted in blue on the 1979 Drainage Map (Ex. 82), which does not coincide with the drainage from and around the subject lands. Relying on the shaded area on Map OTR1-1, Mr. Burke stated that the origins of the water which drains out of the fields would have to be at the northeastern end of her property, and that no such watercourse exists. In Mr. Burke's opinion, the regulation was not designed to protect water resulting from municipal drainage.

According to Mr. Burke, Ms. Benson had agreed with him in her report (Ex. 72) that the water in the ditch flows into Otonabee River and not into Meade Creek.

In Mr. Burke's opinion, this has led to an absurd result. Although ORCA has regulated tributaries to the Otonabee River further downstream from this subwatershed, the branch which encompasses the water in the ditch adjacent to the McConkey farm is non-contiguous. This is because there is a vast tract of the watercourse between the McConkey farm and the vicinity at which the tributary enters the Otonabee which is not regulated as evidenced by Map OTR1-1. Mr. Burke conjectured that, if ORCA were to regulate selected tributaries of the Otonabee, the downstream portions of the watershed should be regarded as more important than upstream headwaters. In Mr. Burke's opinion, ORCA probably mistakenly thought that the watershed adjacent to the McConkey farm drained into the Meade Creek.

Mr. Burke referred to Ms. Benson's report, particularly the hydrologic analysis (Ex. 74A), in which she critiqued the July 7, 1993 report prepared by M.J. Davenport & Associates (Ex. 64), with her pre-fill and post-fill calculations performed on the cross sections delineated on the Updated Plan and Profile prepared by M.J. Davenport (Ex. 80), in which flood elevations for storms ranging from the 1:2 year storm to the regional storm were calculated. The top of the road is measured as the geodetic level of the road above mean sea level.

Flood elevation calculations are done using the HEC 2 model. Peak flow rates are calculated in metres per second. Mr. Burke explained the differences in flow rate. He stated that in ORCA's pre- and post-fill situation, water would not remain in the

ditch, which would have reached its capacity.

Mr. Burke stated that in ORCA's post-fill model, the assumption is that all of the subject lands and those owned by Mrs. McConkey which have the berm across the front would be filled with water in the regional storm situation. Mr. Burke criticized several of ORCA's assumptions in the post-fill situation, namely that the culverts would be the same as in the pre-fill situation, that the ditch bottom would be higher than is actually the case, as if the Township were to come along and fill it in. Examining the dashed green line on the profile, at cross section 8.5, ORCA has assumed the elevation to be higher than actually is the case today.

Mr. Burke said that ORCA's model of the post-fill conditions does not reflect the actual flooding which occurs in front of the portion of the McConkey farm not under appeal. The shortcomings of the model fail to account for the flooding in spring, which is caused by ice blockage of the culverts. If the issue of springtime ice blockage were to be solved, local ditch improvements would have to be made such as with a sloped gradient in the ditch commencing between cross sections 1 and 2, and extending to the area in front of the subject lands. The invert of the culvert in front of the gun club would also have to be lowered by two feet. If the Township were to regrade the ditch and lower the culvert, spring flooding problems could be alleviated.

Mr. Burke testified that overtopping of roads in the County is a common occurrence in spring, which is in no way related to the regional storm. The post-fill calculations in front of the subject lands at cross section 8 would see the road overtopped by between 19 and 29 cm, depending on the severity of the storm, and at cross section 8.5 would have the road overtopped by between 11 to 21 cm.

Mr. Burke stated that Ms. Benson's calculations do not reveal any post-fill road top flood elevations in excess of 0.37 metres. With the provincial guideline for safe access being a maximum of between 1 to 1.5 feet of flooding, Mr. Burke points out that according to Ms. Benson's calculations, the places where this is exceeded are in the pre-fill situation, which is one centimetre less than the post-fill flood levels. From this the tribunal is invited to conclude that nowhere on Ashburnham Drive would there be flood levels in excess of provincial guidelines due to the placement of fill.

Mr. Burke does not accept report of Ms. Benson, because her figures in the post-fill situation assume that two feet of fill will be put back into the ditch between cross

sections 8 and 8.5, which, as a matter of course, will increase flood levels. This exaggeration of flooding continues to cross section 9.

M.J. Davenport's post-fill figures differ from those of ORCA in the following respects:

1. The ditching in front of the McConkey property was included in the calculations.
2. The new 750 mm culvert in front of the gun club was included rather than the 450 mm culvert which had been there. The culverts installed under the McConkey driveways were included calculations.
3. The fill which comprises the berm on the land which is not the subject matter of the appeal was included in the calculations.

The resulting flood level calculations indicate levels less than those of ORCA, with the result that a safer situation is assumed to exist.

Mr. Burke disagrees with Ms. Benson's figures as the figures used reflect the profile of the ditch as it is today and he does not think it advisable for the Township to refill the ditch. Also, Mr. Burke regards the figures used by Ms. Benson as arbitrary, not reflecting the current situation. At the original hearing before ORCA, as reflected in the Reasons for Decision (Ex. 61), none of the current calculations indicate flood elevations of 4.46 feet, to which he added that he does not know where this level of flooding is assumed to occur. The road top flood levels of 0.97 metres have not been realized by either version of calculations. The figure of 14,400 cubic feet of fill cited as the quantity of loss of flood storage capacity is inaccurate and should be more in the neighbourhood of 4,500 cubic metres of fill. While Mr. Burke agrees that flood levels do increase somewhat in the vicinity, Mrs. McConkey is the only one affected because of the Township road. Mr. Burke disputes that the potential loss of wetland flood storage capacity should be determinative, as other wet areas exist on the west side of the road and to the north of the McConkey farm. Lastly, he maintains that the only victimization of an owner is of Mrs. McConkey, who must bear the brunt of an improperly maintained ditch.

In his opinion, Mr. Burke stated that there is no wetland on the property.

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The only wetland which has been affected by the placement of fill is that which was covered on the Carey property prior to construction. He maintains that the filling of the Carey property has seriously affected the effectiveness of those lands in storing flood waters and affected peak flow rates at the McConkey property. As a result, flows from the ditch have increased, both due to the filling of the Carey property and the removal of the culvert at the Carey/Prins property boundaries.

Under cross-examination, Mr. Coros asked whether the ORCA map could be taken as complete for all time. Mr. Burke indicated that inclusion of land which should not be included shows an error on the mapping. Mr. Burke agreed that mapping and flood control is ongoing, with improvements being made as new maps become available. According to Mr. Coros, in Figure 1 of Exhibit 72, the drainage of the watershed shows that two watercourses join to form the one watercourse which runs past the Carey house and drains into the ditch. Mr. Burke agreed that the two field drains join and then flow northwest until they come to the ditch. Mr. Burke stated that, by walking along the channel behind the Carey house, it is clear that a portion of the channel is man-made. He is unaware of whether the flow is natural or man-made further upstream, where the two watercourses join. Mr. Burke indicated that, by looking at the drainage maps for 1979 and 1988 (Ex. 81) the changes are apparent and that portions had become man-made. Asked whether the drainage constituted a watercourse, Mr. Burke replied that it is an agricultural ditch used to convey water in times of flooding.

Asked why he assumed that a culvert had been removed, Mr. Burke indicated that both the 1:10,000 Topographic Map (Ex. 82) and the road profile, with a dip between two high points, point to the possibility of its existence, although he had no way of proving it. Mr. Burke indicated that he relied on Mrs. McConkey's assertion that it existed.

Referring to the 1989 AIRMAP Aerial Photograph (Ex. 45), Mr. Burke stated that he had not referred to the photograph as the culvert was missing in 1988. He did not check the 1:12,000 1977 or 1:10,000 1974 aerial photographs either.

Mr. Coros indicated to Mr. Burke that the pre-fill application did not include channelization and suggested that the situation before the tribunal was based upon the land as it existed before the illegal placing of fill. Mr. Burke indicated that he was not aware of the legal procedure, but that the purpose of the application was to obtain permission. Based upon the situation where there was no illegal fill, no illegal

channelization, and no berm of fill next to the subject lands, Mr. Burke stated that the water would flow through the ditch and onto the gun club property, with some flowing onto Mrs. McConkey's property. Mr. Burke was not sure of what would happen to the water which entered the McConkey property.

Examining the 1:10,000 1979 Drainage map (Ex. 82), Mr. Burke agreed that the arrows suggesting the direction of flow were drawn in by him. Mr. Burke stated that he had not considered the flood flows in abnormal situations such as backflow.

Based upon the pre-fill situation without channelization, relying on Ms. Benson's calculations, Mr. Burke agreed that the regional storm flood elevation would be 197.22 metres, with elevations on the subject lands of 196.217 and 196.443, which indicates flood levels of between 0.75 to 1 metre occurring at least in five locations.

Mr. Burke agreed that without channelization, a house constructed in this area would be flood prone. Even with channelization, there could be flooding on the McConkey farm outside of the subject lands up to a depth of 0.75 metres. Water is also lost over the road, therefore not showing on the flood level analysis. Mr. Burke, however, reiterated that with a properly installed culvert and deeper ditches, the flooding situation would be improved. However, in the case of a regional storm, even larger or double culverts could not handle the amount of flooding, although with proper engineering, much of the water could be conveyed under the road and flow into the Otonabee. Mr. Coros suggested that allowing the filling, the berm, deeper ditches and larger culverts would simply cause flooding on someone else's property. Mr. Burke stated that victimizing Mrs. McConkey does not provide a solution. Mr. Coros suggested without placing of legal fill on the subject lands, a septic system permit could not be obtained by Mrs. McConkey, the land being flood prone.

Mr. Coros suggested that if the Carey house, being 10 feet higher than the surrounding land, had been placed on fill, it has potentially affected downstream flood levels. Mr. Burke agreed that there is a loss of storage potential.

Referring to section 7 of the map setting out the Study Area of the 1976 James F. MacLaren Report (Ex. 87), Mr. Burke agreed that the McConkey farm is located within the south branch of Meade Creek, according to the document, although he did feel this was an error. Similarly, the Flood Risk Mapping Study of the Thompson, Curtis and

Meade Creek Watershed prepared by Totten Sims Hubicki Associates dated February 9, 1989 (Ex. 88) has the McConkey farm located in section SM12, associated with the Meade Creek.

On re-direct, Mr. Burke stated that the two maps (Ex. 87 and 88) are inaccurate, and that at the western limit of MacLaren, the watercourse which causes flooding on the McConkey farm goes to the ditch and then drains into the Otonabee. The tributary shown on the 1979 Drainage Map is not plotted on either the MacLaren or Totten Sims Map. Mr. Burke suggested that the scale may be a factor in determining the accuracy of the mapping, with the 1979 Drainage Map being 1:10,000 scale, the MacLaren and Totten Sims Map being 1:50,000 scale and the ORCA Map being 1:85,000 scale.

Mr. Burke stated that the 1:10,000 scale maps become available in 1992. Had this been available to Totten Sims Hubicki in 1979, Mr. Burke emphatically believed that the McConkey farm would not be included.

Mr. Burke stated that abnormal conditions discussed by Mr. Coros would make no difference to the computer model, as the water would not flow to Meade Creek because of the contour lines. Flood waters would have to cross the divide, that is, cross over the highest point of land to enter the Meade system.

Mr. Burke stated that the computer model would not show flood attenuation and that there was no evidence of adverse effects on other lands. ORCA's model did not show increases in flood elevations between cross sections 1 and 6. Cross sections 8 and 8.5 show an increase. No figures are available for that portion of the McConkey farm behind the berm. Mr. Burke continued to be of the opinion that ORCA could not prevent Mrs. McConkey from channelizing the ditch.

Mr. Burke suggested that in ORCA's post-fill model, 3 1/2 metres per second appears to be lost at cross section 8. In fact, the model deems that there is no overtop due to the road profile, in fact, this water is lost over the road.

Leslie Benson, P.Eng. is a Water Resource Engineer located in Port Hope, Ontario, providing expertise to several conservation authorities.

Ms. Benson stated that the watercourse at issue, found on Figure 1 of Exhibit 72, being a 1:10,000 scale map, begins near Old Keen Road and the CN rail line,

which is north of the watercourse pointed out by Mr. Burke. Both MacLaren and Totten Sims Hubicki (Ex. 87 and 88) indicated that it flows into the Meade Creek. The headwaters of the watercourse which flows south westerly to the Otonabee are located further south. Ms. Benson stated that she was involved on the committee reviewing the Totten Sims Hubicki Report and agrees with the fact that the watercourse found alongside the road on the subject lands flows into Meade.

Referring to the pre-fill situation, with no channelization, there would be flooding on the subject lands and those adjacent to the berm of fill. The effect of the fill on the storage capacity of the watershed is that it reduces the reservoir capacity of the adjacent land. With the fill and berm, flows are prevented from entering onto the McConkey property, thereby increasing flows downstream. In the post-fill situation, the water will continue to find the lower land, so that it will flow around the berm and fill in behind.

Ms. Benson agrees that while the amount of fill in the post-fill situation may be small, it sets a precedent, whereby ORCA cannot refuse permission for the placing of fill in similar situations.

If the proposed house were to be built without fill, Ms. Benson indicated that it would be inundated with water. There would be access problems, owing to flood waters of 2 1/2 to 3 feet. ORCA sets minimum standards for safe vehicular access as one foot.

Under cross-examination, Ms. Benson maintained her opinion that the watercourse on Exhibit 72 is as she has stated, based upon the geographic location. She did not believe the degree of detail on the map would account for the other watercourse not being shown. Rather, she maintained that it was not near that location.

Ms. Benson stated that the ditch flowing in front of the McConkey farm would, under severe storm conditions, flow into the Meade Creek, onto the McConkey farm and under Ashburnham Road. Mr. Poliacik suggested that, even using ORCA's figures, the effect on storage capacity would be minimal at 0.29 metres, being less than ORCA guidelines.

Ms. Benson could not comment on the construction of the ditch, but did indicate that flood plain planning does not provide for spring run-off or frozen culverts. Mr. Poliacik suggested that the post-fill situation would be somewhat better near cross sections 10 and 11. However, Ms. Benson stated that the depth of flows over the road at

cross section 11 are 0.38 metres, which is in excess of provincial guidelines. Mr. Poliacik suggested that the overtopping of the road is neither caused by nor affected by the placing of fill and that the problem would remain. Ms. Benson stated that flood levels are not as deep on the McConkey farm, but ORCA is concerned with any new flooding situations. Mr. Poliacik pointed out that ORCA has not alerted the Township to this situation.

Asked why Mr. Burke's model does not show overtopping and the subject lands, Ms. Benson stated that the most significant difference was the treatment of ditch elevations. Ms. Benson did not acknowledge the ditching in her calculations because she believed that it was done without authorization. Ms. Benson did not know with certainty whether the boundaries of ORCA's jurisdiction coincide with the ditch or the road allowance, with the lines on the ORCA map being very wide and not to scale.

Asked to explain the difference between her May 5, 1993 calculations and the current model used by ORCA, Ms. Benson stated that by changing the level of the ditch to an extrapolation of what it had been before, flood levels were increased.

Asked whether cut and fill was possible in a wetland or should not be approved because of cumulative effect, Ms. Benson stated that additional topographic information is required. However, almost all of the McConkey farm along Ashburnham Drive is below the flood plain. Depending on the path taken by the watercourse, such that if higher land were accessible to water flows, it may be possible to have an effective cut and fill.

John Merriam is the Water Resource Manager for ORCA.

He discussed ORCA's jurisdiction. Section 2 of O. Reg. 60/89 (Ex. 67) sets out that lands described in the schedules are areas which, in the opinion of ORCA, may be affected by the placing of fill. Accordingly, the shaded areas in Exhibit 31A are scheduled areas. Pursuant to section 3, the subject lands are in an area which is susceptible to flooding in a regional storm. Fill will be permitted in those areas where the control of flooding are not affected, pursuant to section 4. Therefore, ORCA's permission for the placing of fill is required.

Mr. Merriam stated that, according to the Totten Sims Hubicki and MacLaren Reports, and the ORCA map, the subject lands are incorporated into the areas scheduled by ORCA. This has been accepted by ORCA as well as the City of Peterborough and the federal Ministry of the Environment.

Mr. Merriam stated that at the time he first viewed the west portion of the McConkey farm, in relation to the Prins application, the land was densely wooded, making it difficult to determine elevations. At the time when the September 13, 1988 letter (Ex. 1) was written to Mrs. McConkey, ORCA was not aware of the watercourse which drained from behind the Carey property. Rather, the land looked as though it dipped into a swale, and it appeared that the only water flowing would be from the adjacent Ashburnham Road. However, in 1990, during an inspection conducted to follow up an anonymous complaint regarding flooding, it was determined, once the trees had been removed, that the land was lower than initially believed.

The inspection also revealed that fill had been placed outside of the area for which the initial permission had been granted. Work continued for a period of six months, despite Notices of Violation being issued. It was not until January 28, 1991 that the Application for the placing of fill on the subject lands was received by ORCA, being over seven months after the initial violation had been discovered.

ORCA did not consider the Application until October 8, 1992. The Staff Report dated July 18, 1991 (Ex. 41) referred to the Provincial Floodplain Management Guidelines and Policies, to ORCA's policies B(1) Structures, B(7) Storage Loss not to exceed 7 cubic metres and C(1) Fill Placement and set out ORCA's considerations as follows:

1. The site in question is located within the floodplain of an unnamed tributary to Meade Creek.
2. The applicant has not proposed to perform a cut and fill operation to create required storage.
3. The site in question is within a wetland. This wetland is significant enough that it has been classified by the Ministry of Natural Resources.
4. Part of this area has already been filled without a permit, and as a result, charges are pending against the applicant. These charges will not be heard by the Court until October, 1991.
5. It is the opinion of Authority staff that the filling of this wetland area

will impair the reservoir function that it now serves and thus increase flooding.

6. Mrs. McConkey wishes to build her house by September. However, at present the area is part of a farm owned by Mrs. McConkey which already has a principle residence on it. To the Authority's knowledge there has been no severance requested. As a result, a second primary residence could not be constructed on this site to meet township bylaws.
7. When this site was visited in February, 1991 the area that has been applied for was flooded.

Staff recommended that permission be refused.

Prior to the hearing, on September 24, 1992, Mrs. McConkey was sent another Staff Report dated October, 1992 (Ex. 57), which was to be presented by staff at the hearing on that date. Relevant provisions of the Report are:

PROVINCIAL POLICIES:

Please refer to the Provincial Floodplain Management Guidelines and Policies.

- 7.2 Ingress/egress for new structures by such that vehicular and pedestrian movement is not prevented during times of flooding.

O.R.C.A. POLICIES:

B(1.0) General Policy

The placement of structures within the floodplain may be permitted if:

- 1.1 the structure(s) is protected against flooding and flood damage; and

- 1.2 the loss of flood storage due to the construction of the structure does not exceed 7 m³, and
- 1.3 foundations of all structures are designed and constructed to withstand expected flood conditions at the proposed site; and
- 1.4 basements, lower floors, structure walls or appurtenances located below the Regional Storm floodline are designed and constructed to withstand flood conditions including the hydrostatic pressures of elevated water tables and the lateral pressures caused by floodwaters; and
- 1.5 construction material below the floodline are of a type not subject to deterioration by water or by alternate drying and wetting - all openings into the building shall be designed and constructed incorporating adequate "flood-proofing"; and
- 1.6 drains are equipped with valves capable of being closed manually or automatically to prevent back-up of stormwaters into the building; and
- 1.7 all electrical equipment circuits and installed electrical appliances shall be located so as not to be subject to flooding or shall be flood-proofed to prevent damage resulting from inundation by the Regulatory flood; and
- 1.8 there is safe access as defined by the Authority.

B(7.0) Storage Loss

Loss of flood storage due to the construction of a building or structure or a combination of buildings or structures and fill is not to exceed 7 cubic metres.

C(1.0) General Policy

The introduction of fill into the floodplain will be approved if:

- 1.1 stage-storage characteristics are maintained at 0.30 metre vertical intervals; and
- 1.2 flood flows are not impeded; or
- 1.3 the placement if (sic) a volume for volume replacement (1 m³ removed from floodplain and 1 m³ placed in floodplain at same location); or
- 1.4 the placement is to return road surfaces (including entranceways) to original grade and condition; or
- 1.5 the area is an insignificant swamp or wetland not associated with a watercourse and therefore not providing a reservoir function.

O.R.C.A. CONSIDERATIONS:

1. The site for the proposed placement of fill and the construction of the single family dwelling is located within the floodplain of an unnamed tributary to Meade Creek.
2. This site is also located within a wetland which has been provincially designated by the Ministry of Natural Resources (Class 5).
3. It is the opinion of Authority staff that the filling of this wetland area will impair the reservoir function that it now serves and thus increase flooding.
4. Policy C(1.5) of the Authority's Water Management Policies specifies that the introduction of fill into the floodplain of a wetland associated

with a watercourse which provides a reservoir function will not be permitted. As a result, a cut and fill operation to compensate for the loss in flood storage capacity resulting from the placement of fill at this site is not an option available to the applicant.

5. Fill has previously been placed on this site without a permit from the Authority under Ontario Regulation 60/89.
6. This proposal would create a precedent for the placement of fill within the floodplain.
7. There is not safe access available to the property as defined by the Authority's Water Management Policies (Policy B (1.8) since flood depths to the township road would average 0.97 metres (3.18 feet) during a Regional Storm.

According to the Provincial Floodplain Planning Policy Statement Implementation Guidelines (1988):

Water contact is one critical issue in terms of its effect on the ignition/electrical system and the exhaust system. In the former, the distributor and/or spark plugs are the main items of concern and those which are typical problem areas for most motorists.

Private vehicles come in all shapes and sizes and it is practically impossible to identify a "typical vehicle for assessing the elevation of key electrical components from the road surface. It appears likely that depth of about 0.4 m - 0.6 m (1.5' - 2') would be sufficient to reach the distributor or plugs of most private vehicles. They would fail to start at this depth and hence vehicular egress will be halted. Cars may start at lower depths but then "splash" from driving on wet pavement or from the radiator fan would become a concern.

The issue of the exhaust system and the effect that flooding can play on engine back pressures/expulsion

of exhaust gases appears to be the controlling factor. Difficulty would probably be experienced in starting most vehicles if the vehicle is standing in water at a depth that covers the muffler. The vehicle may start and continue to run if it is quickly removed from the water but if it remains at that depth, there is a strong possibility that it will fail soon after.

Again, it is practically impossible to generalize this depth but for most family automobiles something in the range of about 0.3 m - 0.4 m (1-1.5') would be the maximum depth of flooding before potential egress problems would result.

8. The township road has a documented history of flooding in this area.
9. The site for the proposed single family dwelling is also located within a flood susceptible area. Flood depths at this location are expected to reach 1.36 metres (4.46 feet) during a Regional Storm following the placement of fill in this location.
10. This proposal could result in victimization of future landowners.

Staff recommended, in accordance with ORCA's Water Management Policies, that the Application be refused.

Mr. Merriam stated that ORCA believes that it does have jurisdiction over the channelization of the ditch. Clause 3(c) of O. Reg. 60/89 requires ORCA's permission to alter a watercourse, which Mrs. McConkey had in fact done, even though her Application only deals with the placement of fill and construction of a single family dwelling. In making its recommendations, staff knew that the channelization had been done, but did not use the post-channelization ditch profile.

It is an accepted principle that, where a reservoir which retains flood waters has been filled in, the water will go elsewhere, either upstream or downstream. Reservoirs such as the one contained on the McConkey farm are an important factor in

the reduction or prevention of flooding. In Mr. Merriam's opinion, given the evidence of both engineers, the green area set out in Exhibit 86, being scheduled under ORCA's jurisdiction, would remain susceptible to flooding. In the post-fill situation without channelization, the loss of flood storage would be precedent setting for all areas under ORCA's jurisdiction.

Mr. Merriam stated that ORCA considers all low lying areas without steep gradients to be wetlands, as they act as reservoirs without any attenuants. Although the subject lands and others in the vicinity are considered wetlands by both the Ministry of Natural Resources and ORCA, the conservation authority will examine whether a site is a wetland for hydrologic purposes only. The Ministry of Natural Resources does its classifications separately, and ORCA may or may not be apprised.

Referring to page 8 of ORCA's Water Management Policies (Ex. 68), Section C, Paragraph 1.2.1. precludes cut and fill techniques for consideration in wetlands.

Mr. Merriam explained that cut and fill is only viable in a riverine area. At page 9, paragraph 1.5 refers to an insignificant swamp or wetland not associated with a watercourse. The function of the low lying land associated with a watercourse is that fast moving water is trapped, in effect being trapped drainage. Mr. Merriam stated that the subject lands are a significant wetland, being low lying and performing a reservoir function from ORCA's point of view as opposed to being so classified by Natural Resources. Paragraph 1.2.1 was not part of the Water Management Policies at the time of the October 8, 1992 hearing, but was added by amendment at a meeting of the Executive held November 12, 1992. Mr. Merriam stated that cut and fill being disallowed in a wetland is inferred by paragraph 1.5, but is clarified with the addition of paragraph 1.2.1. The new paragraphs contained in Section C are set out below:

SPECIAL RESTRICTIONS AND ALLOWANCES

- 1.2.1 Notwithstanding 1.1 and 1.2, fill and/or cut will not be permitted within wetland areas;
- 1.2.2 Notwithstanding 1.1 and 1.2, any proposal for cut and fill will be circulated to all property owners within 120 metres of the property that is to have the cut and/or fill performed on it and the expense and proof of service will be the responsibility of the applicant;
- 1.2.3 Notwithstanding 1.1 and 1.2 any proposal in a rural area that depends on a cut and fill to create a new lot will not be approved;

- 1.2.4 Cut and fill may be allowed for the construction of a building on an existing lot of record.
- 1.2.5 Subject to all other policies the application for a volume for volume replacement may be allowed (except in wetland areas)(1 metre³ removed from floodplain and 1 metre³ placed within floodplain);
- 1.2.6 When the application is for the placement of fill to return road and entranceway surfaces to original grade and condition a cut will not be required;

Under cross-examination, Mr. Merriam reviewed the origins of the powers of ORCA, its make-up, delegation of powers to the Executive Committee and the procedures for processing applications. Mr. Merriam also discussed his role in presenting the recommendations of staff to the Water Management Advisory Committee and the Executive Committee.

Although not defined, Mr. Merriam indicated that, in his opinion, the ditch between Ashburnham Drive and the McConkey farm is within ORCA's jurisdiction. In spite of the diversion of the watercourse to a man-made ditch having been dug by a backhoe, Mr. Merriam was of the opinion that if there is a channel carrying water, whether man-made or not, it will be under ORCA's jurisdiction. He explained that intermittent watercourses are common in the Peterborough area because of the drumlands fields. When pressed by Mr. Poliacik, he replied that no direction is offered by way of policy or legislation as to the minimum number of days per year that there must be water present for the intermittent flow of water to be considered a watercourse. Mr. Merriam was asked about whether ORCA was bound to have regard to the Provincial Wetlands Planning Policy, including insignificant wetlands. He stated that "significance" within the Provincial Wetland Planning Policy is not related to "insignificant" wetlands as the term is used in ORCA's Water Management Policies, which predates that of the province.

The owner of the Carey property did not apply for a permit to divert the watercourse, which Mr. Merriam agreed had been done some time between 1979 and 1988. ORCA did not prosecute as the limitation period had run out before it came to their attention. Similarly, the Township did not apply for a permit for the channelization of the ditch in front of the Prins property, or for the installation of culverts either in front

of Prins or the gun club. Mr. Merriam explained that the culvert along the ditch in front of the Prins property was appropriate for access, with the placing of fill having been approved. Mr. Poliacik suggested that, according to Mr. Merriam, every agricultural ditch would be under ORCA's jurisdiction and would require its permission prior to cleaning or moving. Four or five such applications were received in the past year.

Mr. Poliacik pointed out that "wetlands" is not defined in either the regulation or policies. Mr. Merriam stated that "insignificant" has not been reduced to a policy statement, but rather is determined on the individual case. The Ministry of Natural Resources has a classification system, number Class 1 through 7, with Classes 1 through 3 being provincially significant. Mr. Merriam indicated that the subject lands had been classified by the Ministry as Class 5, which is not provincially significant. In response to questioning, he stated that land which is used for agriculture and is not permanently wet, it would be taken out of the provincial classification system. ORCA does not use this, however, as only hydrological concerns are relevant.

The determination of whether land is a "significant" wetland for ORCA's purposes is based upon the recommendations of staff, in particular Beverly Booth, which may or may not be accepted by the Executive. Mr. Poliacik once again reviewed documents with Mr. Merriam surrounding the permission granted with respect to the Prins property, the Notices of Violation and the means employed by ORCA to bring to Mrs. McConkey's attention that there was a watercourse or wetland of concern on the subject lands. Mr. Poliacik suggested that the Staff Report sent out on September 24, 1992 (Ex. 67) was the first time Mrs. McConkey was made aware of ORCA's concerns. Mr. Poliacik reviewed the changes to the Water Management Policies dated November 12, 1992 (Ex. 76) which he suggested arose out of the lack of clarity of intent of the policies as they existed at the October 8, 1992 hearing.

In re-direct, Mr. Coros stated that cross-examination was intended to create the impression that ORCA was hesitant to provide information to the public. Mr. Merriam agreed that all new maps and the regulations were made after public consultation, and that ORCA provides considerable public inquiry services. It is not ORCA's policy to keep its decisions secret.

Mr. Merriam once again explained how it came to a different conclusion concerning the subject lands and the Prins property once the area had been cleared. He reiterated that, at all times, he and staff were willing to discuss this with Mrs. McConkey.

Thomas Howard MacDonald, former Superintendent of Roads for the Township of Otonabee between 1978 and 1991, has resided on Crowley Line Road which later becomes Ashburnham Drive, since he purchased his farm in 1947. Mr. MacDonald recalls the placing of fill on Mrs. McConkey's farm some time during 1989 or 1990. The water which flowed from the fields to the Carey house, according to Mr. MacDonald, comes mainly from the McConkey farm.

Looking at the Township Road Plan and Profile prepared by M.J. Davenport & Associates (Ex. 65), prior to the placement of fill, according to Mr. MacDonald, water would flow along the ditch, having come from the southeast, along the ditch and onto the McConkey farm. It would then flow behind the gun club. At the northwest corner of the farm there had been a high point of land which extended to the road, with the water flowing behind it. There is now a ditch dug through this higher land.

Ashburnham Drive was paved in 1967 and Mr. MacDonald could not recall there having been a culvert under Ashburnham Drive at the location alleged by Mrs. McConkey. Had there been a culvert which was removed after the initial paving, signs of excavation would be apparent in the pavement, which was not the case.

Prior to the placement of fill, the Township had not experienced flooding on this stretch of Ashburnham Drive. It is Mr. MacDonald's belief that the flooding, which has only been experienced since the fill went in, is directly attributable to its placement.

Under cross-examination, Mr. MacDonald stated that water used to come out of the fields at an angle, but now comes straight out to the road. He was unaware of any fill having been placed on the Carey property. Mr. MacDonald stated that he had never walked on the McConkey farm, and viewed it while driving by. He agreed that it was heavily treed, and stated that, even though he could not see the direction of flow, he was certain that water flowed behind the gun club because of the higher land near the road.

Asked about crews working on Township ditches, Mr. MacDonald stated that they were responsible for culverts and would replace or put in new installations as needed. Regarding ditch cleaning and dredging, it would depend on the year. Between three and ten miles of ditches were regraded each year, although the ditches along Ashburnham Drive had never been done. He did recall installing the culvert for the new construction on the Carey property.

Mr. MacDonald was unaware of whether the Township obtained permits from ORCA for the installation of this culvert or any other ditch work. Mr. Poliacik stated that the engineering evidence suggested that the ditch grading was not optimal, as flat bottomed ditches were likely to lead to freezing and blocked culverts. Mr. MacDonald stated that there is no Township policy on regrading ditches. Mr. Poliacik suggested that the fall and spring of 1990/1991 saw more flooding than usual, and tendered several newspaper clippings from the Peterborough Examiner (Ex. 93). Under re-direct, Mr. MacDonald reiterated that flooding experienced on Ashburnham Drive was as a result of the placing of fill.

Beverly Gail Booth has been a Water Resource Technician with ORCA since 1986. Ms. Booth stated that she had investigated the Prins property, then part of the McConkey farm, during August, 1988. At that time it was densely wooded and low lying, with no obvious watercourse. Ms. Booth identified a photograph taken August 25, 1988 (Ex. 95) as having been taken from Ashburnham Drive facing east at the mid-point of the Prins property. The photograph shows dense vegetation, including leafy understorey and tall evergreen trees.

On March 20, 1990, Ms. Booth inspected the area in response to a report of flooding on the road. Ms. Booth determined that fill had been placed illegally. Flooding was apparent in front of the McConkey farm as well as in front of the Carey property, which, in Ms. Booth's opinion, was directly attributable to the placing of the fill. Ms. Booth described a series of photographs taken by her on that date (Ex. 8A through D). Fill had been placed to a depth of five feet, one of the culverts installed in front of the Prins property had been crushed, erosion was apparent from the fill to the ditch and water was obviously flowing south to north, as evidenced by ripples. On June 4, 1990, Ms. Booth attended the site and described photographs taken at that time (Ex. 9A through F). Fill had been placed to a height of seven feet, undersized culverts had been used for the amount of flow, one culvert was crushed, and erosion was apparent from the fill to the ditch. On June 21, 1990, Ms. Booth attended the site and took photographs (Ex. 12A through I). The fill on both the Prins and subject lands had been graded to a height of six feet, matching the grading on the Carey property. A bulldozer was observed on site. The berm of fill beyond the subject lands was also apparent.

On December 10, 1990, Ms. Booth observed and photographed the gradeall ditching equipment owned by Don Lafont and the resulting ditch (Ex. 22A through D). At the time the photographs are taken, the ditching has only commenced,

having started at the north end of the farm nearest the gun club. The ditch in front of the subject lands is full of water and partially frozen, not having yet been excavated. Ms. Booth stated that up until December 10, there had only been one culvert in front of the McConkey farm, between sections 7 and 8 on Exhibit 80, not to be confused with the one in front of the Carey property.

On December 12, 1990, Ms. Booth inspected the site again, after being informed that ditching had continued and took photographs (Ex. 23A through C). New, larger diameter culverts had been installed at all entrances and the ditch had been excavated the length of the McConkey farm and Prins property.

Mrs. McConkey subsequently submitted her Application for the subject lands. On February 13, 1991, Ms. Booth attended at the site and took photographs (Ex. 30A and B) which show flooding behind the berm of land.

On January 5, 1993, Ms. Booth attended and took photographs (Ex. 73A to M). The conditions were warm, with there having been recent heavy rainfall and considerable snow having fallen during December. Flooding was observed along the whole of the ditch from Carey to the north end of the McConkey farm. Flooding of 25 feet across was apparent at the boundary between the Carey and Prins properties. The flow of water in the ditch is apparent from the rippling of the water. The ditch and surrounding land are completely filled with water at the southerly portion of the McConkey farm, with some portions of Ashburnham Drive almost completely submerged. Water can be seen behind the berm of land, corresponding to cross section 6.5. Exhibit 73N was taken by Ms. Booth from an aircraft on January 12, 1993. The flood waters had receded by this time. Ms. Booth stated that the flooding observed was not as a result of a regional flood, but was from melting of snow and falling rain due to spring freshet.

Under cross-examination, Ms. Booth stated that she attributed the flooding to the placement of fill because if fill is placed in an area susceptible to flooding, the water is forced elsewhere. Mr. Poliacik pointed out that in the earlier photographs, smaller culverts had been observed which were since replaced. Mr. Poliacik suggested that during the two days from December 10 to 12, 1990, water levels had substantially subsided to which Ms. Booth responded that unless the pictures were taken from exactly the same location, comparisons were not useful. However, she did agree that the water appeared to be moving northward in the ditch. Mr. Poliacik pointed out that the culverts were submerged and not visible when the January 5, 1993 pictures were taken, and

Ms. Booth could not tell whether they were blocked. Observing that portions of the ditch were frozen, Ms. Booth did not know whether there was flow under the ice, nor could she comment on the thickness of the ice.

Mr. Poliacik questioned Ms. Booth concerning a letter written by ORCA on April 26, 1990 to T-Bay Marina and Dive Shoppe, to the attention of Frank Takacs (Ex. 97) which is a six page reply to a number of proposals. In particular, with respect to Proposal 7 to realign a drainage ditch and upgrade existing roadside ditches, ORCA has advised that it has no jurisdiction over municipal drainage matters. Ms. Booth stated that Mr. Takacs wanted to convey surface run-off, which was different from the McConkey matter.

Ms. Booth was shown three pictures taken by Norman John McConkey (Ex. 96A through C), of flooding at Crowley Line, Blizzard Line and Assumption Line respectively. She stated that she was unfamiliar with the terrain of where the pictures had been taken.

In answer to Mr. Poliacik's question, Ms. Booth stated that while she does consider the subject lands a wetland, she did not recognize it as such in 1988. Although the vegetation which had been on the filled land was not typical of a wetland, it nevertheless does perform a discharge and recharge function. The classification by the Ministry of Natural Resources only confirmed ORCA's conclusions. Ms. Booth stated that a wetland acts as a sponge, holding back waters during times of flooding. Soil testing has never been carried out on the property. Ms. Booth does recall having met with Mr. Burke and advising that cut and fill would not be acceptable.

Submissions:

Mr. Poliacik reviewed the history of ORCA's position in regards to Mrs. McConkey's property. In September, 1988, after conducting a site visit, staff determined that the land was subject to flooding from a municipal roadside and agricultural drainage ditch. Not being subject to flooding from a natural watercourse, ORCA did not object to the placing of fill on the Prins property.

Based upon Mr. Merriam's testimony during the hearing, it would appear that he no longer considers the drainage to be agricultural, but rather drainage passing through a swale, and therefore subject to ORCA's jurisdiction to regulate.

According to Mr. Poliacik, there is no written confirmation of a change in ORCA's policy for quite some time. The staff report of November 15, 1990 does mention flooding on Ashburnham Drive, but does not mention policy, other than to indicate that any proposed filling should conform with regulations.

The January 16, 1991 letter is, in Mr. Poliacik's submission, the first indication of a shift in ORCA's approach away from agricultural and roadside drainage. With the first three paragraphs dealing with the illegal placement of fill, the fourth paragraph sets out the alternative of presenting a properly documented cut and fill proposal which meets with ORCA's policies. However, Mr. Merriam stated in evidence that he did not intend to convey that cut and fill would be acceptable, but rather was stressing that the illegal fill must be removed.

The February 25, 1991 letter sets out a proper cut and fill proposal will be required for a presentation to the Executive. Mention is made that the land has been evaluated by MNR to be a wetland. No mention is made of an ORCA designation as a wetland.

The July 18, 1991 Staff Report (Ex. 41) is the first document to mention the subject lands as being within an unnamed tributary to the Meade Creek. The site is located within a wetland being significant enough to be classified by MNR. It is staff's opinion that the placement of fill will impair the reservoir function.

Although Mr. Burke met with Ms. Benson in August, 1992 and was told that cut and fill would not be entertained for this site, it is not until she received the Staff Report sent September 24, 1992 that Mrs. McConkey was finally told in writing that cut and fill would not be acceptable. At that time, only Section C, paragraph 1.5 makes reference to insignificant swamps or wetlands and provision of a reservoir function.

Mr. Poliacik submitted that, through the evidence of Mr. Merriam, it became evident that different considerations applied. The drafting of Section C of the Water Management Policies, as they were at the hearing on October 8, 1992, indicates that approval would be granted if the first and one of the last four sub-paragraphs could be satisfied. It was clear that Mr. Merriam believed that Section C meant that all five conditions would have to be met and, in fact, the policy was amended shortly thereafter. Mr. Poliacik submitted that the policies form notice to the public who will rely on them in making their applications, and should not be stretched to be given the meaning suggested.

To justifiably refuse permission, ORCA must establish the existence of both a watercourse and a wetland associated with the watercourse. Ms. Booth did not see a watercourse, and now that the land has been cleared, Mr. Poliacik submits that she still cannot see a watercourse. However, Mr. Merriam is suggesting that the ditch itself is a watercourse. He must now prove that there is a wetland associated with it, even though through his own admission, there is nothing in the legislation, regulation or policies informing the public of what constitutes a wetland. To follow Mr. Merriam's criteria, even a man-made ditch with water flowing one day a year would be considered a watercourse. This is contrary to not only the initial correspondence with Mrs. McConkey (Ex. 1), but with correspondence with T-Bar (Ex. 97), where ORCA has indicated it has no jurisdiction over roadside drainage ditches. Mr. Poliacik questioned how Mrs. McConkey was informed of the alleged changes in policy.

In support of the applicability of policy Section C paragraph 1.5, ORCA must prove that the subject lands are part of a significant wetland. It should be noted, according to Mr. Poliacik, that in 1988, Mr. Merriam was not concerned about flooding from waters flowing from the back of the farm, even though flooding was apparent in the roadside ditch. As there is nothing in the Act, regulation or ORCA's policies setting out a definition of a wetland, the only remaining document where it is defined is the Provincial Policy Planning Statement. This Policy Statement distinguishes between significant wetlands, being Classes 1 through 3 and insignificant wetlands, being Classes 4 through 7. Mr. Poliacik strongly urged the tribunal to consider the subject lands an insignificant wetland, as the Provincial Policy Statement sets out that an area which is periodically wet and is used for agricultural purposes should not be considered a wetland. The definition which ORCA seems to act upon, being according to Ms. Booth, anything which retains water, not only flies in the face of the Provincial Policy Statement, but could equally apply to a bathtub or swimming pool. Such a definition cannot be supported, if it is not published.

Mr. Poliacik invited the tribunal to find that ORCA's designation of the subject lands as a wetland is arbitrary. The only time that the land was seen was after fill had been placed or when it was densely wooded. He submitted that it is peculiar that it can be determined to be a wetland with six or eight feet of fill on it.

Concerning the estimations of flood levels, Mr. Poliacik submitted that the initial calculations which were presented at the hearing before ORCA were wildly out.

The recalculations done by both engineers for the appeal before the tribunal, in his submission, showed that safe access and egress could be achieved.

Concerning the actual effect of the placing of fill, Mr. Poliacik submitted that most of the year the ditch is dry. There is no dispute that during snow melt the road becomes flooded and this has worsened in recent years. Mr. Poliacik submitted that in part, this has been caused by climatic changes. There were record increases in flooding in 1990/1991, as evidenced by the newspaper articles (Ex. 93) and the January, 1993 event shows record snowfall, combined with record temperatures and rainfall.

Comparison of the 1:2000 map with previous mapping shows that the course of the ditch has changed. It has been completely channelized, now moves straight down from the fields between the Carey and Prins properties. While he can produce no study, one can only assume that cutting increases the flows. The fill placed on the Carey house, which Mrs. McConkey submitted was 3 metres high and the legally placed fill on the Prins land will have contributed to flooding. Finally, the missing culvert will have added to the increased flooding.

Mr. Poliacik submitted that there is no dispute that all of the water on the subject lands is from the roadside ditch and from agricultural drainage. Mr. Burke testified that there is a real problem with the ditch as it now exists. Ms. Benson and Mr. MacDonald both agreed that a flat ditch will not flow, will freeze and culverts will be blocked. Ms. Booth's pictures showed ice and snow over top of areas where the culverts are located. The overtopping of Ashburnham Drive is caused by the ditch being too flat and not graded. ORCA's solution is to have the water flow to Mrs. McConkey's property so that it does not overtop the road. This is not the best solution. Rather, the ditch should be regraded and the Township should be called upon to perform this work. Mr. Poliacik submitted that the worst problem is in front of the Carey and Prins properties, which both engineers agreed is not the result of the placing of fill on Mrs. McConkey's property. As the depths of flooding exceed provincial standards for safe access, the question should be asked of why ORCA has not taken steps to address this problem.

Mr. Poliacik asked the tribunal to accept Mr. Burke's modelling of the post-fill analysis, which he submitted supports the fact that there will not be additional overtopping of the road due to the placing of fill. While Ms. Benson disagrees with his

calculations, her calculations are based upon an artificial non-existent ditch calculated to be two feet higher than it exists today. If the ditch were properly graded, the flooding levels would be lower still. The bulk of the existing flooding is due to the lack of proper culverts and poor grading of the ditch.

It is ORCA's position that the placement of fill will reduce the storage capacity of the area. Both Ms. Benson and Mr. Burke have testified that the reduction in storage capacity would be insignificant. Mr. Merriam stated that, even if slight, the reduction in storage capacity would set a precedent for the placing of fill in the floodplain in other low lying areas, resulting in substantial losses. Mr. Poliacik questioned whether everyone in the county has a wetland which is the cause of roadside overtopping. In this situation, the area is set only in spring, when the ditch is unable to contain and convey water, thereby dumping it on the surrounding lands and over the road. He questioned whether the facts would set a precedent for the filling of wetlands.

Mr. Poliacik submitted that the objects of any conservation authority are set out in section 20 of the **Conservation Authorities Act**. He submitted that everything which ORCA does must fall within these objects. Any regulations or policies which are not in conformity should be found to have no effect. In his submission, a roadside or agricultural ditch are not natural resources set out in section 20 and the **Act**, regulation and policies should not apply.

While both engineers initially believed that the subject lands drain into the Meade Creek, Mr. Burke testified that, in fact, in all but the most extreme situations likened to a biblical flood, the area would drain into the Otonabee, making this the only area in ORCA's jurisdiction which is not contiguous to the outlet. Mr. Poliacik submitted that the error is compounded by the description in the Schedule, which sets out that lands within 1/2 lot of a watercourse are included. This portion of the McConkey farm which purports to be included in the schedule is only 1/2 lot wide.

Mr. Poliacik submitted the following reasons why the application should be approved.

1. The subject lands have been mistakenly included in the schedule to the regulation.
2. The placing of fill will not adversely affect the overtopping of the road or the reservoir function of the

land, or would only create an insignificant impact. There is no precedent which would result, as it would only be the flooding of a ditch, which currently floods ditchwater onto the subject lands. There is no existing wetland function.

3. The application meets all of ORCA's policies as set out in its correspondence and Water Management Policies. ORCA should not be permitted to change what it meant after the fact.

Mr. Poliacik submitted that conservation authorities are given a lot of power to interfere with individual property rights, which has been allowed by the legislation. However, where such power is exercised, it should be done so in accordance with the objects and policies of the legislation. The intent of the government is clearly expressed in its provincial policy statements, which is why they are published. If ORCA should wish to depart from them, it must be required to publish this fact.

Mr. Coros commenced by stating that when Ms. Booth and Mr. Merriam went to view the Prins property in 1988, their knowledge of the site was limited. It was heavily wooded. Keeping in mind the time of year, both walked the property line between the Carey and Prins properties. It was their observation at that time that the run off was primarily from the road and not within ORCA's jurisdiction. They were not aware that there was any watercourse in the fields. The contents of the Exhibit 1 letter reflect their knowledge of that time, and a permit was granted. Upon reflection, and with greater knowledge, that permit would not be granted today.

The impact of this incorrect decision came to light when Ms. Booth inspected the area in March of 1990. While flooding was then apparent, as was the placing of fill on the subject lands, the Prins property and other McConkey lands. Due to the removal of tree cover and placing of fill, the reasons for the flooding were also apparent, being the existence of a watercourse which was not previously known.

The exact watercourse in question only became an issue later in the course of the hearing before the tribunal. In Ms. Benson's Figure 1 to Exhibit 72, showing the subwatershed area, that portion which is not indicative of the whole watershed, but clearly

shows that the watercourse leads to Ashburnham Drive running along the McConkey farm. Both engineers agreed that it was a watercourse.

The extent of changes which have impacted on the watercourse in recent years, according to the evidence, are limited to its straightening around the Carey house, which involved placing of fill. Mr. Burke did not go far into the fields and was not able to give evidence of other changes which could have had an impact on flooding. There is also no evidence of the amount of fill having been placed on the Carey property, whether it was limited to the vicinity of the house, or over the whole of the property. Examining the surrounding topography on the maps reveals that the elevations are the same.

It is Mr. Burke's evidence that the real problem is with the ditch. It is ORCA's position and Mr. Coros' submission that there is no problem with the ditch because there is no ditch. The problem with respect to the ditch arose only when Mrs. McConkey had one dug, which extended through the higher elevation at the south end of her property, preventing the normal flow of the watercourse. Before the ditch had been dug, the natural flow of the watercourse was to flow out of the fields, in front of the Prins property and then fan out into the low lying areas on the McConkey farm and in behind the gun club. This low lying area formed part of the storage area of the watercourse, which has now been changed by the ditch blasting through all of the land which prevented it from functioning in the same manner as a roadside ditch.

In addition to reference to section 20 of the **Act**, Mr. Coros drew the tribunal's attention to clause 21(j), which sets out that, for purposes of accomplishing its objects, an authority may control the flow of surface waters to prevent floods or reduce the adverse effects thereof. The wording of Schedule 1 to O.Reg. 60/89 is "not less than" which means that a distance of greater than 1/2 lot is also possible in delineating lands which are within ORCA's jurisdiction.

Concerning the "phantom" culvert under Ashburnham Drive, Mrs. McConkey stated that it was there at the time when she purchased the farm. However, she was vague about its date of removal. It was only by extrapolation that a date of the early or mid 1980's was identified. Mr. Merriam testified that, from looking at aerial photographs dating back to 1974, he could not see a culvert. More importantly, Mr. MacDonald, who was in a position to know of all works carried out on the road, stated that

he was unaware of its existence and that scars would be left on the road surface if it in fact had been removed. Nothing in the county of this nature was done without his knowledge or supervision. During her February 12, 1991 meeting with Ms. Booth, Mrs. McConkey stated that the flooding was caused by drainage being done by Mr. O'Toole. At that time she did not refer to the missing culvert.

The only evidence of the culvert is Mrs. McConkey's testimony, and Mr. Burke's, having relied on one map. Mr. Coros submitted that the map is not conclusive, and evidence of the existence of the culvert should be weighed with that of Mr. Merriam, Mr. MacDonald and Ms. Booth.

With respect to the flooding, all evidence shows that the water comes from the field behind the McConkey lands. This is supported by Figure 1 of Exhibit 72, which shows two watercourses meeting and then flowing to the road. In spite of his insistence that it is a roadside ditch, Mr. Burke did give evidence that the flow originates in the fields.

The susceptibility to flooding of the area is evidenced by Mrs. McConkey's statement that there is still spillage which runs behind the gun club, even after the placing of fill. Mr. Coros submitted that, had no fill been placed, all low lying areas would be susceptible to flooding. This is confirmed by Ms. Booth's observations and photographs taken during January, 1993. In particular, Exhibits 73H, I and J show water behind the berm of land.

Mr. Coros submitted that both Ms. Benson and Mr. Burke agreed that in the pre-fill situation, without channelization, the subject lands are subject to flooding. Both agreed that during a regional storm the depths of flooding would be in the neighbourhood of 2 1/2 to 3 feet. The January 5, 1993 photographs taken by Ms. Booth show that there continues to be flooding on the property even after the placing of fill. These instances of flooding are much less than would be experienced during a regional storm and should not be ignored.

Mr. Coros submitted that both Ms. Benson and Mr. Burke agreed that, without the placing of fill, any house on the subject lands would be susceptible to flooding. There would not be safe access within provincial guidelines. Mr. Coros reiterated that the situation before the placing of fill must be considered.

With respect to ORCA's jurisdiction over the watercourse, Mr. Burke was of the opinion that it flows to the Otonabee. It was Ms. Benson's evidence that she copied his map. Her study was of the site itself, and did not initially involve the gun club or other side of Ashburnham Drive. When she made further investigations, she testified that the area would function as a bathtub during a regional storm, and that drainage from other tributaries would have a substantial impact on the flow during a regional storm. Mr. Burke agreed that he had not considered other than normal conditions.

Referring to the mapping, both the MacLaren and Totten Sims schedules, which were conducted ten years apart, indicate that the watercourse flowing over the subject lands are within the Meade Creek watershed. It is also, in ORCA's opinion, within the Meade Creek watershed.

Referring to the Water Management Policies, particularly pages 8 and 9, Mr. Merriam did admit that the drafting of paragraphs 1.1 through 1.5 should have read "or" and not "and". However, a close reading of the policies discloses that the contents makes the wording redundant. In other words, what is stated in paragraphs 1.5 to 1.8 has already been stated in paragraphs 1.2.1 to 1.2.6. The general policy is that an application may be approved is paragraphs 1.1 and 1.2 are met. However, notwithstanding this, should the subject area be a wetland, no cut and fill is permitted.

Even if all three conditions could be filled, the wording states that a permit "may" be granted. Keeping in mind the redundancy of the policies, Mr. Coros submitted that throughout, Mrs. McConkey was aware of ORCA's requirements. This is born out by the exhibits. She knew where she was going and what she wanted. Mrs. McConkey is not naive. She chose not to follow the rules, but rather, chose to fill without a permit. She cannot now say that she did not know that she needed one, because she in fact obtained one in 1988. Even after two Notices of Violation, the digging of the channel continued. There is no evidence of confusion or being misled. Rather, in spite of everything, Mrs. McConkey continued with her placing of fill, creation of the berm and channelization. Any perceived redundancy with the policies cannot be seen to affect her actions.

Concerning ORCA's Water Management Policies (Ex. 68), it is not stated in the legislation that a conservation authority must have written policies. Page 1 states explicitly that the policies are to be taken as guidelines. The fact that there is some problem with the drafting should not be used to overcome the fact that Mrs. McConkey

did not come to the hearing with clean hands, but is rather asking for a permit after the fact.

This type of activity is not permitted. The **Act** and regulations state quite clearly that a permit must be obtained before the placing of fill, construction of a building or alteration of a watercourse. Being in contravention of the **Act** and regulations, Mrs. McConkey should not be entitled to a permit.

It is ORCA's opinion that the subject lands are one of the sites described in Schedules 1 and 2 to O.Reg. 60/89, as indicated on Exhibit 31. It is also the opinion of ORCA that the control of flooding may be affected by the placing of fill. It is the pre-fill no channelization situation which must be considered in outlining its concerns.

1. According to both engineers, in the pre-fill non channelized situation, the subject lands are susceptible to flooding within the meaning of clause 28(1)(e) of the **Act** and section 3 of O.Reg. 60/89. It has been agreed that 2 1/2 to 3 feet of flooding would occur during a regional storm. This has also been demonstrated during instances of lesser flooding, such as January, 1993, with flooding apparent both behind the berm and in overtopping of the road. Based upon the evidence of Ms. Booth, all low lying areas would be flooded.

2. In the opinion of ORCA, the control of flooding will be affected by the placing of fill within the meaning of clause 28(1)(f) of the **Act** and section 2 of O.Reg. 60/89. According to Mr. Merriam, the storage capacity contained on the subject lands is important to the control of flooding. If it is lost, it will adversely affect the control of flooding. It is pushed downstream and onto the property of others. There is overtopping of a public road. According to Mr. Burke, the problem originates with the placing of fill on the Carey property, which resulted in a higher ditch. This has affected the storage potential downstream and affected flows downstream. It stands as an illustration to ORCA's opinion that the placement of fill will cause loss of storage capacity.

3. There would be no safe access to the proposed house in the event of a regional storm, as the subject lands would be covered with 2 1/2 to 3 feet of water. Being a proposed 150 to 200 feet from the road, vehicles would not have safe access/egress under these conditions. According to page 1, paragraph 1.1.8 of ORCA's Water Management Policies, a maximum of 1 foot is required for safe access.

4. Both MNR and ORCA say that the area is a wetland. Mr. Merriam outlined ORCA's criteria for significant and insignificant wetlands. Although they are different, MNR's classification confirms ORCA's assessment. However, the importance of the reservoir function is for the conservation authority alone to determine. The placing of fill will impair the reservoir function. For hydrologic purposes, control of flooding has been demonstrably affected.

5. Granting a permit for the placement of fill and construction of a dwelling would, in the opinion of ORCA, where no safe access is possible, located in a significant wetland, would set a very bad precedent for other prospective applicants. Under what conditions could ORCA refuse if a permit is granted after the placing of fill. It was suggested that there could be no valid reason for refusing other applicants.

6. The cumulative effect of a number of insignificant losses in storage capacity to the watershed will be felt. ORCA has an obligation to control flooding. Both engineers agree that the effect of the proposed filling is small. However, when the impact on flood elevations is multiplied by granting of similar upstream and downstream filling applications, the loss will be substantial.

ORCA treats all landowners equally. If an application is granted upstream, a similar application cannot be denied downstream. The loss of reservoir function cannot be computed by the HEC 2 model, whose accuracy and usefulness is questioned in cases such as this. The authority therefore advocates a cautious approach, citing prevention as the only means to control flooding.

Mr. Coros submitted that any one of the above six reasons for denying the application should be sufficient for the tribunal to make the same finding. At both hearings, ORCA has submitted its concerns and reasons without bias. In light of Mrs. McConkey having obtained a permit in the past, the denial of the current permit sought is not evidence of bias, but of ORCA relying on better information. There should be no suggestion that two wrongs could make a right in this instance. With current information, the earlier permit would have been denied had it been made today much the same as the current application has been denied. The determination should be based upon concerns for the control of flooding.

In reply, Mr. Poliacik questioned the factual basis of Mr. Coros' submissions, suggesting that according to Mr. Burke, normal conditions would include the

100 year and Regional Storm, whereas an extraordinary event would be the equivalent of a biblical flood. He pointed out that the township installed the new culverts in the ditches in front of the Carey and Prins properties, not Mrs. McConkey, as evidenced by Ms. Booth.

Mr. Poliacik submitted that Mrs. McConkey could not be misled by page 9 of the Water Management Policy, as the paragraphs in question did not exist at the time she made her application. Mr. Poliacik also questioned where in the **Act** an application is prevented from being made after fill is placed.

In conclusion, he submitted that the issue is one of property rights, and submitted that the issue to be determined is whether permission should be granted. This determination, he submitted, should be based upon the policies as they existed up to the time of the hearing before the Executive Committee.

Findings of Fact:

Ditch or Watercourse

The question of "When is a ditch a watercourse and when is it a ditch?" is significant. The fact that water flows for some portion of the year alongside a road is not determinative of the origins of the water or its character.

There was no evidence concerning the type of surveying which took place in the Township of Otonabee. Within Southern Ontario road allowances generally did not follow minor characteristics of the landscape, although townships surveyed in 1850 and later contained road allowances along the banks of lakes and rivers. For areas which contain smaller watercourses, including permanent and intermittent streams, road allowances are contained within the grid-like survey fabric of the concession and lot lines. Therefore, the fact that water may be found to run intermittently or permanently alongside of a road, following a man-made path, is not conclusive proof that it is a ditch and not a watercourse.

Municipal roadside ditches whose source is limited to the adjacent road and the melting of snow and ice accumulated along or near the road allowance are not watercourses. It would be difficult to imagine a topography where the watershed area drainage coincides exactly with the road and allowance.

Evidence from both Ms. Benson and Mr. Burke suggests that the water which flows past the subject lands has its origins in the agricultural fields behind the Carey property. This clearly eliminates the possibility that the water is limited to roadside municipal drainage. However, it raises another issue of whether drainage from agricultural lands can constitute a watercourse or whether agricultural drainage is something quite unique and separate from the watershed.

The definition of "drainage works" set out in section 1 of the **Drainage Act**, R.S.O. 1990, c. D.17 sets out:

"drainage works" includes a drain constructed by any means, **including the improving of a natural watercourse**, and includes works necessary to regulate the water table or water level within or on any lands or to regulate the level of the waters of a drain, reservoir, lake or pond, and includes a dam, embankment, wall, protective works or any combination thereof; (emphasis added)

While it is recognized that submissions were not entertained on whether agricultural drainage can include a watercourse, it can be concluded from this definition that it can.

The tribunal finds that the water flowing alongside Ashburnham Drive is a watercourse, having as its source the watershed outlined in black in Figure 1 of Exhibit 72. In so finding, no doubt is cast on the evidence of Mrs. McConkey that she feels there is no permanent watercourse through the middle or eastern portion of her farm. The 1979 Drainage Map shows a watercourse running through the centre of her property which is above ground a sufficient portion of the year, so much so that it has lent itself to mapping. While the nature of this watercourse may be intermittent, the tribunal finds that it cannot rely on Mrs. McConkey's opinion of what may constitute a watercourse for purposes of the applicability of the **Conservation Authorities Act**. There is clear evidence of substantial discharge from the fields behind the Carey property. There is also no doubt that, through its diversion around the Carey house, whether or not fill was placed at this location, the capacity of the watercourse to absorb the quantity of water discharged from the fields has been altered. Water which flows through a straight and well defined channel will generally flow faster than water which follows the contours of the land with a broad, undefined channel.

The tribunal also finds that the characterization by ORCA in its September 13, 1988 letter to Mrs. McConkey, of the watercourse as a municipal roadside ditch and agricultural drainage ditch was in error. The tribunal accepts the evidence of witnesses on behalf of the respondent that it should in no way be bound by the mistaken assessment for purposes of its consideration of the subsequent application. It was quite clear from the evidence of Mr. Merriam and Ms. Booth that, at the time of writing the 1988 letter, they were unaware of the fact that the bulk of the subject lands and the Prins property were at low elevations. The tribunal accepts that they have come to appreciate that the water table had been close to the surface during much of the year, and that water did cover the properties during times of spring run-off and heavy rainfall.

Meade Creek or Otonabee River Watershed

It is the basic premise of Mrs. McConkey's appeal in this matter that she is required to apply for permission to place fill on the subject lands if only for the reason that the land has been designated, albeit mistakenly, to be within ORCA's jurisdiction. The issue of this designation is troublesome. As discussed by the tribunal at the hearing, if the subject lands appear on OTR1-1 in error, it should have been raised in the appeal of the decision of Justice of the Peace Jacklin before Batten J. of the Provincial Court on September 11, 1992.

The issue of whether the watercourse was properly characterized as the South Branch of the Meade Creek watershed arose only through the course of the hearing, not having been an issue between the engineers during their pre-hearing discussions which had been directed by the tribunal. While Mr. Poliacik did not wish to proceed with a preliminary determination of whether there was proper jurisdiction in this matter, the issue continued to arise in the course of hearing evidence and making of submissions.

The tribunal has carefully examined the topography of the subject lands, that of the surrounding lands and the MacLaren and Totten Sims Hubicki study areas. The scouring of the land by the last glacial age is apparent on the latter two as well as Figure 1 of Exhibit 72. The direction of the scouring is very marked, being northeast to southwest, with contour lines delineating the land and extremely long narrow drumlands along the axis created by the scouring.

Following the contour lines on the two 1979 1:10,000 Scale Drainage maps (Ex. 82 and 93), with exhibit 93 aligned immediately south of exhibit 82, an interesting

picture of the topography emerges. To the north, tributaries of the South Branch of the Meade Creek are quite apparent, being formed and flowing through the narrow lowlands between the drumlands. These tributaries flow over long distances, often a number of concessions, and converge with other tributaries. The direction of flow is quite prone to change, so that not all tributaries flow from northeast to southwest.

The McConkey farm is bisected a number of times by the angled strokes of contour lines. A portion of the centre and all of the eastern end of the farm is clearly on higher land. There is low lying land in the centre of the farm which is contiguous with the fields behind the Carey property. There is a narrow finger of higher land oriented southwest from the centre of the farm which just touches the back portion of the Prins property. The remaining westerly portion of the McConkey farm, prior to the placing of fill on the Carey and Prins properties and the subject lands, was low lying.

The low lying land on the McConkey farm is at the same contour as the fields behind the Carey property, fanning out behind the three properties east of Ashburnham Drive to a southwesterly limit south of the road dividing Lots 22 and 21, and to a northeasterly limit beyond the northern property boundary of the McConkey farm. This low lying land, reasonably corresponds with the subwatershed delineated by Ms. Benson on Figure 1 of Exhibit 72.

Southeast of the subwatershed and running parallel to the watercourse shown on Exhibit 81 is another watercourse which flows southwest. Ms. Benson referred to another watercourse in her evidence which she agreed does flow southwest to the Otonabee. However, separating these two watercourses is relatively higher land, being the divide between them.

The higher land surrounding the subwatershed offers a very narrow opportunity for the flow of water. This opportunity is defined by the narrow point of high land which extends to the rear of the Prins property from the centre of the McConkey farm on the north side. To the southwest is a drumland which is on either side of Ashburnham Drive. While the tribunal did not hear sufficient evidence to determine how far south the house on the Carey property is, the high land appears to extend up along 85 percent of Lot 22.

The parallel watercourse to the southwest is located a distance of approximately 250 to 300 metres away. It flows in a southwesterly direction along the

lower land between two drumlands. At the lot line between Lots 18 and 19, it joins another tributary which has been formed through the confluence of two tributaries, one which flows parallel to it southeast of the next drumland and one which flows north from Lot 18, Concession XIV. The tributary formed by these smaller ones flows north a short distance, joined by others, finally turning almost due west, where it flows along the low lands lying between two drumlands, located on Lot 20, Concession XIV.

The watercourse which forms the subject matter of the appeal, according to where it was mapped in 1979, flows out to Ashburnham Drive at the lot line between the Prins and Carey properties, being equidistant from the two fingers of higher elevations. In the absence of a culvert under Ashburnham Drive, it must flow north along the low lying land on the Prins property and subject lands and then northeast behind the gun club. While not apparent on the 1:10,000 1979 Drainage Map, contour lines on the 1:2,000 1988 Drainage Map show another minor drumland located on the same northeast to southwest orientation described above. This higher land stops short of Lot 24, coincides with the location of the gun club buildings and bisects the northwest corner of Mrs. McConkey's farm. The culvert which crosses under Ashburnham Drive at the gun club is on the north side of this high land, so that water must flow around the higher land.

North of this higher land lies a vast low lying area between the surrounding drumlands, which extends from Lot 25, Concession XIII in the north to Lot 23, Concession XIV in the south. Water entering the low lying area, both behind and north of the gun club, appears to be equidistant from the tributaries to the north which clearly flow into the South Branch of the Meade Creek and the tributaries to the south described above. There is little on any of the maps filed to suggest the direction of flow, and spot elevations appear to be uniform throughout.

On the 1988 Drainage Map, Mr. Burke has marked what appear to be drainage works in blue and suggested a direction of flow to the southwest at Lot 23, Concession XIII. It is interesting to note that, on the west side of Ashburnham Drive, on Lot 23, Concession XIII, there are what appear to be two drainage works which converge in such a manner as to suggest a direction of flow opposite to that indicated by Mr. Burke, that is, to the east.

This vast low lying area was described by Ms. Benson as a huge bathtub. The flows shown appear to be an attempt to drain what is shown on the 1979 and 1988 Drainage Maps as wetlands, and the direction of drainage appears to be towards

Ashburnham Drive from both east and west. It is clear that the erection of drainage works have confused and interfered with what originally has been a vast area of undifferentiated flows.

The study area delineated section 7 on the MacLean Map (Ex. 87), correspond to the Meade Creek (South Branch), having a drainage area of 25.5 miles, according to the exhibit. Section 7 extends well west of Ashburnham Drive. It should be noted that Exhibit 82 does not extend west along Lots 22 and 23 to enable the tribunal to examine the topography and evidence of drainage to the west. The MacLean Map specifically excludes the parallel watercourse described above which flows to the southwest. This exclusion forms a narrow finger of land which reaches into section 7, along the southwest to northeast axis which the tribunal has described above as the divide between the two watercourses. It is worth observing that the study has delineated lands to the west of Ashburnham Drive far exceeding those set out in the Scheduled area of Exhibit 31.

The Totten Sims Flood Risk Mapping Study (Ex. 88) has the Meade Creek subwatershed delineated along 17 separate study areas, of which SM12, involving the subject lands, is one. This map indicates that the watershed extends to Ashburnham Drive only, while it contains the same finger extending into the study area delineating another watercourse which drains to the south, as was observed on the MacLean Map.

The tribunal has no doubt that there is a watercourse which drains to the southwest, whose headwaters run parallel to the watercourse which has its origins in the fields behind the subject lands, and Prins and Carey properties. The watercourse which is the subject matter of the appeal, however, clearly runs north along some portion of Ashburnham Drive whereupon it encounters higher land and must drain into the lower lands either on the McConkey farm or behind the gun club.

While there is a culvert under Ashburnham Drive north of the gun club, there is little differentiation of elevations in this vast area upon which to conclusively determine whether it drains to the north, to the Meade Creek, or to the south to the Otonabee. The opportunities to flow out of this "bathtub" as it was characterized by Ms. Benson, appear to be at the far northeast extreme, or at a point to the southwest, which skirts around several narrows of some higher drumlands.

The broader opportunity appears to lay to the north. Mr. Burke had stated at the hearing that to flow to the Meade Creek would involve flowing uphill, but this does

not appear to be the case, if one examines the natural contours of the land and the watersheds which have formed, had they been allowed to remain in their natural state. It is interesting to note that the natural course of flow of this water is only alongside of Ashburnham Drive for a short distance, in front of the Prins and McConkey properties. It is only if one assumes that the watercourse runs alongside Ashburnham Drive as far as the culvert north of the gun club that it would, as Mr. Burke suggested, have to flow uphill.

With two studies setting out that the water draining from the subject and surrounding lands drain to the South Branch of the Meade Creek watershed, the Conservation Authority's expert having participated in at least one of the studies and concurring with the result, and with an extensive examination by the tribunal that this watercourse appears to have greater opportunity to flow north than south from the land behind the gun club, the tribunal finds that it will accept ORCA's position that the subject lands are part of the subwatershed of the South Branch of the Meade Creek. In making this finding, it must be stated that, under normal conditions, this vast area must be recognized as being a reservoir with the water table at or near the surface, so that it is not moving the volume of water involved with the kind of velocity which would be observed in a distinct channel of above ground flows.

Jurisdiction of ORCA

Returning to the issue of ORCA's jurisdiction, the tribunal notes that many of the shaded areas of Exhibit 31 are squared off in a fashion which does not suggest that they follow the natural contours of the watershed. This appears to have been the case with the Carey property, which clearly is within the same watershed as the subject lands and appears to have been a factor in the flooding experienced along Ashburnham Drive immediately north. The design of a straight defined channel, coupled with the placing of fill would have the effect of increasing the volume of water appearing above ground and increasing its rate of flow. It is unfortunate that ORCA has not defined the area within its jurisdiction to more closely delineate the outline of the watershed. While it is uncertain whether the diversion and possible filling on the Carey property could have been prevented, in much the same way that the earlier approval for filling on the Prins property was allowed, it might have provided ORCA with the opportunity to more closely examine the contours of the landscape through which filling and diversion were proposed.

The tribunal notes that the areas delineated on OTR1-1 are defined by wide lines which in many cases, such as that involving the subject land, coincide with the road. The wide black line, for purposes of the subject lands, appears to come right up onto the road, encompassing the shoulder to the east.

The Regulation is not helpful in determining where the boundary should be, in terms of the description used. Paragraph 8 of Schedule 1 reads as follows:

8. That part of Meade Creek and its tributaries from the boundary between the City of Peterborough and the Township of Otonabee to its source in the Township of Douro in the County of Peterborough.

The description of the pre-existing narrow low land which had existed on the Carey and Prins properties and subject lands between the higher elevations to the east and Ashburnham Drive describes the potential breadth of the watercourse. With the channelization of the watercourse on the Carey property and in front of the Prins property and the fill legally placed on Prins and possibly Carey properties, the water has been forced to flow alongside Ashburnham Drive.

Having found that there is a watercourse which flows along the narrow lower elevations of the McConkey farm, Prins and Carey properties east of Ashburnham Drive, and allowing for the unsophisticated drafting of OTR1-1, the tribunal cannot help but make the finding that the wording of paragraph 8 is intended to encompass tributaries of the Meade Creek, which the tribunal found this watercourse to be. Therefore, the tribunal finds that the jurisdiction of ORCA, as set out in the Regulation and OTR1-1 encompasses that portion of Lot 23, Concession XII outlined on the east side of Ashburnham Drive up to but not including the pavement of the road.

Impact of Illegal Placement of Fill and Channelization on Calculations

The application before ORCA and the appeal before the tribunal is for the legal placing of fill, as set out on page 10 of the tribunal's Interlocutory Order of September 9, 1993. It has been pointed out by the solicitor for the appellant that the exact elevations on the subject lands prior to the illegal placing of fill are unknown.

Although it was stated in the Interlocutory Order, it bears repeating, that the tribunal does not have the jurisdiction to refuse to hear an appeal where illegal fill has been placed, the deterrent value of being empowered to make such a finding is attractive. It is, however, noted that the legislation is not drafted to facilitate the granting of permission to place fill after the fact, given that those intending to affect land through the placing of fill must seek permission prior to the placement, and placement of fill without permission is considered to be illegal fill.

In determining what pre-fill and pre-channelization levels will be used for purposes of making its findings, the tribunal must consider the relevant legislation, applicable policy considerations and the broader public interest. Clauses 28(1)(b) and (f) set out quite clearly the legislative intent. Clause (b) prohibits and requires the permission of the conservation authority for the interference with **the existing channel** of a watercourse. The illegal placement of fill on the subject lands and berm to the north, all contained within Mrs. McConkey's property, has had the effect of interfering with an existing channel of a watercourse. The subsequent channelization alongside the road has further interfered with the existing channel of the watercourse, making a discrete channel where it had previously been undefined, changing its direction north of the subject lands and forcing it onto higher land in preference to the lower lands behind the gun club.

The wording of the legislation is quite clear, in that it is the **existing channel**, which the tribunal finds to mean the pre-existing channel or in cases where alteration has taken place without permission, the pre-existing channel prior to interference.

Clause (f) does not refer to existing fill levels or elevations. However, not only is the permission of the Conservation Authority, or the tribunal having been assigned the duty of the Minister upon appeal, necessary before the placing of fill may take place, but the permission is dependent on the opinion of the Conservation Authority, or of the tribunal upon appeal, that control of flooding will not be affected.

Nothing contained in the **Act**, the Regulation or ORCA's Water Management Policies contemplates permission granted after the fact. Quite to the contrary, the intent of the legislation and the public interest in ensuring that permission be granted in situations only where no ill effects will be experienced is clear. Those intending to affect land through the placement of fill should first seek permission. Any departure from this approach would set a dangerous precedent for prospective applicants who

perceive that their chances of success are enhanced through placement of fill before permission is considered.

The fact that the pre-fill elevations and contours are no longer known, due to the steps taken to change the topography by the appellant without permission, does not preclude the tribunal from accepting evidence regarding projections as to the original topography. In this regard, the only evidence of projections of the pre-fill channelization along the east side of Ashburnham Drive provided was that introduced by ORCA. On the basis of the intent of the legislation and the absence of evidence concerning competing projections, instead of the appellant's submissions that the actual altered channel should be used, the tribunal finds that it accepts the evidence of ORCA concerning the pre-fill calculations.

"Significant" Wetland or Reservoir Function

It was pointed out at the hearing that "wetlands" and "significant wetlands" are not defined in the **Conservation Authorities Act**, the Regulation or ORCA's Water Management Policies.

In the Provincial Wetlands Policy Statement (Ex. 69) "wetlands" are defined:

Wetlands means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of **Wetlands** are swamps, marshes, bogs, and fens.

"Provincially Significant Wetlands" are also defined:

Provincially Significant Wetlands means:

- a) Class 1, 2 and 3 wetland in that part of the **Great Lakes - St. Lawrence Region** below the line

approximating the south edge of the Canadian Shield ... defined in "An Evaluation System for Wetlands of Ontario South of the Precambrian Shield". Second Edition, 1984", as amended from time to time;

The evaluation system referred to in the definition has four components which are scored for purposes of rating the classification of wetlands, being biological, social, hydrological and special features, the latter of which includes such considerations as endangered habitats, breeding or feeding grounds for wildlife and the like.

Ms. Booth testified that in 1988 when she attended at the Prins property she did not observe vegetation typically found in a wetland. In evidence presented on behalf of ORCA, emphasis was placed on the hydrologic component of wetlands, as opposed to biological, social or special features. This was generally described as being an assessment of whether the land provided a reservoir function, thereby acting as a sponge and slowing the transport of water through an area.

Although it was not submitted in evidence, the tribunal will examine the hydrological component through reference to the evaluation system referred to in the Provincial Wetlands Policy Statement to determine whether it is comparable what ORCA has called a reservoir function. At page 51 of "An Evaluation System for Wetlands of Ontario South of the Precambrian Shield" Second Edition, 1984, in the middle of the first paragraph it states,

... only three hydrological values have been accepted for evaluation: flow stabilization, water quality improvement, and erosion control.

At paragraph 3.2. at the bottom of the page:

3.2. FLOW STABILIZATION

The most important hydrological value of wetlands is that of the stabilization of flows of rivers and streams. This value is realized through the fact that wetlands act like basins

which can accumulate water during floods and then release it in various ways over a more extended period of time. Thus, flood crests are reduced and the base flow of water between floods or during the summertime may be increased.

At page 60, the reasons for excluding some hydrological values are explained:

3.5. RATIONALE FOR EXCLUDING SOME HYDROLOGICAL VALUES

The wetland literature contains references to some hydrological values which are deliberately excluded from this evaluation. Here is a list of these values and purported values together with the reasons for excluding each.

3.5.1. Groundwater Discharge

Several authors have considered groundwater discharge to be a value of wetlands ... However, the source of a wetland's water supply has no bearing on the relative value of a wetland. Thus, whether any wetland receives its water from seepage, from a stream or river, as rainfall or as general runoff appears to impart no particular value to the wetland. When a wetland exists because of "seepage" or "discharge" out of the ground then the discharge would still continue if the wetland were removed much in the same manner as when a wetland receives its water from a permanent stream - if the wetland were removed the stream would still continue to flow. Hence, the value for discharge is zero.

3.5.2. Groundwater Recharge

With the exception of 3.2.2, groundwater recharge per se is excluded from measurement and evaluation because hydrologists do not agree amongst themselves that recharge of groundwater from wetlands is a general condition. In a real

field situation it would not be possible most of the time to base scoring procedures on demonstrated principles. For Riverine and Lacustrine wetlands in particular, opinions, hunches and hypothesis would enter too often into the evaluation process.

3.5.3. Role of Organic Soils in Wetland Hydrology

The basic reason for not allocating any value to organic soils as "sponges" of water (and therefore as having value for base flow stabilization) requires explanation. Because organic soils have persistent high water contents, (i.e. organic soils can only be formed and persist under saturated conditions) there is limited extra storage available for additional water Although there may be a slight drawdown of the water table during the summer as a result of heavy evapotranspiration, by late fall the organic soils are once again saturated. Virtually all of the water received during the spring melt has to drain off for there is no other place for it to go. Thus, the organic soils in themselves do not appear to provide for flow augmentation in downstream locations and the concept of organic soils acting as a "sponge" which has been advanced by many authors ... would therefore appear to be unfounded. In other words, organic soils do not give rise to stream flow; rather, these soils develop as a result of the same groundwater flow system which gives rise to the perennial stream flow.

What detention value such wetlands have is considered here only in the manner outlined under 3.2.1. of the hydrological component evaluation.

3.5.4. Surficial Geology

That surficial geology of lands immediately around a wetland as well as soils and geology under a wetland will have a major bearing on wetland hydrology is unquestionable. Thus, wetlands could have either more or less value depend-

ing on factors such as soil and rock permeability, presence of aquifers, thickness of materials and so on. However, all attempts to come to terms with these interrelated values proved frustrating and futile. Short of extensive drilling, excavation, etc. there is simply no easy way to draw sound hydrological conclusions from eyeball observations of surface features and surficial geology maps So, because of the certainty of introducing major erroneous misleading conclusions into the evaluation, surficial geology features are essentially omitted from evaluation.

3.5.5. The "Drag Effect" of Vegetation in Detaining Flood Waters

In comparison to the relative importance of surface area (basin area) the effect of vegetation in detaining flood waters is very small. As well, field experience in attempting to apply this variable to real wetlands has cast doubt on its accuracy and use.

Based upon these excerpts from the manual used to evaluate wetlands for purposes of the Provincial Wetlands Policy Statement, the tribunal finds that the use of the terms "wetland" or "significant wetland" are problematic for purposes of consideration of applications under section 28 of the **Act**. There was no hydrological analysis provided to support the characterization, nor was there evidence of what hydrological components would lead to such a conclusion being drawn.

The use of the term "wetland" by ORCA has become unfortunate due to the Provincial Wetlands Policy Statement. ORCA did not elect to rely on the Class 5 wetlands evaluation performed by the Ministry of Natural Resources, which was not submitted in evidence. It was quite clear from the evidence presented on behalf of ORCA that reliance on the reservoir function performed by the area which Ms. Benson characterized as a bathtub was the purpose behind calling the area involved a significant wetland.

Before examining this concept further, it is necessary to state that the tribunal does not find that Mrs. McConkey has been misled by this characterization by

ORCA of the reservoir function as a wetland. It has been demonstrated through her conduct of placing the berm of fill on lands which are not the subject matter of the appeal that Mrs. McConkey has little understanding and even less respect for the movement of water through the landscape. Her appreciation appears limited to recognition of permanent streams and watercourses or roadside ditches. Any of the other manifestations of water moving through land, be it in the nature of an intermittent watercourse or subsurface flows, appears to be regarded by her as an inconvenience which must be changed.

Basic hydrology principles were not discussed at the hearing. However, a simplified presentation of the movement of water through the landscape may prove helpful in understanding intermittent watercourses and reservoirs.

Water, which originates from rainfall or snow and icemelt will either evaporate, be used by growing vegetation or move downhill through the landscape, which can occur both above and below the soil surface.

Permanent streams and rivers receive sufficient water to have year round flows. Their permanence is not solely a function of the inflow. Any time the land surface dips below the water table, waters can be observed seeping through the ground, and an above ground watercourse can be observed. Once water flows above ground, the erosion experienced by the volume and velocity of the flows will eventually carve out a discrete channel which, over time has greater probability of becoming permanent.

Subsurface movement of water is more gradual and diffuse than that which occurs above grade, due to the relative resistance encountered by movement through soil rather than air and over land. These subsurface flows, also known as uncontained aquifers, can appear as surface flow where the land surface dips below the surrounding grade and water table or where the ground becomes sufficiently saturated that the water table rises.

Although this description is highly simplified, one of the characteristics of water moving through the landscape is that it can readily move back and forth above and below grade, depending on a number of factors. These factors may include soil type, saturation, distance to impermeable subsurface material and the relative breadth or narrowness of the opportunity for subsurface flows. Therefore, particularly with intermittent watercourses, with constants in soil type and saturation, where the low lying

land of the topography narrows, an above grade watercourse is more likely to be observed than further up or downstream where the topography of the low lying land is relatively broad.

Human intervention may also have the effect of forcing water to the surface. This can be particularly so where the opportunity for the water to move under the surface is particularly narrow, so that further narrowing of the path of opportunity by filling the surrounding land, creating pressures on the subsurface soils through which the water cannot readily pass, will have the effect of forcing the flow of water in part to the surface. Similarly, cutting into the soil where the water table is close to or at the surface will allow the water to become exposed in an area where it normally would be underground.

Any such creation of surface flows will increase the rate at which the water will travel over the land, so that, in an area where the water passes below the surface over long and wide expanses of land, intervention may result in the surface flow of water which exceeds the capacity of the land to accommodate, without vast areas of periodic flooding.

Agricultural drainage works may have this effect, so that water which was once contained within the soils themselves are transported more quickly downhill to a permanent watercourse, a stream, creek and ultimately into a river or lake. It is trite to say that all land is within the watershed of some watercourse. However, for most of the waters flowing underground through the upstream reaches and headwaters, development of the land and interference with the water is not an issue, there being sufficient land over or through which the water can flow without causing extensive flooding.

Regarding whether the filling of the subject lands interferes with a reservoir function provided, relying on the description of the subwatershed above, and of the topography as set out in the 1979 Drainage Map, it is quite clear that a number of headwater intermittent or permanent watercourses drain into the vast undifferentiated area northeast of the gun club. While this area is shown as being a wetland by the Ministry of Natural Resources, which is responsible for mapping in Ontario, it also shows a number of discrete watercourses which "disappear" into the landscape, indicative of subsurface or near surface flows.

Based upon its review of the evidence both presented at the hearing and filed, the tribunal finds that the low lying portion of the subject lands which front on Ashburnham Drive, along with those to the northeast both on the McConkey farm and

beyond, perform a reservoir function characterized by subsurface and near surface broad, undifferentiated flows.

Applicability and Weight of ORCA's Water Management Policies

ORCA's Water Management Policies as they were at the time of the October 8, 1992 hearing, encompass the General Policy in Section B on STRUCTURES, and the General Policy in Section C on FILL PLACEMENT. Mr. Poliacik has suggested that the drafting of Section C should be interpreted according principles regarding construction of statutes. He suggested that the word "and" which appears after paragraph 1.1 in Section C must be taken to mean that only the first paragraph and one of the other four must be satisfied.

Driedger, **Construction of Statutes**, 2nd ed. (Toronto: Butterworths, 1983) discusses the inherent problems of interpretation involved in the use of "and - or" commencing at the bottom of page 15,

The effect of the decisions on **and** and **or** problems is stated by Maxwell as follows:⁶⁴

In ordinary usage, "and" is conjunctive and "or" disjunctive. But to carry out the intention of the legislation it may be necessary to read "and" in place of the conjunction " or ", and vice versa.

As pointed out by Professor F. Reed Dickerson, however,⁶⁵ this explanation does not answer all the problems.

One problem is that each of these two words is semantically ambiguous. It is not always clear whether the writer intends the **inclusive** "or" (A or B or both) or the **exclusive** "or" (A or B, but not both) [T]here is a corresponding . . . uncertainty in the use of "and". Thus, it is not always clear whether the writer intends the **several** "and" (A and B jointly or severally) or the joint "and" (A and B, jointly but not severally)

64. **The Interpretation of Status**, 12th ed. (London: Sweet & Maxwell, 1969), pp. 232-233.

65. **The Fundamentals of Legal Drafting** (Boston-Toronto: Little, Brown & Company, 1965) pp. 76-85. This material is reprinted by permission of Little, Brown & Co.

Observation of legal usage suggests that in most cases "or" is used in the inclusive rather than the exclusive sense, while "and" is used in the several rather than the joint sense.

Or does not mean **and**, and **and** does not mean **or**. But in normal usage, **and** and **or** can produce the same result. Thus, in an enumeration of power to make regulations, for example, if the separate items are joined by **and**, the powers are normally regarded as joint and several, and the authority may exercise all or any of them; but if the conjunction (sic) is **or** the powers are normally regarded as inclusive and the authority may exercise any or all of them.

Driedger goes on to discuss several cases in which the courts have applied varied interpretations of **and** and **or**.

The tribunal notes that the case law referred to with respect to statutory interpretation of "and" and "or" is limited to the statutes themselves. Notwithstanding that these arguments may extend to the regulations of a particular conservation authority, the impact of such case law is uncertain on the interpretation of policies. The Water Management Policies, according to Mr. Merriam's evidence, were neither drafted nor vetted by lawyers.

It is unclear whether Mr. Poliacik submitted that Mrs. McConkey had met the condition of paragraph 1.1 of Section C, namely,

- 1.1 stage-storage characteristics are maintained at 0.30 metre vertical intervals;

or whether, by Mrs. McConkey's understanding that a proposal for cut and fill would not be considered, that she would only have to meet conditions set out in one of the five paragraphs. There is no evidence that the placement of fill proposed in the application maintains stage-storage characteristics. The only evidence at the hearing in connection

with this issue is that of Mr. Merriam, who indicated that if Mrs. McConkey could satisfy paragraph 1.1, flood flows into the McConkey farm would be impeded. He stated that the loss of storage capacity is not shown on the HEC 2 model, which is designed to measure flood flows.

It becomes immediately apparent that if Mr. Poliacik's interpretation were used, a prospective applicant might be able to satisfy paragraph 1.1 and one of paragraphs 1.3 through 1.5. However, paragraph 1.2 sets out that, "flood flows are not impeded". Ensuring that flood flows are not impeded is vitally important to the policies. Permission to place fill which would be an impediment to flood flows carries with it risks which cannot be seen to be contemplated by the Water Management Policies.

The intent of Section C can be determined through reading further in the second Staff Report (Ex. 57), under "O.R.C.A. CONSIDERATIONS", where three of the ten paragraphs specifically deal with the wetlands/reservoir function. Paragraph 4 states,

.... As a result, a cut and fill operation to compensate for the loss in flood storage capacity resulting from the placement of fill at this site is not an option available to the applicant.

Although paragraphs 7 through 9 of the report deal with issues of flooding, including safe access, the tribunal finds that the Water Management Policies and the Staff Report make it quite clear that filling in a wetland or reservoir area is problematic. Given that the Policies are not statutory, the problems encountered with the drafting can be overcome through a thorough reading of both the Policies and the second Staff Report.

The tribunal finds that the use of the word "and" in Section C paragraph 1.1 must be read within the context of the entire section on fill placement, as it was at the time of the hearing. However, as the Water Management Policies are not a statutory document, the tribunal finds that the usefulness of the Policies in reaching its determination is limited to the meaning set out in the Policies taken as a whole and read in conjunction with the Staff Report.

Effect of the Proposed Filling on the Control of Flooding

Based upon the tribunal's review of the topography, it becomes apparent that the filling and channelization which has been done legally on the Prins and possibly the Carey properties was done at the worst possible location for this watercourse. The tribunal finds that it accepts the evidence of Mr. MacDonald, having been employed in his capacity as Superintendent of Roads and in a position to be familiar with flooding on the Township Roads, that the flooding along this stretch of Ashburnham Drive commenced only with the placing of fill. In effect, the past filling and interference with the watercourse created a narrowing of the available avenues for the flow of water. This has demonstrably resulted in increasing flow rates through the channel than what would have occurred if left in its natural state. It bears repeating that, prior to any filling or channelization, the watercourse already encountered a narrow valley between two drumlands through which the water could flow northward along the east side of Ashburnham Drive.

It was agreed between Ms. Benson and Mr. Burke that the channelization in front of the Prins property was legal. A number of profiles have been set out by Mr. Burke on Exhibit 80 which plot and profile the calculations used by Ms. Benson in Exhibit 74A and by Mr. Burke in Exhibit 79.

The tribunal has compared a number of the calculations of Ms. Benson and Mr. Burke below. It must be born in mind that Mr. Burke's calculations for both the pre- and post-fill scenarios are based upon allowing the channelization which occurred in front of the subject lands and the remainder of the McConkey farm to the north to remain. The point of departure between Ms. Benson and Mr. Burke appears between cross sections 9 and 8.5, with the latter corresponding to the Prins-McConkey boundary, with Ms. Benson having the channelization gradually meet the assumed pre-existing ditch level commencing just north of the McConkey-Prins boundary and Mr. Burke showing the actual channelization moving to its lowest point at the same boundary, with an approximate elevation of 196.3 metres. The effect of this departure is that ORCA believes that the road will continue to be overtopped in a Regional Flood along this northerly stretch of the Prins property, whereas Mr. Burke does not. According to ORCA's calculations, using Ms. Benson's interpolation of pre-channelization levels, the road will continue to be overtopped up to cross section 6.5, which corresponds with the boundary between the subject lands and the rest of the McConkey farm.

At the north end of the McConkey farm, a similar departure is illustrated, with ORCA having the channel gradually move downgrade between cross sections 5 and 3, the latter corresponding to the boundary between the McConkey farm and the gun club. Mr. Burke's depiction of the actual profile after channelization shows that the channel elevation must move up grade to meet the pre-existing channel at cross section 3.

Notwithstanding their differences concerning the pre-fill situation in what has been characterized as the ditch, both ORCA and Mr. Burke agree that the road will be overtopped between cross section 9, being the mid-point of the Prins property frontage, and cross section 11, being the Carey-Prins property boundary.

The following is observed from the calculations done by Ms. Benson and Mr. Burke:

**(Flow Rates during Regional Storm
in cubic metres per second)**

Cross section	Location	Burke pre-fill Burke post-fill	Benson pre-fill Benson post-fill
11	Prins/Carey boundary	8.7 m ³ /s 8.7 m ³ /s	8.7 m ³ /s 8.7 m ³ /s
10	south end of Prins culvert	4.32 m ³ /s 4.11 m ³ /s	4.31 m ³ /s 4.00 m ³ /s
9	north end of Prins culvert	4.32 m ³ /s 4.11 m ³ /s	4.31 m ³ /s 4.00 m ³ /s
8.5	Prins/ McConkey boundary	3.52 m ³ /s n/a	3.52 m ³ /s 1.41 m ³ /s
8	south end of first McConkey culvert	3.52 m ³ /s 0.45 m ³ /s	0.45 m ³ /s 1.41 m ³ /s

7	north end of first McConkey culvert	n/a 0.45 m ³ /s	n/a n/a
6 thru 1	north end of berm to culvert under road north of gun club	0.09 m ³ /s 0.19 m ³ /s	0.09 m ³ /s 0.09 m ³ /s

**(Overtopping during Regional Storm
in metres)**

Cross section	Location	Burke Pre-fill Burke Post-fill	Benson Pre-fill Benson Post-fill
11	Prins/Carey boundary	0.38 m 0.37 m	0.28 m 0.27 m
10	south end of Prins culvert	no no	0.38 m 0.37 m
9	north end of Prins culvert	no no	no 0.03 m
8.5	Prins/ McConkey boundary	no n/a	no 0.21 m
8	south end of first McConkey culvert	no no	no 0.29 m
7	north end of first McConkey culvert	n/a 0.02 m	n/a n/a

6	north end	no	no
thru	of berm	no	no
1	to culvert under road north of gun club		

An examination and comparison of both Ms. Benson's and Mr. Burke's pre- and post-fill analyses is instructive, confirming that the greatest impact on flooding has already occurred through the filling and channelization of the Carey and Prins properties.

It is quite clear that the narrow low lying land on the east side of Ashburnham Drive, coupled with the channelization of flow from the fields from behind the Carey property has created a greater surface volume and flow rates in front of the Carey and Prins properties and the subject lands. The course and residence time of this water at this sensitive juncture has equally been effected by the filling of the Prins property, which has created a longer narrow bottleneck through which these surface flows must pass. The proposed filling on the subject lands and the creation of the berm to the north serves to lengthen this bottleneck even more.

Examining the calculations of both engineers discloses what would be accomplished through the placing of fill on the subject lands and the berm to the north, whether it is done with or without channelization. According to Mr. Burke's calculations, the effect of the fill on flow rates along the Carey, Prins and subject land frontage is comparatively high. The proposal to allow fill, realizing that channelization is built in to both calculations, would result in decreased flow rates along the subject lands, but increased flow rates to the north, moving towards the gun club. According to ORCA's calculations, flow rates along the subject lands would be reduced with the proposed placing of fill, with the exception of cross section 8, corresponding with the south end of the first McConkey culvert. However, without the channelization, which was not part of the application, a longer stretch of the road would be overtopped by almost a third of a metre up to at least the south end of the first McConkey culvert.

From this comparison, it becomes evident that the subject lands and lands to the south have been affected by the legal placing of fill and channelization. To allow Mrs. McConkey to extend this activity creates overtopping of Ashburnham Drive in front

of the subject lands which would not otherwise be there, should channelization not be permitted. If channelization is permitted, and it is noted that it does not form part of the application under appeal, the flow rate in front of the subject lands would be reduced and a small amount of overtopping at the north end of the first culvert would be created.

However, in evidence, it was reiterated that the HEC 2 model does not account for water which is lost from overtopping the road. Therefore, it is quite possible that a greater degree of overtopping would be experienced than is disclosed in the calculations. Although Ms. Booth's pictures were taken during a mid-winter thaw and are not indicative of a Regional Storm situation, it is suggestive of the capacity of the culverts to accommodate flows. It was suggested that the culverts were frozen so that no water was flowing through. Without evidence to confirm this fact, it amounts to speculation. However, culverts under roads are not designed to accommodate flood flows from a severe storm event. The patterns of road overtopping are suggestive of what might occur during such an event.

The impact of the legal channelization and placement of fill cannot be construed as victimization of Mrs. McConkey. The subject lands, the land behind the berm to the north, and the frontage of the Prins and Carey properties had been low lying lands through which the subwatershed in question drained. Had better information been available, the Carey property should have been scheduled and fallen under the jurisdiction of ORCA and the filling and channelization disallowed. Similarly, the filling of the Prins property would also not have been permitted.

The net impact of the application on the control of flooding of the subject lands is not as great as the impact which has already been experienced. The flood levels on Ashburnham Drive are arguably within the margin allowable for safe access, although the unknown quantity of water which is lost over the road in the HEC 2 model may impact unfavourably on these calculations. The major consideration is that to allow a further compounding of an existing error would only make the situation worse. This is clearly contrary to the intent of the legislation. Notwithstanding the extent of net impacts projected from the proposal, the tribunal finds that the application should be dismissed, as it will affect the control of flooding in an area which has already been adversely impacted by development.

Although ORCA does not have the jurisdiction to proceed to mitigate the damage done in this area, the ideal solution would be to construct one common main

access road for the Prins and Carey properties from Ashburnham Drive with a number of culverts allowing a wider flow from south to north. A wide swath of fill could then be removed to allow the watercourse to resume its broad undefined flow, giving the water room to manoeuvre without having to overtop Ashburnham Drive. Conceivably, Mrs. McConkey would be able to build on the higher land located at the rear of the subject lands, gaining access from this one common road. In this way, spring run-off and flood waters would be given more room to flow through what was already a natural narrowing of the low lying land between the surrounding drumlands, and resume its course into the McConkey farm to the north and flow into the reservoir area behind the gun club.

Any such restoration project would have to recognize that naturally occurring watercourses must be allowed to flow through their natural path and not along artificial paths alongside roads which were not designed to accommodate their flows. The propensity of having drainage works drain waters from fields to the road would also have to be examined. Similarly, it must be recognized that private lands do play a role in the drainage of low lying areas. Channelization is not a solution, as it has the effect of allowing more water to flow above ground and move more quickly. Due to a limited capacity of land to accommodate such increased flows, flooding is likely to be experienced in areas either upstream or downstream of such channelization.

Conclusions:

The appeal should be dismissed, as in the opinion of the tribunal, the control of flooding will be adversely affected.

Not surprisingly, the legal activity which took place has had considerable impact by narrowing an already narrow stretch of low lying land resulting in more of the water which flows through this area appearing above grade.

The result of the actions of the appellant through her placement of fill both on the subject lands and through the creation of the berm on her farm property to the north, along with channelization alongside Ashburnham Drive, has had a visible effect on the control of flooding, as evidenced by the calculations provided by Ms. Benson, which the tribunal has outlined elsewhere in these Reasons.