

ENVIRONMENTAL REVIEW TRIBUNAL

IN THE MATTER OF sections 38 to 48 of the *Environmental Bill of Rights, 1993*, S.O. 1993, c. 28, as amended, and section 34 of the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

AND IN THE MATTER OF an Application by the Sierra Club of Canada and the Greenspace Alliance of Canada's Capital for leave to appeal the decision of the Director under section 34 of the *Ontario Water Resources Act*, to issue Permit to Take Water No. 8130-7HNPVW dated April 27, 2009, to Findlay Creek Properties Ltd. and 1374537 Ontario Limited for the purposes of construction dewatering at Lot 18, 19 & 20, Concession IV, former Township of Gloucester, Ottawa, Ontario.

**THE GREENSPACE ALLIANCE OF CANADA'S CAPITAL
AND
THE SIERRA CLUB OF CANADA**

- and -

**DIRECTOR, MINISTRY OF THE ENVIRONMENT, 1374537 ONTARIO LTD. and
FINDLAY CREEK PROPERTIES LTD.**

**AFFIDAVIT OF PETER TAYLOR
SUPERVISOR, WATER RESOURCES ASSESSMENT UNIT
MINISTRY OF THE ENVIRONMENT**

(Sworn June 8, 2009)

I, **Peter Taylor**, of the City of Kingston, in the Province of Ontario, AFFIRM AND SAY AS FOLLOWS:

1. I am the Supervisor of the Water Resources Assessment Unit, with the Ministry of the Environment ("MOE" or "the Ministry") in the Technical Support Section of the Eastern Regional Office in Kingston. I have been employed in this position since June of 2006. I am appointed as a Director for the purposes of issuing permits to take water ("PTTW") under section 34 of the *Ontario Water Resources Act* ("OWRA"). As a section 34 Director, I have been delegated the authority by the Minister in accordance with section 117 of the

Environmental Bill of Rights, 1993 (“EBR”) to give notice to the public of a Class I, II or III instrument under section 22 of the Act, to give notice of decisions under section 36, and to determine whether a proposal has been so fundamentally altered as to become a new proposal under section 13 of the Act.

2. As water resources supervisor I am responsible for the overall management, direction and leadership of thirteen staff in the water resources assessment unit. One of my duties is to act as the signing Director, pursuant to s. 34 of the OWRA. As such, I review draft permits and the recommendations of surface water and groundwater staff who have reviewed permit applications.
3. Prior to this, I was an Environmental Officer in the Cornwall, Kingston and Niagara District offices, and Area Supervisor with the London and Ottawa District offices over the course of sixteen years, and a Junior Hydrogeologist and Regional Well Inspector with the ministry’s Eastern Regional Technical Support Section for the first two years of my career with the ministry.
4. I hold a Bachelor of Science Degree in Geology from Queen’s University in Kingston Ontario.
5. I have personal knowledge of the matters to which I depose in this affidavit. Where I do not have personal knowledge, I have indicated the source of my information and I believe such information to be true.

The Application

6. The application for a permit to take water by Findlay Creek Properties Ltd. and 1374537 Ontario Limited (“the proponent”) that is the subject of this application for leave to appeal (“the subject permit”) was received by the Ministry on July 11, 2008. The application indicated that the water would be taken for the purposes of temporary construction dewatering at the Findlay Creek Village, which involves pumping water from excavations

to facilitate the installation of sewer and water mains. The application and supporting documentation are set out in the Respondents' Book of Documents at Tabs 5, 6 and 7.

7. The Findlay Creek Village subdivision is part of the Leitrim Development Area and is included in the Official Urban Policy Area in Ottawa. It is a large mixed residential housing development with a commercial component located in the south end of the City of Ottawa. A recent City of Ottawa Planning Report, the Leitrim Community Design Plan, provides further background and is set out in the Respondents' Book of Documents at Tab 23.
8. The subdivision has been in planning and approvals processes since the 1990's and construction works have been occurring on the site for approximately the past 6 years in different phases. There are approximately 800 housing units out of a proposed 1,900 units currently constructed. A diagram that was completed by the proponent to reference various conditions imposed in the permit shows the completed and future stages of the development and various other features relevant to this matter. For ease of reference, figure MP-1 is set out in the Respondents' Book of Documents at Tab 8.
9. The development has been approved through a plan of subdivision under the *Planning Act*. A key issue that was addressed through the planning approvals was the boundary of the Leitrim Provincially Significant Wetland ("PSW"). In a recent Ontario Municipal Board (OMB) hearing, the boundary as established by the Ministry of Natural Resources in 1991 was confirmed as the legal definition of the PSW. To the north of the northern boundary of the wetland, the Findlay Creek Village subdivision is a permitted development. The wetland area to the south of the northern border was preserved and I am informed by Jennifer Boyer at the South Nation Conservation Authority that ownership will be conveyed from the proponent to the South Nation Conservation Authority in the future. The border indicating the demarcation between permitted development to the north and the wetland to the south is marked in Figure MP-1 as a black dashed line. The Ontario Municipal Board decision is set out in the Respondents' Book of Documents at Tab 18.

10. I am informed by Shaun Thompson of the Ministry of Natural Resources (MNR) that the Leitrim Wetland was evaluated as being provincially significant in 1989. The wetland was re-evaluated in 1991 and the northern boundary was finalized in 1992 which involved it being moved slightly to the south as compared to the 1989 evaluation. I have reviewed the 1992 northern boundary as maintained by MNR and can confirm it is consistent with that set out by the black dashed line in Figure MP-1.
11. The Leitrim Development Area was also subject to Federal Environmental Assessment requirements in relation to the creek reconstruction and storm water management of Findlay Creek, in addition to a Provincial Class Environmental Assessment in relation to storm water management. An Environmental Management Plan (EMP) has been prepared in support of the Federal Environmental Assessment and accepted by the federal Department of Fisheries and Oceans (“DFO”).
12. The EMP includes a groundwater monitoring program which would characterize pre-construction conditions, monitor groundwater impacts during construction and provide on-going data to be used for groundwater management after construction. Groundwater and surface water works are inspected and monitoring program results reviewed by the City of Ottawa, DFO and the South Nation Conservation Authority (“SNCA”).
13. DFO has also issued an authorization under the *Fisheries Act* permitting the proponent to move a portion of Findlay Creek, indicated on Figure MP-1 as being the “east-west ditch”, approximately 200 metres to the south of its current position. The new creek alignment is referred to as the Findlay Creek Extension phase 1. The authorization also requires a second stretch of the creek to be rehabilitated and enhanced, referred to as the Findlay Creek Extension phase 2. Further, as part of the authorization, a berm was constructed between the wetland and Findlay Creek to minimize any interaction between the surface waters in the wetland and the creek other than by means of an outlet control structure. The Findlay Creek Extension (FCE) phase 1 and 2, the berm, and Findlay Creek are all depicted

in Figure MP-1 which is set out in the Respondents' Book of Documents at Tab 8.

14. It is a legal requirement of the DFO authorization (Condition 3.11) that the Findlay Creek Extension be built and vegetated "in the dry". Water is not permitted into the new creek bed until the vegetation and fish habitat features have been established. Furthermore, an extensive monitoring program has been implemented as required by condition 4 of the authorization. A copy of the DFO authorization, including a letter extending its expiry date to December 31, 2010, is set out in the Respondents' Book of Documents at Tab 25.
15. Between 2003 and 2007, a number of short term permits were issued by the Ministry for construction activities at Findlay Creek Village as outlined below.

	Permit Number	Issue Date	Maximum Allowable Taking
1	03-P-4001	January 8, 2003	6,546,240 litres/day
2	04-P-4004	January 15, 2004	10,473,380 litres/day
3	5242-66JMCD	December 15, 2004	13,747,380 litres/day
4	3860-6G9PVQ	September 20, 2005	51,580,800 litres/day
5	0428-6TJPKH	September 22, 2006	51,580,800 litres/day
6	8731-6VBMWQ	November 10, 2006	51,580,800 litres/day
7	1705-756NRW	September 6, 2006	500,001 litres/day
8	1446-76SPH2	February 22, 2008	17,020,800 litres/day

16. However, I only became fully aware of this history of short-term permits when the application for permit 8 in the chart was received by the Ministry on August 8, 2007. At that time, I advised the proponent that I would not continue issuing short-term permits. Rather, I would expect any future permit applications for dewatering related to the construction of service trenches at the Findlay Creek development to be submitted as a long term permit application that would consider all on-site takings for a period up to ten years, the maximum term permits are generally issued for, so I could get a better understanding of the impacts that takings may have on the ecosystem, including the adjacent PSW. I did

agree to consider the August 2007 application as a transition phase, from a shorter term (1-2 years) permit approach to a long term permit approach (up to 10 years).

17. In the end, in response to the August 2007 application, I decided to only issue a permit (1446-76SPH2) for approximately an eight month period, from February 22 to September 30, 2008. I indicated to the proponent that if a permit was required for further dewatering, an application for a longer term permit with sufficient supporting documentation should be submitted as soon as possible.
18. The application for the subject permit reflected my decision to require the proponent to pursue a longer term permit. The July 11, 2008 application was for all future stages of new residential development in the Findlay Creek Subdivision over a 10 year period. In order to install sewer and water services to these future stages developments, trench excavations are required. Groundwater control or dewatering is performed as required in order to allow for associated work within these trenches. Dewatering will occur on a temporary and sequential basis as the trench alignment progresses. The amount of dewatering required depends upon the depth of the excavation. Deeper trenches, especially those that enter into bedrock, typically require much more dewatering than shallow trenches that are dug in the overburden material. Although secondary in nature, the application would also cover control of groundwater from more permeable zones in the overburden, and control of surface water if any isolated accumulation occurs locally due to such activities as site grading and precipitation events.
19. The PTTW application sought approval of a maximum pumping rate of 11,820 liters per minute or 17,020,800 litres per day. The subject permit was posted on the EBR registry for a thirty day comment period commencing on July 11, 2008 and ending on August 10, 2008. On July 15, 2008 I forwarded a copy of the application and supporting documentation to Ecojustice.
20. Given the public interest in the Findlay Creek Village I noted during the PTTW process

surrounding the transitional PTTW # 1446-76SPH2, I suggested to the proponent that they might consider engaging in additional public outreach beyond that required by the EBR posting process.

21. On August 6, 2009 the proponent held a public open house in Ottawa to provide an additional opportunity for the public to receive information and provide comment on the long term permit application. While I was not able to attend the meeting myself, the proponent provided me with a copy of the sign-in sheet, as well as copies of the display materials and the handout. The sign-in sheet indicated a number of people attended the event.
22. Given that the initial EBR comment period was set to expire on August 10, 2008 and public open house was scheduled to be held on August 6, 2008, Ecojustice and a number of members of the public requested an extension to the comment period. Both Ecojustice and the Greenspace Alliance were granted an extension of the comment period until September 5, 2008.
23. Comments on the EBR posting were provided by Ecojustice (on behalf of the applicants) on September 5, 2008. A copy of these EBR comments is set out in the Respondents' Book of Documents at Tab 10.
24. On August 29, 2008 I received a letter requesting an amendment to the application. This letter described two additional water takings to be added to the PTTW application. These were surface water takings associated with the construction of the Findlay Creek Extension Phase 2 and the Drainage Ditch Modification Area. A site plan depicting these two areas was attached to the August 29, 2008 letter, a copy of which is set out in the Respondents' Book of Documents at Tab 11.
25. On September 12, 2008 I received a second letter in regards to the additional surface water takings at the Findlay Creek Village. This letter provided a more detailed description of the

sources of the takings and indicated the maximum pumping rates at 2,083 litres per minute or 3,000,000 litres per day for the Drainage Ditch Modification Area and 6,944 litres per minute or 10,000,000 litres per day for the Findlay Creek Extension Area. A copy of the September 12, 2008 letter is set out in the Respondents' Book of Documents at Tab 12.

26. The purpose of the application amendment was to ensure that all construction features, including associated fish compensation measures, requiring a surface water taking for the Findlay Creek Village were covered under the long term application process.
27. The August 29, 2008 letter explained that Phase 1 of the Findlay Creek Extension was almost complete, and that Phase 2 of the Findlay Creek Extension was occupied by a temporary bypass ditch, which needed to be replaced by the construction of the Findlay Creek Extension along the same alignment. In order to complete the Findlay Creek Extension Phase 2, and possibly Phase 1, it would be necessary to temporarily intercept and divert water in order that work in the construction area could be completed in the dry. In order to maintain fish habitat and the natural functions of Findlay Creek downstream from the construction area, a portion of the intercepted water would be returned to Findlay Creek via surface piping. Referring to Figure MP-1 which is at Tab 8 of the Respondent's Book of Documents, this diversion entails piping the water from point A to point C.
28. However, during storm events, the flow would significantly exceed the capacity of the surface piping. Therefore, during significant storm events which infrequently occur, it was proposed that excess water would be diverted into an inlet to the storm sewer which is very close to point A on Figure MP-1. Once in the storm sewer, the storm water discharges to the storm water management pond where sediment settles out. It then discharges back into Findlay Creek at point D on figure MP-1. The storm water sewer is not depicted on figure MP-1, but is shown on page 73 of the Leitrim Community Design Plan which is set out at Tab 23 of the Respondents' Book of Documents.
29. I determined that the addition of the surface water takings constituted a significant change

in the nature of the proposal. Therefore, on September 16, 2008 the long term permit application was re-posted on the EBR registry for a period of thirty days until October 16, 2008. It was an oversight that the quantity of the diversion of excess flows into the storm sewer during infrequent storm events was not specifically listed in the posting. However, the proposal to divert the water into the storm sewer was described in the application materials. Of the 198,720,000 litres of water per day that was eventually approved for source 2, 193,536,00 is to account for this infrequent storm water excess flow. The remaining 5,184,000 litres represents the amount that will be diverted around the Findlay Creek Extension Phase 2 construction work.

30. On September 17, 2008 I provided Ecojustice with a copy of the amended application material. On October 16, 2008 I received comments from Ecojustice on the amended application package posted on the EBR Registry. A copy of these comments is attached to the Respondents' Book of Documents at Tab 14.
31. The PTTW application was reviewed by a number of technical staff within the Ministry. Bob Putzlocher, Hydrogeologist and Dana Cruikshank, Surface Water Scientist for the Ministry's Eastern Region reviewed the application and provided advice and technical assistance to me.
32. As the Leitrim PSW was directly adjacent to the proposed water taking, and that fish compensation measures in Findlay Creek, as authorized by DFO were also involved, I contacted the Ministry of Natural Resources (MNR) in September 2008 for their technical assistance. There were a number of staff out of the MNR Kemptville office assigned to assist as coordinated by Sarah Nugent, Water Resources Coordinator.
33. On November 10, 2008, the initial Ministry comments on the application were provided to the proponent. These comments included technical concerns raised by Ministry review staff as well as comments provided through the PTTW posting process. The proponent was requested to provide additional information and to respond to these comments.

34. On November 17, 2008 I provided the proponent with comments I had received from the Ministry of Natural Resources on the application. The proponent was requested to provide a response to these comments as part of the review process.
35. On December 16, 2008 the Ministry and MNR received a response to the agency comments. The proponent comments were in turn provided to Ministry and MNR technical staff for their review. A copy of the letter to me from Golder is set out at Tab 16 in the Respondents' Book of Documents.
36. On December 18, 2008 I provided Cheryl Doran of Greenspace Alliance copies of the proponent's December 16, 2008 responses to the Ministry and MNR comments. On December 23, 2008, I provided Cheryl Doran of Greenspace Alliance a copy of the Ministry and MNR review comments provided to the proponent to provide context to the proponent's responses.
37. In order to ensure that the that proponent provided a thorough response to the agency review comments, I requested that the proponent prepare a comprehensive monitoring plan that would address agency review comments to date, and also could be shared with parties interested in the Findlay Creek Village proposed water taking.
38. On February 23, 2009 I convened a meeting with the proponent, their consultant Golder, Ministry technical staff, MNR technical staff, as well as technical staff from DFO and the SNCA. The purpose of the meeting was to review a draft Permit To Take Water Monitoring Program prepared by GOLDER to address agency comments to date.
39. Following the meeting on February 27, 2009 I received a revised draft of a Permit To Take Water Monitoring Program for the future stages of the Findlay Creek Village dated February 27, 2009 (herein referred to as the PTTW Monitoring Plan). The revised Future Stages Permit To Take Water Monitoring Plan was circulated to my technical staff as well

as technical staff at the MNR, DFO and SNCA.

40. On February 27, 2009 I circulated a copy of the revised Draft PTTW Monitoring Plan to Cheryl Doran of Greenspace Alliance in advance of a meeting I had arranged for March 9, 2009 with Greenspace Alliance. The purpose of this meeting was to review the Draft PTTW Monitoring Plan and provide Greenspace with an opportunity to provide a summary of their concerns with the application further to comments provided as part of the EBR process. A copy of PTTW Monitoring Plan and a copy of my February 27, 2009 email to Cheryl Doran of Greenspace Alliance are set out in the Respondents' Book of Documents at Tabs 19 and 20.

41. On March 9, 2009 I held a meeting in the City of Ottawa with several representatives of the Friends of the Leitrim Wetland. Mr. Erwin Dressen indicated to me that the Friends of the Leitrim Wetland (herein referred to as FLW) consists of the Greenspace Alliance of Canada's Capital, the Sierra Club of Canada (Ottawa Chapter), the Ottawa Field Naturalists and the Coalition for a Healthy Ottawa. Also present at the meeting were Ministry technical staff, as well as technical staff from MNR, DFO and SNCA, and a representative of Golder. During the meeting the draft revised PTTW Monitoring Plan was reviewed in detail. The FLW also provided to me a list of concerns and comments they had regarding the application. A document entitled "Saving Leitrim Wetland: Objectives of the Friends of Leitrim Wetland for March 9, 2009 meeting with MOE" is set out in the Respondents' Book of Documents at Tab 21.

42. At the meeting, the full nature of the proposed water takings was discussed with the applicants, namely being groundwater takings associated with the site trench servicing work, and surface water takings associated with the reconstruction of Findlay Creek and the North-South swale. The applicants were made fully aware that all flows associated with the construction of the Findlay Creek Extension would be intercepted and diverted, including to the storm sewer during infrequent storm events. I do not recall the Applicants raising any concerns with the diversion of storm water to the storm sewer during the meeting or

thereafter.

43. On April 7, 2009 the proponent provided me with a final version of the Permit To Take Water Monitoring Plan for the Future Stages of the Findlay Creek Village after addressing comments from the review agencies. Comments provided by FLW at our March 9, 2009 meeting were also considered in the final version of the Plan. These comments included the base flow in Findlay Creek to be maintained, the timing of the surface water takings and the monitoring for moisture levels in the peat. The final version of the Plan was not substantively different than the draft version presented to the FLW at the March 9, 2009 meeting. A copy of the Final Permit To Take Water Monitoring Plan is set out in the Respondents' Book of Documents at Tab 22.

The Decision to Issue the Permit

44. Prior to the issuance of the subject permit, I reviewed and considered the following documents and information:
 - a) Permit to Take Water Number 8130-7HNPVW in unsigned draft form. This is a standard permit which is prepared with a proposed expiry date and with special conditions recommended by the technical reviewer.
 - b) All documents submitted in conjunction with the Permit To Take Water Application, as amended, which are more fully described in paragraphs 6, 24 and 25.
 - c) Permit To Take Water Technical Reviews completed by Robert Putzlocher and Dana Cruikshank.
 - d) Comments provided by other review agencies including MNR, DFO and SNCA from the time the initial application was brought to their attention up until the review and acceptance of the April 7, 2009 PTTW Monitoring Plan for Future Stages of the Findlay Creek Village.
 - e) Decision Notice in a draft format detailing the responses to Environmental Bill of Rights (EBR) comments prepared by the Technical Reviewer and the PTTW

Coordinator. This is a list of comments and responses prepared for posting to the EBR Registry upon issuance of a permit.

- f) Twenty-Five comments submitted through the EBR registry process on the proposed taking including comments provided by Ecojustice dated September 3, 2008 and October 16, 2008.
- g) Comments provided to me by Friends of the Leitrim Wetland dated March 9, 2009. These comments were accepted outside of the EBR comment period.
- h) The overall level of public engagement and consultation carried out during the application process.

45. Having assessed the Technical Reviewers recommendations and responses to the EBR comments, and consulted with the MNR, SNCA and DFO, I was satisfied that it was reasonable to issue the permit, with specific limiting conditions, for a ten year duration. I was satisfied that doing so would not result in any risk of significant harm to the environment. More specifically, I was satisfied that the proposed water taking would not have a negative impact on the long term water level trend in the Leitrim wetland. None of the agencies objected to the permit being issued.

46. As s.34 signing director I have subsequently issued Permit To Take Water No. 8130-7HNPVW on April 27, 2009, which expires on May 1, 2019. Along with the permit I provided a covering letter to Findlay Creek Villages which speaks to the terms and conditions. A copy of the signed and issued permit is set out in the Respondents' Book of Documents at Tab 1.

47. A Decision notice was posted on the EBR Registry on May 5, 2009. A brief explanation of how the public comments were generally taken into account was provided. A copy of the decision notice is set out at Tab 24 of the Director's Book of Documents.

48. As indicated in paragraph 29, the original EBR Registry proposal posting did not specifically indicate that the large quantity of water that the infrequent diversion of storm

water away from the Findlay Creek Extension Phase 2 to the storm sewer during significant events would entail. However, as this proposal was fully explained in the supporting material to the application, I did not consider the explicit addition of this source to the final permit as a fundamental change to the nature of the permit.

49. The permit contains a number of stringent conditions. Conditions 4.3 to 4.8 require monitoring of the groundwater through a network of 16 groundwater monitoring wells equipped with data loggers. Groundwater level trigger levels are set in 14 of the 16 groundwater monitoring wells. The permit requires more frequent groundwater level monitoring as the actual water level approaches the trigger levels. The permit requires cessation of water taking and notification to the Director if actual water levels fall below the trigger levels. Water level data must be compiled and submitted to the Director twice per year.

50. Conditions 5.6 to 5.14 require monitoring of the surface water quality related to the construction of Findlay Creek. While the Findlay Creek extension is being constructed, up to 60 Litres per second of water must be diverted to the downstream sections of Findlay Creek in order to maintain habitat. The proponent must also estimate and keep records of all other water diverted to the site Storm Water Management Pond during the storm events. During surface water taking events the Proponent must ensure that the taking does not disrupt or remove fish, invertebrates or bottom sediment, and during the discharge of water ensure siltation and erosion does not occur.

51. Condition 3.3 stipulates that the taking of water associated with the Findlay Creek Extension and the North-South Swale construction (Source 2 and 3 in Table A of the permit) can only occur when fish compensation measures are being constructed as authorized by the federal Department of Fisheries and Oceans.

52. Conditions 5.15 to 5.24 require a detailed monitoring program of the Leitrim PSW be implemented based on recommendations from the Ministry of Natural Resources using:

- a) Aerial imagery
- b) Fixed-point photographic vegetation surveys along a transect in the wetland
- c) Collection of a vegetation inventory along the transect
- d) Establishment of fixed plots and sub-plots along the transect for the identification and inventorying vascular plants
- e) Measurement of the peat moisture

53. Conditions 4.2, 4.14 and 4.15 set out detailed reporting requirements associated with the groundwater, surface water and vegetation monitoring programs. An annual report is required to be submitted to the Ministry's Ottawa District office as well as to the MNR Kemptville District office, the SNCA and the DFO office in Prescott. In addition to the annual reports a more comprehensive and interpretive report is required to be submitted by May 1, 2010 with subsequent reports required by May 1, 2012 and May 1, 2015.

54. The decision to issue a permit with limiting special conditions was carefully made in accordance with the relevant laws, regulations and policies, and taking into consideration submissions from the public and other agencies. I believe that it was a balanced and reasonable decision respecting the precautionary principle and using an adaptive management approach. The adaptive management approach ensured that a comprehensive groundwater, surface water and vegetation monitoring and reporting program was in place, that appropriate groundwater trigger levels were established and that groundwater level monitoring became more frequent the closer the actual groundwater levels came to the groundwater trigger levels. This approach requires contingency and mitigation measures to be developed and implemented prior to significant adverse impacts occurring in the Leitrim PSW or in Findlay Creek.

55. I considered the following legal requirements and policies as being the most relevant to this particular permit:

- Ontario Regulation 387/04 Water Taking and Transfer Regulation

- The Ministry's Statement of Environmental Values (herein referred to as the SEV)
- Permit To Take Water Manual April 2005

56. The document entitled Best Practices for Assessing Water Taking Proposals prepared by Gartner Lee dated November 2002 which is referred to by the Applicants in their leave to appeal application at the bottom of page 29 and set out at Tab 32, is a study commissioned by the ministry to inform improvements to the PTTW program. However, it has not been adopted as formal government policy. The report was used as input into the amendments made to O. Reg. 285/99 which was revoked and replaced by O. Reg. 387/04 in 2004 and the accompanying changes to the Permit to Take Water Manual in 2005. These documents represent the government policy with respect to the PTTW program. I am not aware of the Best Practices document being prepared for the use of consultants as indicated by the Applicants.

O. Reg. 387/04

57. Section 4 of the Water Taking and Transfer Regulation (O.Reg. 387/04) lays out a number of matters to be considered by the Director considering an application for a PTTW. Section 4 further sets out that the Director will consider matters that are relevant to the proposed taking, and to the extent that information is available to the Director. In the case of the subject permit, I considered the matters as outlined in the following paragraphs.

58. It is my opinion that the permit is protective of the natural functions of the ecosystem. There is no doubt that the adjacent Provincially Significant Leitrim wetland is an ecosystem which needs to be protected. With respect to the permit to take water, the viable existence of the wetland is dependant on maintaining appropriate water levels. The Technical Reviewers opinion was that the proposed ground-water takings would not affect the long term water level trend in the wetland because:

- Data generated over the previous 5 years showed no evidence of a trend of groundwater level lowering as a result of previous takings;

- Previous and estimated groundwater level drawdowns are based on a worst-case scenario that is not likely to occur in future stage development (ie. deep excavation through permeable bedrock at locations near the PSW). Therefore the estimated groundwater level drawdowns are considered highly conservative, and in fact expected to be much less, if any;
- A detailed groundwater level monitoring program has been established which requires more frequent groundwater level monitoring the closer the actual water levels are to the groundwater trigger levels;
- If water levels drop below the trigger levels, the ground water taking must cease immediately;
- MNR indicates that changes have been occurring in parts of the Leitrim PSW for the past 20 years. No evidence has been provided to the MOE that previous water takings have played a role in these changes;

59. I am similarly confident that the potential impacts of surface water takings have been fully considered and will not result in any adverse affects to the Leitrim PSW or Findlay Creek, for the following reasons:

- The majority of surface water takings are associated with the realignment of Findlay Creek and the construction of Fish Habitat measures. The federal Department of Fisheries and Oceans has issued an authorization to the City of Ottawa to allow the construction of these fish compensation measures. DFO considered impacts to the Leitrim PSW and Findlay Creek in issuing their authorization. DFO requires the maintenance of base flows (or minimum stream flow) in Findlay Creek during construction activities, and determined that a base flow of 40 Litres per second was acceptable. The permit proposes maintaining a baseflow during storm events of 60 Litres per second which is %150 of the DFO approved requirement.
- A detailed surface water quality monitoring and reporting program has been developed to ensure the downstream water quality in Findlay Creek is maintained and there are no impacts to the natural functions of the creek.
- The other diversions are simple diversions of surface water to the storm water system.

60. The applicants contends that the proposed surface water takings in Findlay creek should be compared against that flow data from a 1972 Stream Survey conducted by MNR as baseline data. The 1972 data, in addition to simply being outdated, is not representative for the purpose of assessing the surface water takings as the construction of the berm surrounding the Leitrim wetland significantly changed the hydrological regime of Findlay Creek. Flow

data from 2005 (the second wettest year on record) was used to determine appropriate base flow amounts to be maintained in the Findlay Creek Extension during its construction.

61. There did not appear to be any significant issues with respect to water availability and sustainable aquifer yield as water takings are occurring in an area in which the water supply is primarily provided by municipal services, and the technical review had indicated that the temporary nature of the dewatering was unlikely to have any impact on the aquifer, which recharges quickly. The area in which the water taking is occurring is not currently designated as a high use or medium use watershed.

62. Other matters to be considered by the Director under section paragraph 3 of subsection 4(2) were not relevant to this taking. Dewatering and temporary diversions are not subject to extensive water conservation measures which typically only apply to consumptive uses such as irrigation. This taking is considered a non-consumptive use of groundwater and surface water. Groundwater is being removed through a series of trench excavations across the development so that the installation of water, sewer and storm water services can take place in a dry environment. The groundwater is then returned to the watershed via discharge to the storm water management pond that services the site which discharges into the downstream portions of Findlay Creek. Surface water is being removed through a series of pumping stations and surface water diversion points so that reconstruction of Findlay Creek and the North-South Swale can take place in a dry environment. A portion of the surface water from the Findlay Creek construction work is being directly discharged into Findlay Creek immediately downstream of the construction work in order to maintain the natural functions of the creek. The remainder of the surface water is discharged into the developments storm water management pond which discharges into the down stream reaches of Findlay Creek.

63. I believe that significant efforts were made to consider the interests of other persons. The Ministry went to great lengths to promoting public and local agency input into the decision-making process. The application was posted on the EBR Registry on two occasions

allowing for public comment. The first of the comment periods was extended to allow additional comment time following a public open house that was held by the proponent to better inform the public of the proposed taking. The application and supporting documentation as well as all relevant information the Ministry possessed was openly shared with the Applicants. The local offices of the MNR, SNCA and DFO also were actively engaged to provide input to the Director. A face-to-face meeting was arranged with the applicants to discuss their concerns and enable them to pose their questions directly to technical staff.

The MOE SEV

64. The Ministry's SEV provides that when making decisions on Acts, Regulations and Policies, the Ministry will consider a range of factors. The key factors relevant to this decision include the ecosystem approach, cumulative effects, a precautionary approach, and best science. The manner in which I took these principles into consideration is set out in the following paragraphs.
65. The ecosystem must be considered under section 4 of O. Reg. 387/04. As the factors I took in account as set out in paragraphs 58 and 59 above apply equally to the ecosystem approach consideration under the Ministry's SEV, I have not repeated them here.
66. The applicants contend that the Leitrim Wetland is habitat for fish, waterfowl and potential Blandings Turtle habitat. I engaged the MNR District Ecologist to gain insight as to the potential of the Leitrim wetland to be potential habitat for Blandings Turtle. As set out in the affidavit of Shaun Thompson, MNR does not consider the Leitrim wetland to be significant habitat for Blandings Turtle.
67. Cumulative effects refers to the impacts associated with multiple takings over a period of time, and at the largest scale, can constitute an assessment at the watershed or aquifer level. At the Findlay Creek Village, there is only one significant taking of the groundwater and surface water occurring in this area over successive periods of time. The impacts associated

with these successive water takings have been assessed, and found not to have caused a change in the groundwater level trend. The example of cumulative effects where multiple water takers (such as several subdivisions, or a subdivision and a few quarries, or multiple quarries, or subdivisions and a golf course etc) taking water over the same period of time that were all drawing water from the same aquifer or surface water bodies does not apply in this case.

68. A precautionary approach was taken in issuing the permit. The groundwater trigger levels are set to prevent any long term change in the groundwater level trend, which I consider to be unlikely to occur in the first place, from possibly occurring. The proponent had requested that the trigger levels be lowered based on more recent data, but this was rejected as the trigger levels set through the DFO authorization had been previously accepted by all the agencies involved. The DFO authorization had been issued on the basis that the baseflow in Findlay Creek is 40 L/s, but this permit requires up to 60 L/s to be diverted and discharged on a regular basis to maintain the aquatic environment downstream of the Phase 2 Findlay Creek Construction work. The permit requires an extensive vegetation monitoring program in the Leitrim PSW, including measuring peat moisture levels, to ensure that impacts in the wetland as a result of the water taking are not being detected. The permit not only requires extensive monitoring, but reporting to the Ministry of the results of the monitoring such that appropriate mitigative measures can be implemented if required prior to any significant impacts occurring.
69. The applicants state that in making decisions the Ministry did not use the best science available. In order to support the application for the groundwater takings, the permit holder was required to submit a hydrogeological report prepared by a qualified professional in accordance with the PTTW Manual. The hydrogeological report along with supporting information on surface water takings were reviewed by qualified technical staff at the MOE as well as staff at the MNR. The Director required the permit holder to submit additional information on numerous occasions to address the concerns of MOE and MNR technical staff. Comments provided by the applicants experts as well as other members of the public

that commented through the EBR Registry process were taken into consideration by technical review staff in forming their conclusions.

70. In my opinion, the activities carried out by Dr. Topp fall within the definition of the practice of professional geoscience as defined under the *Professional Geoscientists Act, 2000*. To the best of my knowledge, Dr. Topp is not licensed or otherwise exempt from the requirements of the *Professional Geoscientists Act, 2000*.
71. I further considered the relationship between the environment, society and the economy in issuing this permit. I noted that the Findlay Creek housing development has been approved on many levels and is legally authorized to proceed. If it is feasible to issue a permit to authorize the water takings necessary to facilitate this development proceeding in a manner that is protective of the environment, it would strike a balance between environmental protection and other societal goals.

PTTW Manual

72. The decision to issue the permit is consistent with the Guiding principles set out in the PTTW Manual.
73. Principle # 1 requires the Ministry to use an ecosystem approach. The ecosystem must be considered under section 4 of O. Reg. 387/04 and the *SEV*. As the factors I took in account as set out in paragraphs #57 to #58 above apply equally to the ecosystem approach consideration under the PTTW Manual, I have not repeated them here.
74. Principle # 3 requires the Ministry to employ adaptive management to better respond to evolving environmental conditions. The permit contains conditions to monitor, evaluate and adjust water taking, including to cease taking water if required.
75. Principle # 4 requires the Ministry to consider the cumulative impacts of water takings. The Ministry has taken this principle into consideration in that there are no cumulative water

takings at this site, as opposed to successive water takings from a single source. The impacts of successive water takings have been taken into consideration.

76. Principle # 5 requires the Ministry to incorporate risk management principles into the permit application and review process. In regards to the surface water component of the application, this is a simple “take and return” type of water taking, that on its own, would be considered a Category 2 application of moderate risk not requiring a detailed technical review. The groundwater component of the application is considered a Category 3 type of taking to which a higher risk is assigned and which required the Ministry to undertake a detailed technical review.
77. Principle #6 requires the Ministry to promote public and agency involvement. As described under paragraph 63, the Ministry went to significant efforts to engage both the public and local agencies.
78. The review of the surface water takings was consistent with the principles of the PTTW Manual set out on the bottom of page 14 and the top of page 15. Mr. Cruikshank initially indicated that all the flow in Findlay Creek must be diverted as the manual stipulates that for simple diversions such as diversions during construction activities, the water must be returned back to the same source unchanged in quality beyond acceptable limits and at rates and amounts similar to the rate of taking and reasonably close to the point of withdrawal. Examples of such takings include: diversions during construction. However, it is also noted on page 15 that a different flow will be considered when the necessary assessments have been completed as part of a previously approved surface water taking study. A surface water study had been completed as part of the DFO authorization and had determined that a baseflow of 40 L/s was adequate. This permit requires a baseflow of 60 L/s be maintained.
79. The review was also consistent with the requirements for the evaluation of what impacts the taking may have on habitat. On page 18 of the manual, it is noted that “in its review of permits to take surface water, the Ministry may impose conditions related to the variability

of water flow or water levels in order to protect habitat. In its review of permits to take groundwater, the Ministry may impose conditions related to maintenance of water levels, maintenance of base flow quantity and quality to protect habitat.” It is also noted that the Ministry will rely on other responsible agencies, including MNR, DFO and conservation authorities, which was done in this case.

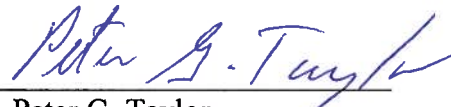
80. Similarly, the groundwater takings were assessed as required by the PTTW manual on pages 19 to 22, including a scientific study was submitted by a qualified person (Paul Smolkin, an Professional Engineer) to support the application and a full technical review was conducted by the Ministry.

AFFIRMED BEFORE ME at the City of Kingston in
the Province of Ontario

this 8th day of June, 2009.

)
)
)
)
)
)


A Commissioner, etc.


Peter G. Taylor

Marie Claire Suzanne Gervais, a
Commissioner, etc., Province of Ontario,
for the Government of Ontario, Ministry
of the Environment.
Expires October 22, 2011.

