



Township of Wellington North

P.O. Box 125 • 7490 Sideroad 7 W • Kenilworth • ON • N0G 2E0

Special Meeting of Council

Monday, September 30, 2013 at 5:00 p.m.

Municipal Office Council Chambers, Kenilworth

AGENDA

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AGENDA ITEM	PAGE NO.
A. <u>CALLING THE MEETING TO ORDER</u> - Mayor Raymond Tout	
B. <u>DECLARATION OF PECUNIARY INTEREST</u>	
C. <u>PURPOSE OF MEETING</u> To consider: - a report from Stephen Nutt, M.Eng., P.Eng, Senior Consultant, XCG Consultants Ltd. regarding Arthur WWTP Class EA - Correspondence from Golden Valley Farms requesting increase in average daily flow to sewer To consider authorization of a Road Use Agreement and By-law To conduct a Closed Meeting to consider a Personnel matter regarding labour relations (Sec. 239 (2) (d))	

AGENDA ITEM	PAGE NO.
<p>D. <u>DELEGATIONS, DEPUTATIONS, PETITIONS, PRESENTATIONS</u></p> <p>1. Stephen Nutt, M.Eng., P.Eng, Senior Consultant, XCG Consultants Ltd.</p> <ul style="list-style-type: none"> - Technical Memorandum Assimilative Capacity Study Arthur WWTP Class EA, dated April 12, 2013 - Memorandum Mixing Zone Analysis, dated August 19, 2013 - Correspondence dated August 13, 2013 from Keith Hehn, Plan Manager, Golden Valley Farms Inc. regarding request for increase in Average Daily Flow to sewer to meet Golden Valley Farms future production demand - Correspondence dated August 19, 2013 from Stephen Nutt, M.Eng., P.Eng, Senior Consultant, XCG Consultants Ltd. regarding request for increase in Average Daily Flow to sewer to meet Golden Valley Farms future production demand 	<p>01</p> <p>21</p> <p>25</p> <p>27</p>
<p>E. <u>BY-LAW</u></p> <p>1. Report from Deb Zehr, Director of Public Works regarding Road Use Agreement By-law Number 83-13 being a by-law to authorize a Road Use Agreement (former Township of West Garafraxa)</p>	<p>28</p> <p>30</p>
<p>F. <u>CLOSED MEETING SESSION</u></p> <p>1. "Personnel" matter to consider labour relations (Sec. 239 (2) (d))</p>	
<p>G. <u>CONFIRMING BY-LAW NO. 84-13, BEING A BY-LAW TO CONFIRM THE PROCEEDINGS OF COUNCIL</u></p>	
<p>H. <u>ADJOURNMENT</u></p> <p style="text-align: right;">Catherine More, Deputy Clerk</p>	



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XCG File No.: 3-3167-01-01

April 12, 2013

**TECHNICAL MEMORANDUM
ASSIMILATIVE CAPACITY STUDY
ARTHUR WWTP CLASS EA**

Prepared for:

THE TOWNSHIP OF WELLINGTON NORTH
7490 Sideroad 7 W, PO Box 125
Kenilworth, Ontario
M0G 2E0

Attention: Barry Trood
Water & Sewer Superintendant

Prepared by:

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1. INTRODUCTION

The Arthur Wastewater Treatment Plant (WWTP) provides tertiary treatment for wastewater generated in the Village of Arthur. The plant is operated under Ministry of the Environment (MOE) Certificate of Approval (CofA) No. 3-1256-88-908 issued August 9, 1990. The Arthur WWTP has an average day CofA rated capacity of 1,465 m³/d. During the period from May 1 to September 15, flow from the secondary treatment system is pumped to holding ponds for storage (approximately 340,000 m³ of storage is available). During the period from September 16 to April 30, and provided that there is sufficient river flow in the Conestogo River, effluent from the plant can be discharged to the Conestogo River. During this discharge period, the holding pond contents are combined with the plant's secondary clarifier effluent, and this flow is then treated by the tertiary filters and UV disinfection system. Treated effluent is then conveyed through a 375 mm outfall pipe and discharges into the Conestogo River from the bank of the river.

The Township of Wellington North (the Township) is undertaking a Class Environmental Assessment (Class EA) to identify the preferred approach to treat future wastewater flows from the Village of Arthur that are estimated to increase during the planning period to an average day flow (ADF) of 2,300 m³/d. As part of the Class EA, an Assimilative Capacity Study is being undertaken to determine the level of treatment that would be needed for an expanded Arthur WWTP to be protective of the receiving stream. This Technical Memorandum (TM) presents the findings of the assimilative capacity assessment and proposes effluent objectives and limits for an expanded Arthur WWTP.

1.1 Objectives

The objectives of this analysis are:

- To determine representative background water quality for the Conestogo River in the vicinity of the Arthur WWTP;
- To determine 7Q20 low flows in the Conestogo River upstream of the Arthur WWTP;
- To conduct an assimilative capacity assessment of the receiving waters; and
- To formulate reasonable recommendations for effluent limits and objectives for an expanded Arthur WWTP based on MOE Water Management: Policies, Guidelines, Provincial Water Quality Objectives (July 1994).

1.2 General Approach

In order to satisfy the objectives of the assimilative capacity assessment, the following approach for each of the necessary components was completed.

1. Define Background Water Quality: Representative background water quality can be defined by examining water quality in the vicinity of the wastewater discharge. For analysis purposes, the 75th percentile threshold is applied to



characterize ambient conditions, as recommended by the MOE¹. The MOE states, "Normally the 75th percentile is used to determine background quality..."

2. Define Low Flows: Low-flow estimates are generated for each season using historical stream flow records. These estimates are critical for defining the amount of assimilative capacity available in the receiver.
3. Assimilative Capacity Analysis: Receiver water quality impacts are determined for each water quality parameter based on the effluent limits determined to be in compliance with MOE Guideline F-5², MOE Blue Book³ (MOE, 1994) and CEPA requirements⁴.
4. Formulation of Recommended Effluent Limits: Based on the work completed in steps one through effluent limits for the Arthur WWTP can be generated.

1.3 Existing Effluent Limits

The Arthur WWTP operates under CofA No. 3-1256-88-908 which defines the effluent limits. The existing limits are shown in Table 1. The CofA does not define effluent objectives.

Table 1 Existing Effluent Limits for Arthur WWTP

Parameter	Average Annual Concentration (mg/L)	Average Monthly Concentrations (mg/L)	Average Loading (kg/d)
5 Day Biochemical Oxygen Demand (BOD ₅)	10	15	14.65
Total Suspended Solids (TSS)	10	15	14.65
Total Phosphorus (TP)	1.0	1.0	1.47
Total Ammonium Nitrogen (TAN)	1.5	2.3	2.2
Fecal Coliforms	200 cfu/100 mL	-	-

¹ Ministry of Environment and Energy, Procedure 1-5: Deriving Receiving-Water Based, Point-Source Effluent Requirements for Ontario Waters, July 1994. (MOE Green Book)

² Ministry of Environment and Energy, Guideline F-5: Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters, April 1994.

³ Ministry of Environment and Energy, Water Management: Policies, Guidelines, Provincial Water Quality Objectives, July 1994. (MOE Blue Book)

⁴ Canadian Environmental Protection Act, 1999. <http://laws.justice.gc.ca/en/c-15.31/>



2. ANALYSIS OF BACKGROUND DATA

2.1 *Applicable MOE Policies*

Two specific water quality policies from the MOE Blue Book have been applied to each water quality parameter in assessing the receiving stream: MOE Policy 1 and MOE Policy 2. Both of these policies consider the surface water quality in comparison to the Provincial Water Quality Objectives (PWQO). For areas where water quality is better than the PWQO, Policy 1 applies. Policy 2 refers to areas where water quality does not meet the objectives. The policy statements from the MOE Blue Book are as follows:

MOE Policy 1

In areas which have water quality better than the Provincial Water Quality Objectives, water quality shall be maintained at or above the Objectives.

MOE Policy 2

Water quality which presently does not meet the Provincial Water Quality Objectives shall not be degraded further and all practical measures shall be taken to upgrade the water quality to the Objectives.

2.2 *Ambient Water Quality*

Triton Engineering Services Limited conducts monthly water sampling at several locations in The Township of North Wellington. Collected samples are analyzed for numerous parameters including those of interest in assimilative capacity assessments (total phosphorus, ammonia, pH, temperature, BOD₅, dissolved oxygen, total suspended solids and *E.coli*). The data collected as part of this ongoing monitoring program was used to define ambient water quality upstream of the Arthur WWTP.

The closest upstream station to the Arthur WWTP is located on the Conestogo River at Wellington Road 109 which is approximately 2.7 km upstream of the WWTP and has a period of record from 2007 to 2012. The location of the monitoring station relative to the Arthur WWTP outfall is shown in Figure 1.

Ambient water quality conditions were characterized on a seasonal basis as follows:

- a. Winter: January–March
- b. Spring: April–June
- c. Summer: July–September
- d. Fall: October–December



Figure 1 WWTP Outfall and Wellington Road 109 Sampling Location

2.2.1 Total Phosphorus

The MOE Provincial Water Quality Objectives (PWQO) state that the interim guideline for total phosphorus (TP) in rivers is 0.03 mg/L to prevent excessive plant growth in river and streams.

Seasonal statistics were calculated for each station and are shown in Table 2. A review of the statistics suggests that the Conestogo River upstream of the Arthur WWTP is MOE Policy 2 for TP year round.

Table 2 Total Phosphorus at Wellington Road 109

Season	Mean Concentration (mg/L)	75th Percentile Concentration (mg/L)	Number of Observations
Winter (Jan - Mar)	0.050	0.061	24
Spring (Apr - Jun)	0.023	0.026	21
Summer (Jul - Sep)	0.044	0.040	17
Fall (Oct - Dec)	0.049	0.034	13
Annual	0.041	0.042	75

2.2.2 Un-ionized Ammonia

The MOE PWQO for un-ionized ammonia (UIA) is 0.02 mg/L (20 µg/L). The percentage of UIA in aqueous solution varies depending on the temperature and pH of the water. In order to determine the 75th percentile in stream UIA, it is necessary to calculate the 75th percentile of the calculated UIA based on synoptic measurements of



pH, temperature, and ammonia. Calculated concentrations of UIA upstream of the Arthur WWTP are presented in Table 3. The table shows that for all seasons the receiver is Policy 1 with respect to UIA.

Table 3 Un-ionized Ammonia (UIA) at Wellington Road 109

Season	Mean Concentration (mg/L)	75th Percentile Concentration (mg/L)	Number of Observations
Winter (Jan - Mar)	0.004	0.005	16
Spring (Apr - Jun)	0.005	0.006	18
Summer (Jul - Sep)	0.005	0.007	12
Fall (Oct - Dec)	0.003	0.005	8

For information purposes the 75th percentiles of ammonia, pH and temperature are shown in Tables 3, 4 and 5, respectively. With respect to pH, the 75th percentile values upstream of the Arthur WWTP lie at the edge of the PWQO range of 6.5 - 8.5 and therefore the receiver is MOE Policy 1 with respect to pH.

Table 4 Total Ammonia at Wellington Road 109

Season	Mean Concentration (mg/L)	75th Percentile Concentration (mg/L)	Number of Observations
Winter (Jan - Mar)	0.12	0.15	24
Spring (Apr - Jun)	0.07	0.09	21
Summer (Jul - Sep)	0.07	0.08	17
Fall (Oct - Dec)	0.07	0.08	13
Annual	0.12	0.15	24

Table 5 pH at Wellington Road 109

Season	Mean (-)	75th Percentile (-)	Number of Observations
Winter (Jan - Mar)	8.3	8.5	22
Spring (Apr - Jun)	8.4	8.5	20
Summer (Jul - Sep)	8.2	8.5	13
Fall (Oct - Dec)	8.4	8.5	14
Annual	8.3	8.5	69



Table 6 Temperature at Wellington Road 109

Month	Mean (°C)	75 th Percentile (°C)	Number of Observations
January	0.1	0.0	8
February	0.0	0.1	7
March	2.1	2.3	8
April	7.6	10.4	9
May	14.0	17.1	6
June	18.0	19.1	6
July	18.8	19.2	5
August	18.1	18.8	6
September	12.6	14.3	3
October	7.0	8.2	6
November	2.0	3.2	5
December	0.7	1.2	5

2.2.3 BOD₅ and Dissolved Oxygen

Many of the BOD₅ concentrations in the database were less than the minimum detection limit of 2 mg/L. For the purposes of this analysis these values were replaced with the minimum detection value of 2 mg/L; this will result in conservative estimates of the mean and 75th percentile concentrations. Table 7 summarizes the BOD₅ concentrations. The calculated 75th percentile concentrations of BOD₅ upstream of the Arthur WWTP suggest that there is assimilative capacity available for BOD₅.

Table 7 BOD₅ at Wellington Road 109

Season	Mean Concentration (mg/L)	75 th Percentile Concentration (mg/L)	Number of Observations
Winter (Jan - Mar)	2.0	2.0	24
Spring (Apr - Jun)	2.1	2.0	21
Summer (Jul - Sep)	2.0	2.0	17
Fall (Oct - Dec)	2.1	2.0	13
Annual	2.1	2.0	75

For dissolved oxygen (DO), low concentrations are indications of degraded water quality; therefore 25th percentiles are used, rather than 75th percentiles, to characterize ambient conditions. The PWQO for DO, for cold water fisheries, varies from 5 mg/L during the summer to 8 mg/L during the winter, depending on temperature.



The DO concentrations reported in Table 8 show that the 25th percentile concentrations are less than the PWQO during June to September. Based on this the receiver upstream of the Arthur WWTP is Policy 2 from June to September and Policy 1 with respect to DO for the remaining months.

Table 8 Dissolved Oxygen at Wellington Road 109

Month	Mean Concentration (mg/L)	25 th Percentile Concentration (mg/L)	PWQO ⁽¹⁾ (mg/L)	Number of Observations (mg/L)
January	11.3	11.0	8	8
February	12.2	12.0	8	7
March	11.3	9.9	8	8
April	10.7	10.4	6	9
May	6.6	5.9	5	6
June	4.3	3.9	5	5
July	4.1	3.6	5	5
August	3.7	3.1	5	6
September	6.2	5.4	6	3
October	9.1	9.5	7	5
November	10.6	10.1	8	5
December	11.3	12.6	8	5

Notes:
 1. The PWQO values applied was based on the 75th percentile monthly temperatures shown in Table 6.

2.2.4 Total Suspended Solids

There is no PWQO for total suspended solids (TSS); however, in-stream concentrations less than 5 mg/L are generally considered good. TSS statistics are shown in Table 9. The seasonal values upstream of the Arthur WWTP are all above 5 mg/L.



Table 9 TSS at Wellington Road 109

Season	Mean Concentration (mg/L)	75th Percentile Concentration (mg/L)	Number of Observations
Winter (Jan - Mar)	8.5	8.8	24
Spring (Apr - Jun)	8.5	10.8	21
Summer (Jul - Sep)	15.2	16.0	17
Fall (Oct - Dec)	13.8	8.8	13
Annual	10.9	10.9	75

2.2.5 E. Coli

The PWQO for *E. coli* is 100 cfu/100mL for recreational water use. Table 10 shows that the PWQO is exceeded in all seasons and on an annual basis upstream of the Arthur WWTP; therefore, the receiver is Policy 2 with respect to *E. coli*.

Table 10 E. coli at Wellington Road 109

Season	Median Concentration (cfu/100mL)	75th Percentile Concentration (cfu/100mL)	Number of Observations
Winter (Jan - Mar)	56	151	24
Spring (Apr - Jun)	60	110	21
Summer (Jul - Sep)	100	190	17
Fall (Oct - Dec)	96	131	13
Annual	80	130	75

2.3 Stream flow

The drainage area to the Arthur WWTP is approximately 60 km². There is a stream flow gauge located just upstream of the Arthur WWTP discharge location. Instantaneous level measurements are made at the flow gauge and are converted to flow using a rating curve developed at the location by the MOE when the gauge was first instituted. In 2011, the Grand River Conservation Authority completed a draft memo "Flow Series - Conestogo River Arthur" that examined the flow data that had been collected at the location. It was found that there were some missing data and that flows less than 0.17 m³/s or greater than 8.36 m³/s did not correspond well with the flow duration curve of the downstream station (Conestogo River above Drayton). To address this problem, a modified Arthur WWTP stream flow series was developed to replace missing data, and to correct flows less than 0.17 m³/s and flows greater than 8.36 m³/s. This modified dataset is thought to be an improvement over the original dataset and, while there is still uncertainty associated with the dataset it provides the best available estimate for stream flow. The modified dataset covers the period from 1994 - 2012.



ANALYSIS OF BACKGROUND DATA

The monthly 7Q₂₀ flow values were calculated using the method of Lowest Observed Drought for the Conestogo River at the Arthur WWTP. The resultant flows are presented in Table 11. A review of the flows suggests that discharging June through September is not advisable; however, discharging the entirety of May appears to be possible. Restricting discharge from June through September is critical based on the extreme low flows which would allow for almost no dilution of the treated wastewater effluent. In May, there is sufficient flow and assimilative capacity to allow for dilution.

Table 11 Monthly 7Q₂₀ Flows in the Conestogo River at Arthur WWTP

Season	7Q20 Flow Conestogo River at Arthur WWTP (m ³ /s)
January	0.054
February	0.039
March	0.063
April	0.087
May	0.053
June	0.005
July	0.005
August	0.006
September	0.005
October	0.022
November	0.076
December	0.060



3. ASSIMILATIVE CAPACITY ANALYSIS

3.1 Un-ionized Ammonia

With regards to un-ionized ammonia (UIA), the expanded plant must produce an effluent that is not acutely toxic. For the purposes of this analysis, a non-toxic UIA concentration of 0.2 mg/L was applied to develop compliance limits; a UIA concentration of 0.1 mg/L was used to develop the design objectives.

In the federal Wastewater Systems Effluent Regulations under the Fisheries Act, effluent toxicity limits are set to 1.25 mg/L UIA (at 15°C). The assumption of UIA toxicity at 0.2 mg/L as discussed above is more stringent and thus the effluent limits discussed below are more conservative than required by the federal regulation and would comply with the new regulation.

Further, the effluent ammonia load must be sufficiently low to ensure that under fully mixed conditions in the receiver, the resultant UIA concentration does not exceed the PWQO and thereby result in Policy 2 conditions.

The percentage of UIA in aqueous solution varies depending on the temperature and pH of the water. To determine acceptable ammonia effluent limits, it is necessary to identify the 75th dissociation percentage that would be UIA based on synoptic measurements of pH and temperature (taken at the same time) in the effluent and in the receiver.

Table 12 shows the dissociation ratios, ammonia concentrations and resultant UIA concentrations. Under 7Q₂₀ flow conditions with a TAN effluent concentration of 0.65 mg/L-N the effluent is non-toxic at the end of pipe and does not exceed the PWQO under fully mixed conditions.



Table 12 Ammonia Effluent Limit Determination

Season	Maximum Daily Discharge ⁽¹⁾ (m ³ /d)	Dissociation Ratio ⁽²⁾		Ammonia (mg/L-N)		Un-ionized Ammonia (mg/L-NH ₃)	
		Effluent	Fully Mixed	Effluent	Fully Mixed	Effluent	Fully Mixed
January	6,500 ⁽³⁾	0.017	0.035	0.65	0.44	0.013	0.019
February	6,500	0.017	0.035	0.65	0.48	0.013	0.020
March	6,500 ⁽³⁾	0.017	0.035	0.65	0.42	0.013	0.018
April	2,150	0.019	0.078	0.65	0.21	0.015	0.020
May	1,300	0.019	0.078	0.65	0.21	0.015	0.020
June	0	-	-	0.65	-	-	-
July	0	-	-	0.65	-	-	-
August	0	-	-	0.65	-	-	-
September	0	-	-	0.65	-	-	-
October	1,000	0.038	0.06	0.65	0.28	0.03	0.02
November	3,550	0.038	0.06	0.65	0.28	0.03	0.02
December	2,800	0.038	0.06	0.65	0.28	0.03	0.02

Notes:

1. Maximum daily discharge was calculated based on an ammonia mass balance between effluent and monthly 7Q20 flows to ensure that effluent discharges did not result in Policy 2 status under fully mixed conditions.
2. Dissociation ratios were calculated on a seasonal basis due to the small monthly sample sizes
3. Effluent outflow constrained by outlet works.

The existing plant discharges based on a series of curves that have been developed for each month. These curves identify the allowable effluent discharge based on the effluent TAN concentration and the streamflow. Similar curves have been developed for the proposed WWTP expansion. The curves identify the effluent discharge based on streamflow and effluent TAN concentration; the provided curves ensure that the end of pipe UIA concentration is less than 0.2 mg/L and the fully mixed concentration does not exceed the PWQO of 0.02 mg/L UIA. The curves are shown in Figure 2 through Figure 9. The use of the curves requires that reasonable estimates of streamflow can be made. To that end, it is necessary to ensure that a reasonable rating curve exists for the streamflow gauging station. Given that the stream bed in the vicinity of the gauge does change, it is recommended that the rating curve be periodically updated.

Canadian Environmental Protection Act (CEPA) requirements for ammonia were also considered. CEPA defines ammonia as “toxic” under Section 64 due to its deleterious effect on several species of freshwater organisms, and ammonia appears on the Priority Substances List (PSL). Also, if total ammonia (NH₃ + NH₄) in the effluent exceeds 20 mg/L (or 16 mg/L NH₃-N) during the months of June through the end of September, and pH exceeds 7.5, CEPA would require preparation of a



ASSIMILATIVE CAPACITY ANALYSIS

pollution prevention plan. These limits are applicable for wastewater flows in excess of 5,000 m³/d. The final proposed ammonia (TAN) concentrations for the Arthur WWTP will meet CEPA requirements.

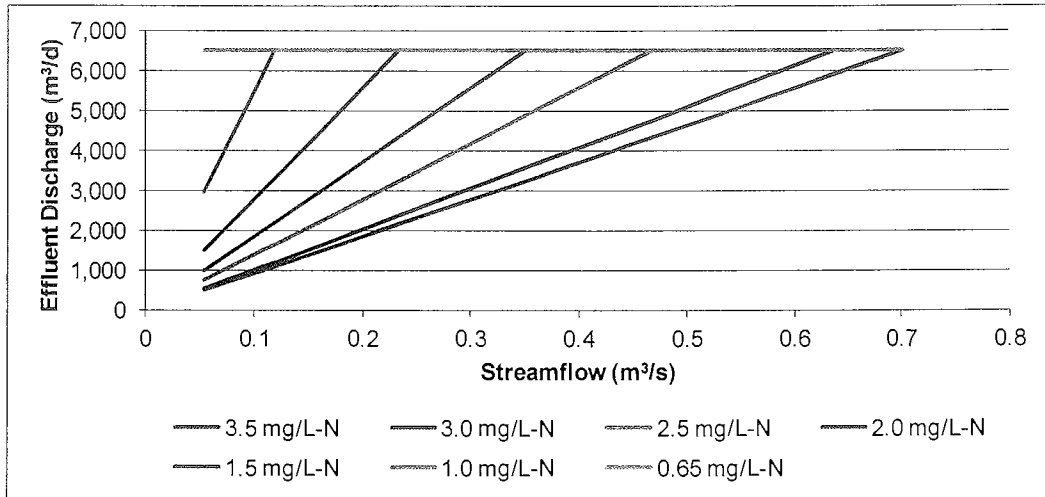


Figure 2 January Arthur WWTP Discharge Curve

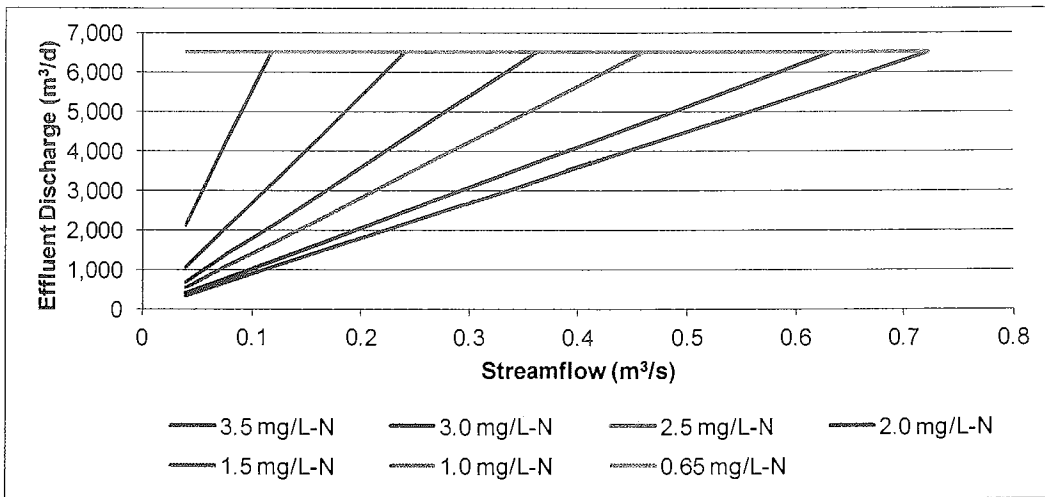


Figure 3 February Arthur WWTP Discharge Curve



ASSIMILATIVE CAPACITY ANALYSIS

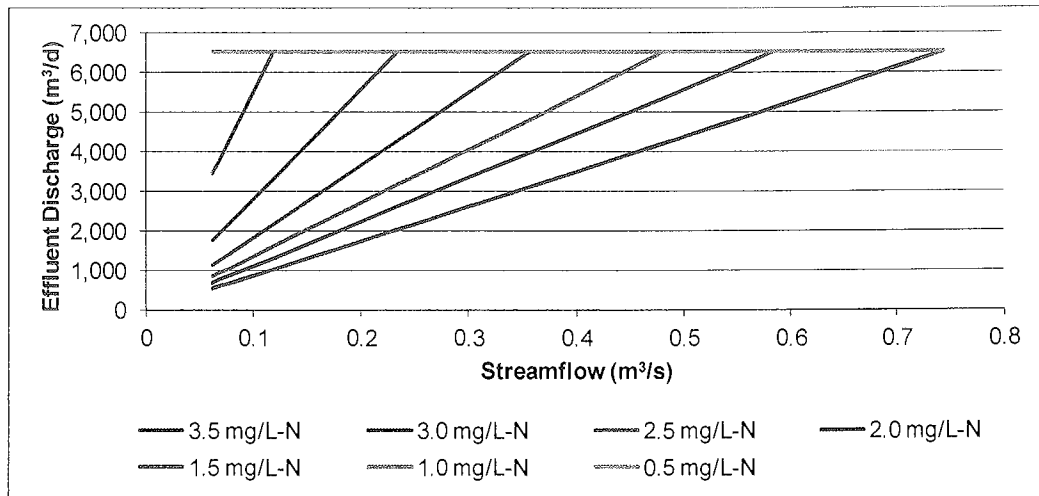


Figure 4 March Arthur WWTP Discharge Curve

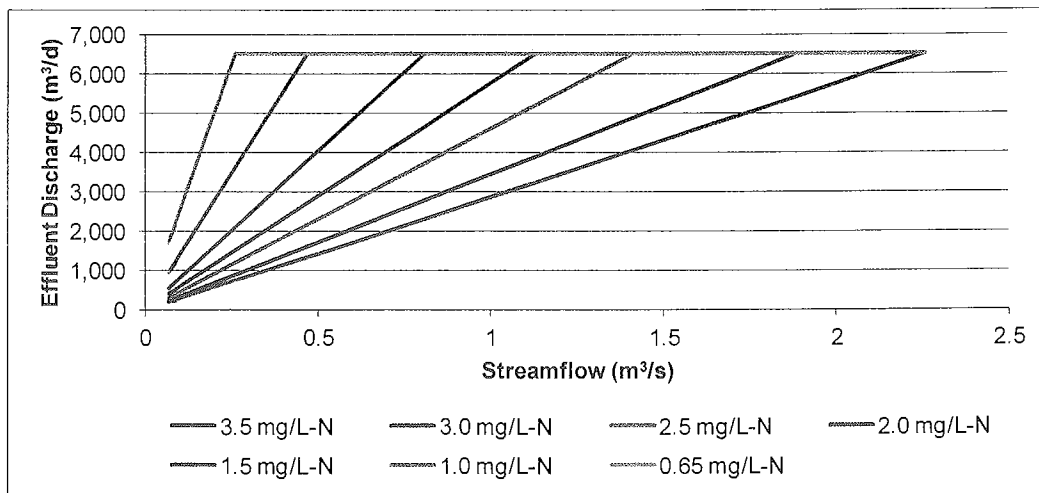


Figure 5 April Arthur WWTP Discharge Curve



ASSIMILATIVE CAPACITY ANALYSIS

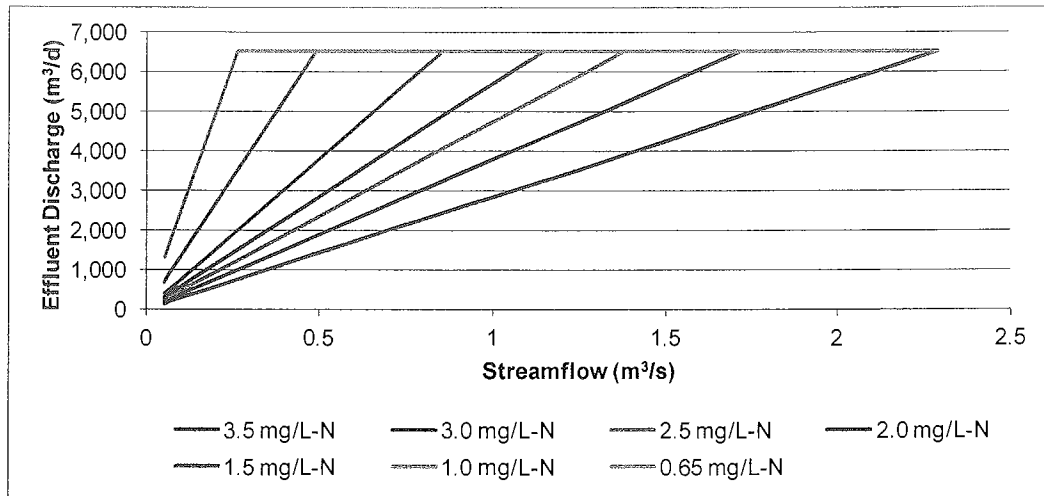


Figure 6 May Arthur WWTP Discharge Curve

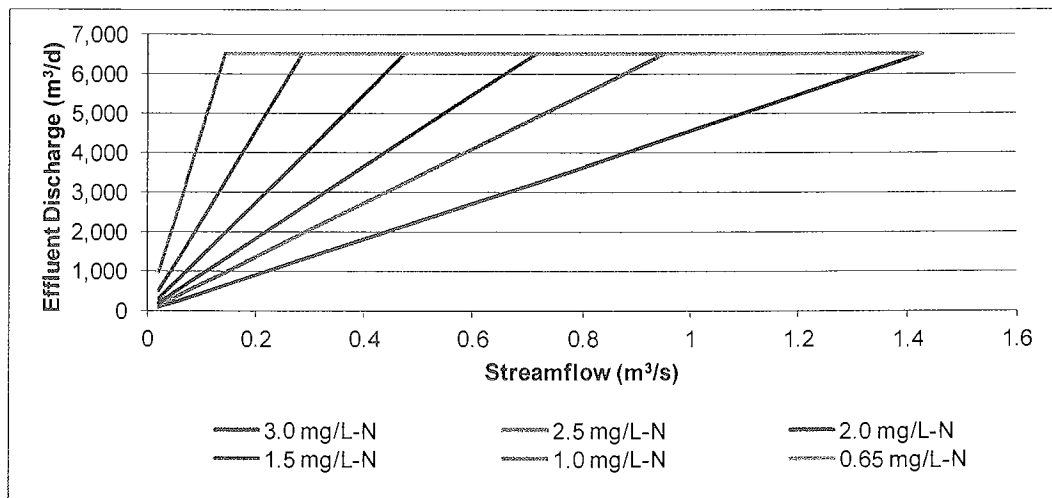


Figure 7 October Arthur WWTP Discharge Curve

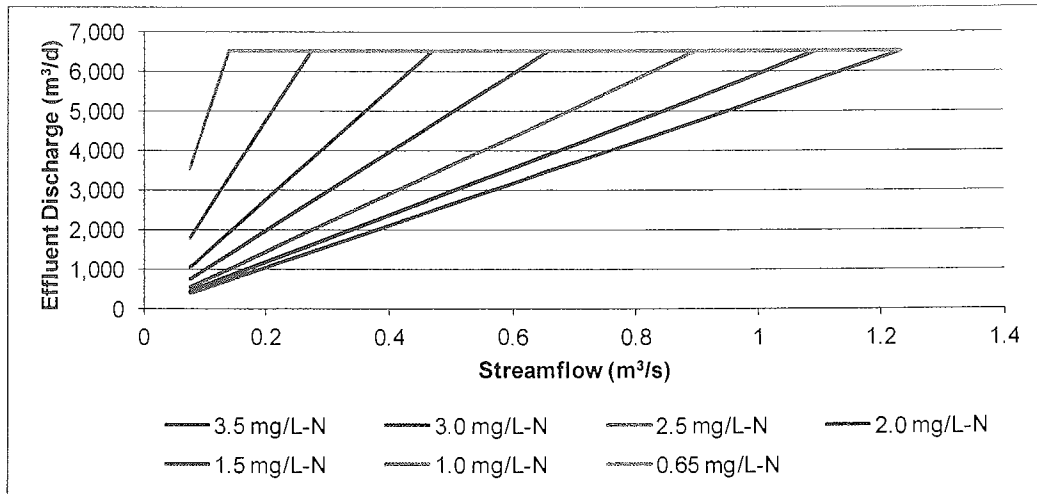


Figure 8 November Arthur WWTP Discharge Curve

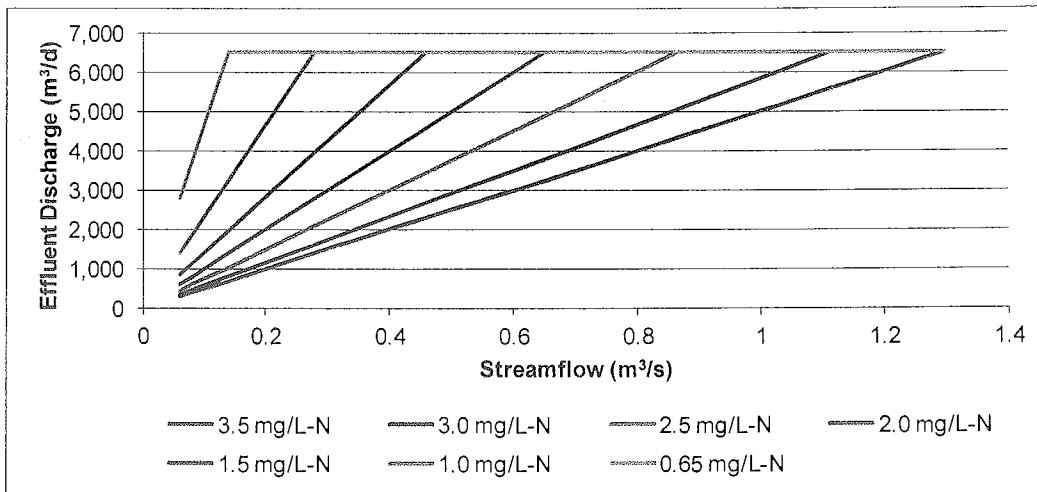


Figure 9 December Arthur WWTP Discharge Curve

3.2 Total Phosphorus

The receiver is MOE Policy 2 status and the existing compliance loading must not be exceeded. The permitted average daily load based on the CofA is 1.47 kg/d. The proposed TP limit for an expanded Arthur WWTP is 0.3 mg/L TP which results in an average daily load of 0.69 kg/d. This is a significant reduction relative to the currently permitted effluent TP loading. A design objective of 0.2 mg/L TP is proposed.

3.3 BOD₅ and Dissolved Oxygen

A review of the ambient conditions for ambient and DO suggests that there is adequate assimilative capacity available for BOD₅ from October through May. Based on this information, it is proposed to set the effluent cBOD₅ compliance limit to 10 mg/L with a design objective of 5 mg/L.



3.4 Total Suspended Solids

There are high ambient TSS concentrations in the Conestogo River. Effluent discharges should try and minimize increases in TSS concentrations in the receiver. It is proposed that the effluent TSS compliance limit be 10 mg/L and the design objective be 5 mg/L.

3.5 E. Coli

Given that the receiver is Policy 2 with respect to *E. coli*, a compliance level of 100 CFU / 100 mL is proposed (annual geometric mean).

3.6 Storage Requirements

During June through September, there will be no discharge from the plant to the Conestogo River. Further, not all months can discharge an effluent flow rate greater than or equal to the ADF of 2,300 m³/d (see Table 12). Thus, effluent storage is required.

Based on the maximum effluent discharge flow rates (determined based on monthly 7Q20 flows) shown in Table 12, the required storage is estimated at 357,000 m³ based on the flow scenario shown in Figure 10 at the proposed future design flow of 2,300 m³/d and based on the conservative assumption of 7Q20 monthly flows (higher streamflows would allow for higher effluent discharge rates and less storage). The existing facility has storage of about 340,000 m³ in the current holding ponds. Therefore, options to provide additional storage for the expanded Arthur WWTP will need to be considered to accommodate the proposed discharge flow limits.

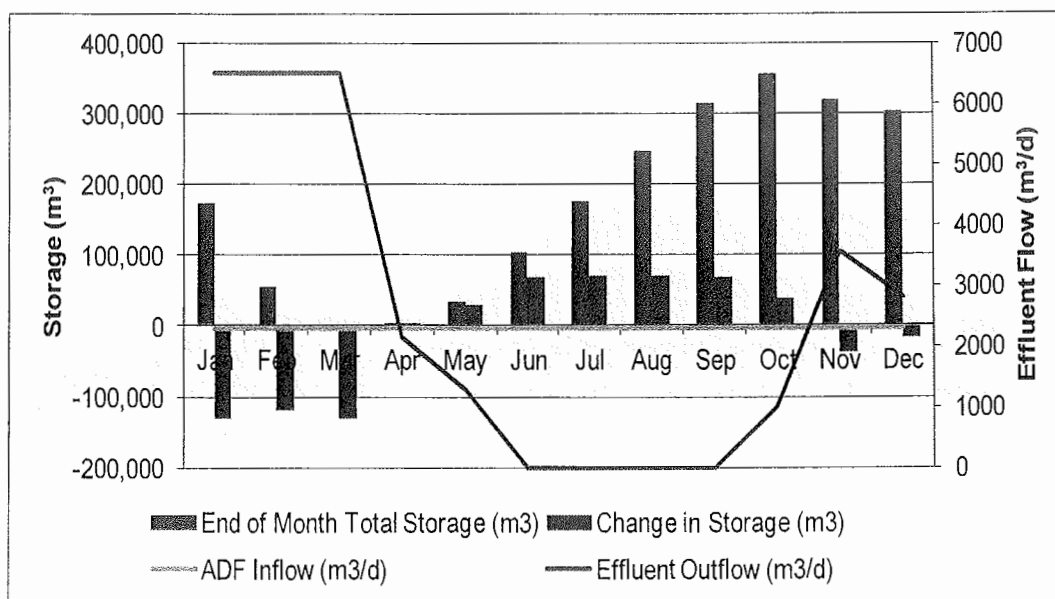


Figure 10 Effluent Flow and Storage Requirements under 7Q₂₀ Conditions



4. SUMMARY AND RECOMMENDATIONS

4.1 Summary of Findings

Key findings of this assimilative capacity assessment analysis for the Arthur WWTP expansion are as follows:

- Based on available water quality data upstream of the Arthur WWTP outfall, the Conestogo River is MOE Policy 1 for UIA, pH and dissolved oxygen (concentrations of DO fall below the PWQO from June through September and are Policy 2 during these months). The receiver is Policy 2 upstream of the Arthur WWTP with respect to total phosphorus and *E. coli*. Concentrations of TSS are high in the receiver upstream of the Arthur WWTP.
- Low flow analysis was completed on the GRCA generated record for the streamflow gauge located immediately upstream of the WWTP. The low flow analysis suggests that a suitable discharge period is from October through May.
- The proposed TP limit is 0.3 mg/L which results in an average load of 0.69 kg/d which is a substantial reduction in comparison to the current approved loading of 1.47 kg/d.
- The UIA concentration at the end of pipe must be non-toxic and the resulting fully mixed concentrations cannot exceed the PWQO. Ammonia concentrations that can satisfy these criteria at a given streamflow for a defined effluent flow rate have been developed for each month.
- There is a need to maintain and update the rating curve used for streamflow estimates at the plant.
- The expanded plant would require approximately 360,000 m³ of storage to hold flows for months where no discharge or limited discharge is allowed. Options to provide additional storage for the expanded Arthur WWTP will need to be considered.

4.2 Recommended Effluent Limits and Effluent Objectives

Table 13 shows the recommended Arthur WWTP compliance limits and effluent objectives.

Table 13 Recommended Design Objectives and Compliance Limits

Effluent Parameter	Design Objectives	Compliance Limits
cBOD ₅ (mg/L)	5	10
Total Suspended Solids (mg/L)	5	10
Total Phosphorus (mg/L)	0.2	0.3
Un-ionized Ammonia (mg/L)	0.1	0.2
<i>E. coli</i> (CFU/100 mL)	-	100



XCG CONSULTANTS LTD.
T 613 942-5885 F 613 962-0844 | Kingstonxcg.com
6 Calabroqui Street, Woolen Mill, West Wing, Suite 109, Kingston, Ontario, Canada K7E 1Z7

Date: August 19, 2013 **XCG File No.: 3-3167-01-01**

To: Lindsey Burzese (LB), Ministry of Environment (Ministry of Environment)

cc: Barbara Slattery (Ministry of the Environment), Barry Trood (Township of Wellington North, Stephen Nutt (XCG Consultants Ltd.)

From: Colin Clarke (XCG Consultants Ltd.)

Re: Mixing Zone Analysis - Arthur WWTP

1. INTRODUCTION

As part of the Schedule C Class Environmental Assessment (EA) of the Arthur Wastewater Treatment Plant (WWTP), an Assimilative Capacity Study (ACS) was undertaken to develop new effluent limits and discharge volumes for an expanded treatment plant that would be protective of water quality in the Conestogo River. A meeting was held on July 15, 2013 to discuss the findings of the ACS with the Ministry of the Environment (MOE). At that time, MOE requested that an evaluation of the mixing zone downstream of the Arthur WWTP discharge into the Conestogo River be completed under mid-streamflow range conditions.

In response to MOE's request, an analysis was conducted to determine the extent of the Arthur Wastewater treatment Plant (WWTP) effluent mixing zone for total ammonia nitrogen (TAN) using CORMIX. The results of the mixing zone analysis are presented in this memorandum.

A mixing zone is defined as an area of water contiguous to a point source where water quality does not comply with one or more of the PWQOs. A mixing zone in general, must be designed to be as small as possible and is one factor in establishing effluent requirements. Conditions within a mixing zone must not result in toxic conditions or interfere with water supply, recreational or other water uses¹. The MOE identified during the July 15, 2013 meeting that the effluent should be fully mixed prior to reaching the first stream crossing (located approximately 1 km downstream of the outfall). The analysis was conducted for projected future operating conditions under 7Q20 flows for April and October as well as two times 7Q20 flows for April and October. October and April were selected as they had smallest and largest 7Q20 flows respectively. These flows were then doubled in order to represent mid-streamflow

¹ Ministry of Environment, 1994. "Water Management: - Policies, Guidelines and Provincial Water Quality Objectives".



range conditions. The evaluated TAN limit was 0.65 mg/L-N for all scenarios. The wastewater effluent discharge rate varied based on month, streamflow and effluent ammonia concentration; the effluent discharge rate varied from 1,000 to 4,300 m³/d.

2. **METHODOLOGY**

The analysis was conducted using the U.S. Environmental Protection Agency (EPA) mixing zone model Cornell Mixing Zone Expert System CORMIX Version 8.0. The Arthur WWTP has a surface discharge through a 375 mm outfall pipe and accordingly CORMIX 3 was applied for plume delineation. The pipe discharges approximately perpendicular to the channel. CORMIX 3 requires that the depth of water in the channel be at least as deep as the diameter of the discharge pipe. The water depths in the Conestogo River are anticipated to be less than the diameter of the pipe. As such, the outlet was modelled as a rectangular channel with a bottom width of 375 mm and a depth that varied based on the effluent flow.

The channel dimensions were approximated from cross section data provided by the Grand River Conservation Authority (GRCA).

The CORMIX model also requires ambient and effluent flow rate, effluent concentration as well as ambient and effluent temperature. All information aside from the effluent temperature (taken from effluent data) was taken from the Technical Memorandum "Assimilative Capacity Study Arthur WWTP Class EA" prepared by XCG and dated April 12, 2013.

After inputting all the required input, the model was used to estimate the length of the plume downstream of the discharge.

3. **CORMIX SIMULATIONS**

As mentioned above, CORMIX was used to assess the mixing zone under four scenarios, namely:

1. Discharge in October under 7Q20 conditions (streamflow = 0.022 m³/s, effluent TAN = 0.65 mg/L-N, effluent flow rate 1,000 m³/d);
2. Discharge in April under 7Q20 conditions (streamflow = 0.087 m³/s, effluent TAN = 0.65 mg/L-N, effluent flow rate 2,150 m³/d);
3. Discharge in October under two times 7Q20 conditions (streamflow = 0.044 m³/s, effluent TAN = 0.65 mg/L-N, effluent flow rate 2,000 m³/d); and
4. Discharge in April under two times 7Q20 conditions (streamflow = 0.174 m³/s, effluent TAN = 0.65 mg/L-N, effluent flow rate 4,300 m³/d).

The CORMIX parameters used for each simulation are summarized in Table 1.

All simulations had mixing zone lengths less than 1 km with a maximum predicted plume length of 142 m during April under 7Q20 conditions. In all cases, the mixing zone is fully mixed across the entire channel. Mixing zone lengths for all scenarios are shown in Table 2.



4. SUMMARY

Mixing zone analysis was completed for four scenarios of effluent discharge from the Arthur WWTP. All scenarios resulted in a mixing zone length less than 1 km with a maximum length of 142 m. In all cases, fully mixed conditions were achieved upstream of the first downstream road crossing on the Conestogo River (i.e., Wellington Road 109).

Table 1 CORMIX3 Parameters

Model Input	October 7Q20	April 7Q20	October 2 x 7Q20	April 2 x 7Q20
Ambient Parameters				
7Q20 Flow (m ³ /s)	0.022	0.087	0.044	0.174
Average depth at discharge (m)	0.1	0.15	0.14	0.2
Depth at discharge (m)	0.1	0.15	0.14	0.2
Ambient 75th percentile temperature (°C)	8.2	10.4	8.2	10.4
Wind speed (m/s)	2.0			
Manning's n	0.055 (calibrated value from GRCA HEC-RAS model)			
Ambient 75th percentile NH ₃ (mg/L-N)	0.08	0.09	0.08	0.09
Outfall Parameters				
Discharge located on bank	left			
Discharge configuration	flush			
Outfall Angle relative to flow (degrees)	90			
Channel side slope (degrees)	10			
Local depth at discharge (m)	0.1	0.15	0.14	0.2
Discharge width (m)	0.375			
Estimated discharge depth (m)	0.05	0.1	0.1	0.2
Discharge Parameters and PWQO				
Proposed ADF (m ³ /d)	1,000	2,150	2,000	4,300
Proposed NH ₃ -N compliance limits (mg/L-N)	0.65			
Effluent Temperature (°C)	16.6	10.9	16.6	10.9
Fully mixed NH ₃ ¹ (mg/L-N)	0.28	0.21	0.28	0.21
Notes:				
Concentrations in table are actual values; to convert to excess concentrations for use in CORMIX subtract the ambient value from the proposed ammonia limit and calculated PWQO.				
1. Fully mixed NH ₃ -N concentration was solved by iterating ammonia concentrations with the 75th percentile dissociation ratio to calculate an un-ionized ammonia concentration of 0.02 mg/L				



Table 2 **CORMIX Predicted Mixing Zone Lengths**

Scenario	Plume Length (m)
October 7Q20	93
April 7Q20	142
October 2 x 7Q20	97
April 2 x 7Q20	140



Golden Valley Farms Inc.

50 WELLS STREET, P.O. BOX 670, ARTHUR, ONTARIO N0G 1A0

PHONE (519)848-3110

FAX (519)848-3470

Reference No. 081330

Barry Trood
Superintendent of Water & Sewer Services
Township of Wellington North
160 Preston St.
Arthur, ON., N0G 1A0

Dear Mr. Trood:

Re: Request for increase in Average Daily Flow (ADF) to sewer to meet Golden Valley Farms(GVF) future production demand.

Golden Valley Farms (GVF) is issuing this correspondence relative to the issue of increasing Average Daily Flow (ADF) to the sanitary sewer. A letter was issued on April 4, 2013 expressing concern on ADF exceeding 181 m³/d on three occurrences out of six month period, permitted by Township of Wellington North(Town) for GVF.

A meeting was held between the Town and the GVF on July 17, 2013 (Participants are Mr. Barry Trood from the Town, Mr. Keith Hehn from GVF, Mr. Stephen G. Nutt from XCG Environmental Engineers and Scientists consultant for the Town and Andrew Lugowski from Conestoga- Rovers & Associates consultant for GVF) to discuss the lack of additional treatment capacity by Arthur WWTP and limitation's on future ADF demand that the GVF production plant flow would require now and in the near future.

Mr. Nutt confirmed that additional flow has not been allocated to GVF in the Environmental Assessment (EA) and noted that additional flow would reduce capacity of Arthur's ICI expansion; however he also felt that it would not pose a serious problem, it may have an impact on further final effluent criteria changes, making them more stringent. He also informed us that effluent criteria for the current plant expansion is under review with Ministry of Environment (MOE) and anticipated completion of the expansion project would be end of 2016. Mr. Nutt noted that interim rerating of Arthur WWTP may be an option to explore with MOE to meet GVF's future demand. This task would be undertaken by the Town.

GVF is anticipating growth of 6-7 percent annually over the next 18 years. When the plant is finished in 2016, we would like our capacity increased to 360 m³/daily. We believe this will allow for our natural rate of growth and will sustain us until 2031. In the short term and until the plant is finished, we would appreciate the township looking for ways that would allow us to increase our ADF by approximately 6-7 % annually. Currently, GVF operates chemically enhanced primary treatment, prior to sewer discharge. The system operates continuously, producing effluent quality that is far below sewer discharge requirements and even with the increase flow of 360 m³ we would continue to be well within the sewer discharge requirements. GVF also request's that the township review water usage and sewer discharge rates. Both the actual rates as well as the method of calculating those costs are critical to our business plan .

August 8, 2013

Reference No. 081330

-2-

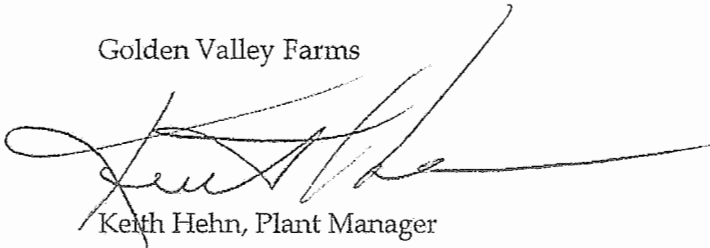
We would appreciate the township reviewing both actual rates charged as well as the method of calculation both for the near term as well as the long term.

It is imperative that GVF know what their cost structure for water and sewage will be in the future and that our costs remain competitive with surrounding municipalities. That is not currently the case as our rates far exceed any of our neighbours.

I would like to take the opportunity to thank the township for their continuous support in business expansion and job creation. Should you have any question, please do not hesitate to contact the under signed.

Yours truly,

Golden Valley Farms

A handwritten signature in black ink, appearing to read 'Keith Hehn', written over a horizontal line.

Keith Hehn, Plant Manager

XX/XX/X

Cc: Andrew Lugowski, P. Eng., Conestoga- Rovers & Associates

Debbie Zehr

To: Cathy More
Subject: FW: Request for increase in ADF to sewer - Golden Valley Farms Inc - Ref 081330

From: Stephen Nutt [mailto:StephenN@xcg.com]
Sent: Monday, August 19, 2013 2:52 PM
To: Barry Trood
Cc: dzerhs@wellington-north.com
Subject: RE: Request for increase in ADF to sewer - Golden Valley Farms Inc - Ref 081330


Hi Barry. Welcome back. Hope that you had a good vacation.

With respect to Golden Valley's request, a couple of preliminary thoughts:

1. Golden Valley will have to accept that if an increase in their flow allocation to 360 m³/d is accepted by the Township, their flow allocation to the end of the planning period (2031) will have to remain at 360 m³/d unless Township Council agrees to further reduce the allocation for other possible ICI development in Arthur.
2. No increase in capacity will be possible until an EA is completed and expansion or upgrades commissioned that will allow either a plant expansion to 2300 m³/d or an interim re-rating to some intermediary capacity. It is unlikely that either of these can be done before the middle of 2014. If some construction of civil works (i.e. more sludge storage; new headworks; etc.) is needed even to re-rate the plant, it is unlikely that this could be completed (design and construction) before the end of 2015. As the plant is already at capacity, a 15% increase in allocation to Golden Valley (or any increase) in each year for the next three years (assuming that they want the increase to start in 2013) is not possible until it is confirmed that the plant can be re-rated and what construction will be required to allow the re-rating. Any increase in flow from Golden Valley to the Arthur WWTP before an new ECA is issued that increases the plant capacity will likely result in the plant flow exceeding its approved capacity which could lead to non-compliance and possible enforcement action by MOE.

I am out of the office today and tomorrow morning, but will look at this in more detail and draft a response to you to Golden Valley's letter.

Stephen G. Nutt, M.Eng., P.Eng.
Senior Consultant
XCG Consultants Ltd.

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Township of Wellington North

P.O. Box 125 • 7490 Sideroad 7 W • Kenilworth • ON • N0G 2E0

Director of Public Works Report PW 2013-03

TO: Council

FROM: Deb Zehr, Director of Public Works

DATE: September 30, 2013

RE: WPD Springwood Wind Farm Road Use Agreement

Background:

In June 2013 Township staff met with representatives from the Mississauga WPD Springwood Wind Farm with regards to access to roads in Wellington North which would be required to be used as a haul route (see map attachment) to reach their final destination in Centre Wellington. The road will be used to make deliveries of materials and components to, and allow for the construction, operations and repair, maintenance and decommissioning of the Wind Project. Discussions took place with Staff on work and material that may be necessary to upgrade and/or maintain the road due to the additional traffic and weight that will be on the road during hauling. The proponent wishes to temporarily reconstruct or realign certain components of the road allowances to permit delivery or movement of oversized Wind Project components, including wind turbine blades, tower sections and nacelles. WPD offered to cover the associated cost and maintenance for the proposed use and any damage that results to the road.

At the end of August staff reported that hauling had begun for the Wind Farm project and inquired about a road use agreement being in place. The CAO contacted the WPD representative and told them a road use agreement was needed and that they must take the following steps:

- 1) Video the road area pre construction as record of its condition and forward a copy to the Township for our records;
- 2) Contact a Solicitor to have a road use agreement drawn up;
- 3) Negotiate the agreement with the Township to ensure the Minimum Maintenance and Construction Standards for roads as well the policies and procedures are met to the satisfaction of the Township in the Agreement, and
- 4) that the agreement would need to be endorsed and brought to Council for acceptance.

The end result being a road use agreement that was a co-operative effort amongst Staff, WPD and the solicitor that is mutually agreement upon and acceptable to all parties.



Township of Wellington North

P.O. Box 125 • 7490 Sideroad 7 W • Kenilworth • ON • N0G 2E0

Staff recommends the following:

Recommendation:

THAT report PW2013-03 with regard to the WPD Springwood Wind Farm Agreement is received;

AND THAT Council endorse and accept the agreement.

FURTHER THAT Council passes By-law 88-13 authorizing a road use agreement (former Township of West Garafraxa).

**THE CORPORATION OF THE
TOWNSHIP OF WELLINGTON NORTH**

BY-LAW NUMBER 83-13

**BEING A BY-LAW TO AUTHORIZE A ROAD USE AGREEMENT
(FORMER TOWNSHIP OF WEST GARAFRAXA)**

WHEREAS WPD Springwood Wind Incorporated (“Springwood”) is developing a commercial wind energy project in the Township of Centre Wellington, in the County of Wellington pursuant to an agreement with the Ontario Power Authority and the Electricity Act, 1998.

AND WHEREAS Springwood wishes to use the following portion of a road allowance in the Township of Wellington North for access from Wellington County Road 109 to the project site located in the Township of Centre Wellington for the purpose of making deliveries of materials and components and to allow for the construction, operation, repair and maintenance and decommissioning of the project in the Township of Centre Wellington:

That portion of the 3rd Line Road Allowance (West Garafraxa), in the Township of Wellington North commencing at the southerly boundary of Wellington County Road 109 and running southeasterly therealong through to the northwesterly limit of the Township of Centre Wellington and including the extension of the said 3rd Line through any portion of Sideroad 25 within the jurisdiction of the Township of Wellington North under the provisions of the *Municipal Act, 2001*, as amended (the “road allowance”)

AND WHEREAS Section 11(3) of the *Municipal Act, 2001*, as amended, provides that the municipality may pass by-laws respecting matters within the Highways Sphere of Jurisdiction.

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF WELLINGTON NORTH enacts as follows:

1. The Corporation of the Township of Wellington North shall enter into a “Road Use Agreement” with Springwood in the form, or substantially in the same form as advised by the municipal solicitor, of the draft Road Use Agreement attached hereto as Schedule 1.
2. The Mayor and the Deputy-Clerk of the Corporation are hereby authorized and directed to sign such agreement on behalf of the Township of Wellington North.

By-law No. 83-13
Page 2 of 2

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED
THIS 30TH DAY OF SEPTEMBER, 2013.

RAYMOND TOUT
MAYOR

CATHERINE MORE
DEPUTY CLERK

THE CORPORATION OF THE
TOWNSHIP OF WELLINGTON NORTH
BY-LAW NUMBER 83-13
SCHEDULE 1

THIS ROAD USE AGREEMENT (the “Agreement”) made as of this ___ day of _____,
_____ (“Effective Date”),

BETWEEN:

THE CORPORATION OF THE TOWNSHIP OF WELLINGTON NORTH
hereinafter referred to as the “Township”

OF THE FIRST PART

- AND -

WPD SPRINGWOOD WIND INCORPORATED
hereinafter referred to as the “Proponent”

OF THE SECOND PART

WHEREAS the Proponent is developing an approximately 9.2 megawatt commercial wind energy project known as the Springwood Wind Project (the “**Wind Project**”) located in the Township of Centre Wellington pursuant to a Power Purchase Agreement dated May 3, 2010 (the “**Power Purchase Agreement**”), between the Ontario Power Authority and the Proponent.

AND WHEREAS the Proponent wishes to make use of certain Road Allowances, as hereinafter defined, within the jurisdiction of the Township of Wellington North (the “**Township**”) to make deliveries of materials and components to, and to allow for the construction, operation, repair, maintenance and decommissioning of the Wind Project;

AND WHEREAS the Proponent may wish to temporarily reconstruct or realign certain portions of the Road Allowances to permit delivery or movement of oversized Wind Project components, including wind turbine blades, tower sections and nacelles;

NOW THEREFORE IN CONSIDERATION of the undertakings and agreements hereinafter expressed by the Parties, the Township and the Proponent mutually covenant and agree as follows:

1. Interpretation

1.1. In this Agreement:

- (a) “**Affiliate**” means, with respect to any person, any other person which, directly or indirectly, (i) owns or Controls the first person, (ii) is owned or Controlled by the first person, or (iii) is under common ownership or Control with the first person;

- (b) “**Applicable Law**” means all present or future applicable laws, statutes, regulations, treaties, judgements and decrees and all present or future applicable published directives, rules, policy statements and orders of any Public Authority and all applicable orders and decrees of courts and arbitrators to the extent, in each case, that the same are legally binding on a Party in the context of this Agreement;
- (c) “**Commercial Operation Date**” means the Commercial Operation Date as defined in the Power Purchase Agreement;
- (d) “**Completion Date**” is defined at Section 4.5 of this Agreement;
- (e) “**Control**” means (i) in relation to a person that is a corporation, the ownership, directly or indirectly, of (A) voting securities of the person carrying more than fifty percent (50%) of the voting rights attaching to all voting shares of the person and which are sufficient, if exercised, to elect a majority of its board of directors, or (B) securities representing greater than fifty percent (50%) of the economic value of the person, (ii) in relation to a person that is a partnership, limited partnership, trust or other similar entity, the ownership, directly or indirectly, of (A) voting securities of such person carrying more than fifty percent (50%) of the voting rights attaching to all voting securities of the person or (B) securities representing greater than fifty percent (50%) of the economic value of the person, and (iii) for any other person, the ownership of securities or other interests entitling the holder to exercise direction over the activities of the person (and “Controls”, “Controlling” and “Controlled” are defined accordingly);
- (f) “**Deliveries**” is defined as transporting materials, components and equipment, including overweight or over-size cargoes, across or along Road Allowances to provide for the construction, maintenance, repair, replacement, relocation or removal of material, components and equipment for the Wind Project;
- (g) “**Effective Date**” is defined at the top of page 1 herein;
- (h) “**Emergency**” shall mean a sudden unexpected occasion or combination of events necessitating immediate action to prevent or mitigate materially adverse consequences to the health and safety of individuals or the integrity and safety of public utilities and infrastructure;
- (i) “**Permits**” means, collectively, the permits required by the Township in connection with the Work as set out in Schedule “B”.
- (j) “**Plans**” is defined as detailed plans that identify the location of the Deliveries within the Road Allowance “**Public Authority**” means any governmental, federal, provincial, regional, municipal or local body having authority over the Township, the Proponent, the Wind Project, or the Road Allowances;
- (k) “**Road Allowances**” means public rights of way, highways, streets, sidewalks, walkways, driveways, ditches and boulevards and the allowances therefor, including those shown on the map attached as Schedule “A” hereto, all owned by or managed

under the legal jurisdiction of the Township, and “Road Allowance” means one of the Road Allowances, as applicable in the context of this Agreement;

- (l) “**Road Work**” is defined as temporarily reconstructing or re-aligning road sections, turns and intersections on the Road Allowances to permit the passage of overweight or over-size cargoes;
- (m) “**Secured Party**” or “**Secured Parties**” is defined as a party or parties which from time to time provides financing to the Proponent in respect of the development, construction or operation of the Wind Project or the Work, as determined by the Proponent in its sole discretion;
- (n) “**Traffic Effects**” is defined as temporary modification of traffic patterns or the imposition of temporary restrictions on public access to or use of the Road Allowances;
- (o) “**Work**” means, collectively, Deliveries and Road Work as defined herein.

1.2. The following schedules are attached to this Agreement and form an integral part of this Agreement:

Schedule “A” - Plan showing Road Allowances expected to be required for the Deliveries.

Schedule “B” – Schedule of Permit Fees

1.3. Nothing contained in this Agreement shall abrogate or prejudice any rights held by either Party under Applicable Law including but not limited to the *Ontario Energy Board Act, 1998*, the *Municipal Act, 2001*, the *Green Energy Act, 2009* and the *Electricity Act, 1998*, as amended.

2. Grant and Transfer of Easements and Permissions

- 2.1. The Township hereby permits the Proponent to enter upon and use the Road Allowances with such persons, vehicles, equipment and machinery as may be necessary for purposes of the Deliveries and Road Work.
- 2.2. This Agreement shall become effective as of the Effective Date and, unless earlier terminated, shall remain in effect until the date upon which the Wind Project has been fully decommissioned and all necessary reclamation and restoration has been completed (the “**Expiry Date**”).
- 2.3. The Township represents and warrants that:
 - (a) it has legal and beneficial title to the Road Allowances and full power and authority to grant the rights over the Road Allowances in the manner set out in this Agreement;

- (b) the execution and delivery of this Agreement by the Township will not result in a material breach of any other agreement to which the Township is a party and no rights, interests or privileges have been granted in respect of the Road Allowances by the Township which will or could adversely affect the rights, interests or privileges granted to the Proponent hereunder;
 - (c) it has obtained the full and unconditional due authorization for the execution and delivery of this Agreement by all required resolutions and other required municipal approvals;
 - (d) it shall defend its title to the Road Allowances against any person or entity claiming any interest adverse to the Township in the Road Allowances during the term of this Agreement, save and except where such adverse interest arises as a result of the act, omission, negligence or wilful misconduct of the Proponent or those for whom it is in law responsible; and
 - (e) the Permits are the only permits, approvals, consents, or authority within the jurisdiction of the Township as of the Effective Date that are required in connection with the Work and the fees set forth in Schedule "B" attached hereto are the only fees payable by the Proponent in connection with the Permits.
- 2.4. The Township agrees, in the event it decides to permanently close or dispose of any Road Allowance which may affect the interests of the Proponent, or any part of a Road Allowance, to give the Proponent reasonable advance written notice of such proposed closing or disposal and to grant and transfer to the Proponent, at no cost to the Proponent and prior to the proposed closure or disposal of the applicable Road Allowance, such further easements and rights-of-way, in registrable form and in priority to any encumbrances adversely affecting the rights and interests of the Proponent hereunder, over that part of the Road Allowance closed or disposed of, sufficient to allow the Proponent to enter upon such closed or disposed of Road Allowance to perform Work and to gain access to the Wind Project on the terms and conditions set out in this Agreement.
- 2.5. In the event that the Township decides to dispose of any Road Allowance or part thereof which may affect the interests of the Proponent, the Township agrees to require the transferee or assignee of such Road Allowance, as a condition precedent to the transfer or assignment, to agree in writing with the Proponent, in a form acceptable to the Proponent acting reasonably, to be bound by the terms of this Agreement and to assume the Township's obligations hereunder from and after the date of the transfer or assignment.

3. Conditions Precedent to Commencement of Work

- 3.1. On execution of this Agreement, the Proponent shall deposit with the Township a cash deposit in the amount of Five Thousand Dollars (\$5,000) to be drawn on to reimburse the actual and verifiable invoices rendered by the Township Solicitor and the Township's Engineers, and any outside consultants that the Township reasonably

requires to consult in connection with the issuance of the Permits and the inspection of the Works, including the inspection of any post-construction repair or remediation. Such deposit shall be replenished from time to time as required by the Township's Treasurer, in accordance with and authorized by the Township By-law Number 83-13. In the event that the expenses of the Township exceed the amount of the deposit, the Township shall demand payment from the Proponent. Should the Proponent fail to make such payment within thirty days (30) days of such demand, the Township may, without notice to the Proponent, draw on the security held pursuant to Section 3.5. Subsequent to the completion of the Township's Managing Director of Infrastructure's (Engineer) and the Township Solicitor's inspection of the Works pursuant to Section 4.5 or pursuant to Section 5.2, and subject to all invoices having been paid, the Township shall promptly remit remaining monies of the replenished deposit, if any, to the Proponent; provided, however, that the deposit provided for under this Section 3.1 shall be returned to the Proponent, in any case, no later than the date which is six (6) months following the Commercial Operation Date.

- 3.2. Prior to the commencement of any Work, the Proponent shall arrange for and maintain commercial general liability insurance satisfactory to the Township, acting reasonably, for the joint benefit of the Proponent and the Township as an additional insured. The Proponent will indemnify and hold harmless the Township from and against all claims, liabilities, losses, costs, damages or other expenses of every kind that the Township may incur or suffer as a consequence of personal injury, including death, and property damages arising out of the negligent performance of the Work or the wilful misconduct of the Proponent or those for whom it is in law responsible. The commercial general liability insurance shall provide, at a minimum, limits of liability not less than Five Million Dollars (\$5,000,000.00) per occurrence and in the aggregate at the commencement of the term hereof. This policy will contain a cross liability and severability of interest clause and provide for a minimum of thirty (30) days' notice of alteration or cancellation of said policy. The Proponent shall provide the Township with a Certificate of Insurance evidencing the required insurance prior to the commencement of Work and, from time to time, upon reasonable request by the Township provide proof that the premiums of such insurance have been paid and that such insurance is in full force and effect.
- 3.3. Prior to the commencement of any Work, the Proponent shall document, by means of video recording or another means satisfactory to the Township acting reasonably, the then-existing condition of all Road Allowances and structures that the Proponent in consultation with the Township expects will or may be used for or subject to such Work, and both Parties shall receive a complete copy of such document.
- 3.4. Immediately following the Commercial Operation Date, and also at a date no earlier than twelve (12) months following the Commercial Operation Date if repairs are made to the Road Allowance as required by Section 4.4, the Proponent shall prepare post-construction condition surveys, conducted in substantially the same manner as outlined in Section 3.3 and both Parties shall receive a complete copy of such document.

3.5. Prior to the commencement of the Work, the Proponent shall provide security in favour of the Township in the amount of Ten Thousand Dollars (\$10,000) to guarantee the Proponent's performance of its obligations under Sections 4.4 and 4.5 hereof. The Township shall have the right to draw upon the security for the purpose of repairs to the Road Allowance if the Proponent has failed to meet its obligations in Sections 4.4 and 4.5 of this Agreement. The Township shall refund or release any undrawn security to the Proponent no later than the date which is six (6) months following the Commercial Operation Date. The Parties agree that the security may be in the form of cash, a letter of credit issued by a Canadian chartered bank, a performance bond, or other security acceptable to the Township acting reasonably.

4. Work Generally

- 4.1. Notwithstanding and without limiting any other term hereof, the Proponent agrees and undertakes that it will perform the Road Work at its own expense in accordance with the Plans attached hereto as Schedule "A" as well as such other plans as may be submitted by the Proponent and approved by the Township pursuant to Section 5 of this Agreement from time to time, and in compliance with good engineering practices, this Agreement and Applicable Law.
- 4.2. The Proponent further agrees to use commercially reasonable efforts to undertake and complete all Work so as to avoid unnecessary adverse impacts on public use of the Road Allowances.
- 4.3. Notwithstanding and without limiting any other term hereof, the Parties acknowledge that the Work from time to time may require Traffic Effects. The Proponent agrees to:
- (a) Refrain from carrying out any Work which has the potential to cause Traffic Effects without first consulting with the Township with respect to the time and place of such Work. Notwithstanding the foregoing, the Proponent will refrain from carrying out any Work (other than Deliveries) which has the potential to cause Traffic Effects (i) between the hours of 8:00 a.m. and 9:00 a.m. on a business day; (ii) between the hours of 3:00 p.m. to 4:30 p.m. on a business day; or (iii) on a non-business day, unless it obtains approval in writing from the Township, acting reasonably, with respect to the time and place of such Work;
 - (b) Notice of such Work shall be given to the Township and affected residents no less than five (5) days' in advance of any anticipated Traffic Effects and the Proponent shall coordinate with the Township and local emergency services to minimize and mitigate any adverse impacts of the Traffic Effects and to ensure public safety; and
 - (c) use commercially reasonable efforts to maintain adequate public access to and use of the Road Allowances while Work is in progress and to remove the Traffic Effects as soon as reasonably possible following the completion of the Work.
- 4.4. The Proponent agrees that, prior to commencing the Deliveries, the Proponent shall, at its own expense, carry out improvements to the surface of the Road Allowance required to prevent or mitigate damage to the Road Allowance that may be caused by

Deliveries, to the satisfaction of the Township, acting reasonably including placement of gravel, dust control treatment and grading. The Proponent further agrees that, in the event that it becomes necessary to break, remove, or otherwise pierce the existing surface of any of the Road Allowances or any other municipal lands to undertake any Work, the Proponent shall, at its own expense, in all cases repair, reinstate and restore such surface to the same or better condition than that which existed prior to the commencement of such Work.

- 4.5. The Proponent shall be responsible for the repair, to the satisfaction of the Township acting reasonably, of any damage to the Road Allowances caused by the Proponents use in connection with the Work, reasonable wear and tear excepted. No later than thirty (30) days following the completion of any Work (the “**Completion Date**”) the Township will compare the condition of the Road Allowances to the condition of the Road Allowance as at the commencement of such Work, and will inform the Proponent whether the Township, acting reasonably, considers any repairs to be required. Any repairs undertaken shall restore the Road Allowances to the same or better condition than that which existed immediately prior to the Proponent’s use of the Road Allowances in connection with such Work as provided in this Agreement, reasonable wear and tear excepted. The Proponent shall, provided that the weather and weather-related conditions permit, complete these repairs within thirty (30) days of being notified by the Township of the need for such repairs. The Proponent shall be deemed to be released of all of its obligations pursuant to Section 4.4 and this Section 4.5 with respect to such Work on the date which is six (6) months following the Completion Date, save and except for any specific tasks or obligations identified by the Township, acting reasonably, that remain to be undertaken by the Proponent to comply with its obligations under Section 4.4 and this Section 4.5 and in respect of which the Township has provided specific written notice to the Proponent prior to such date.
- 4.6. The Proponent agrees to rely on and comply with any directions given by the Township public works staff and/or the Township’s (Engineer) to implement measures to mitigate the Traffic Effects pursuant to Section 4.3 of this Agreement. The Proponent further agrees to rely on and comply with any directions given by such staff in connection with the repair, reinstatement and restoration of the Road Allowances pursuant to Section 4.5 of this Agreement. The Proponent agrees to reimburse the Township for the actual and verifiable costs of any such work conducted by Township staff and/or the Township’s (Engineer), including Township staff and supervisory time, the fees of the Township’s (Engineer), materials and contracted services, provided that the Proponent is notified in writing as to the scope of work, and provided that the parties agree, acting reasonably, on the quantum of any such costs prior to the performance of such work by the Township.
- 4.7. The Township acknowledges receiving a copy of the Proponent’s Fire Safety and Emergency Plan and agrees to cooperate with the Proponent in the implementation of this plan in the event of an Emergency involving the Work.

- 4.8. Notwithstanding any other provision of this Agreement, in the event of any Emergency involving the Work, the Proponent shall notify the local emergency services immediately upon becoming aware of the situation and shall do all that is necessary and desirable to control the Emergency, including such Work in and to the Road Allowances as may be required.
- 4.9. Notwithstanding the foregoing, the Proponent shall not be required to carry out and shall not be responsible for any costs associated with any maintenance, repairs or restoration of the Road Allowances other than as set out in this Agreement.

5. Road Work

- 5.1. Prior to the commencement of Road Work, the Proponent shall file detailed Plans with the Township not less than thirty (30) days prior to commencement of such Road Work.
- 5.2. The Township, acting reasonably and with diligence, shall review the Plans within fifteen (15) days of receipt of the Plans from the Proponent and either approve the Plans or advise the Proponent in writing of any modifications or amendments to the Plans that the Township may seek and the reasons therefor. During its review of the Plans the Township shall be entitled to take into consideration any specific municipal or engineering interests affected by the Plans. If the Township fails to respond to the Proponent with its approval or any requested modifications or amendments to the Plans within such fifteen (15) day period, the Township shall be deemed to have approved the Plans.
- 5.3. The Proponent shall not proceed with the Road Work before receiving:
 - (a) written approval of the Plans from the Township, which approval shall not be unreasonably delayed, conditioned or withheld; and
 - (b) approval to proceed with the Road Work from any other Public Authority having jurisdiction over the Road Work, to the extent that Applicable Law requires such approval prior to the commencement of Road Work.
- 5.4. Prior to commencing Road Work, the Proponent agrees to notify any other person, entity or body operating, to the knowledge of the Proponent, any equipment, installations, utilities or other facilities within the Road Allowances or in the immediate vicinity of the Road Allowances where Road Work is to be conducted, of the details of the anticipated Road Work, and consult with such other party so as to minimize the potential interference with or damage to such existing equipment, installations, utilities, and other facilities by the said Road Work and so as to maintain the integrity and security thereof.
- 5.5. The Proponent further agrees to commence, perform and complete the Road Work in accordance with the Plans for such Road Work approved by the Township in all material respects.

5.6. In the event that physical features of the Road Allowances or other obstacles or circumstances frustrate the ability of the Proponent to complete the Road Work in compliance in all material respects with the Plans approved by the Township, or render compliance in all material respects with the Plans commercially unreasonable, the Proponent agrees to revise the relevant Plans and submit such revised Plans for review by the Township. The Township agrees to expedite the review of such revised Plans and shall not unreasonably condition or withhold its approval of such revised Plans.

6. Snow Removal and Maintenance of Road Allowances

6.1. Subject to the limitation in Section 6.2 below, the Township agrees to clear snow from and otherwise maintain and repair the Road Allowances identified in Schedule "A" in accordance with its normal municipal practices, including the prioritization of competing snow plowing, maintenance and repair requirements as the Township may see fit.

6.2. To the extent that the Township as of the Effective Date does not routinely clear snow from or otherwise maintain adequate vehicular access to and from Road Allowances not identified in Schedule "A", the Township is not obliged to begin doing so unless and until the Parties acting reasonably agree in writing on reasonable compensation to be paid by the Proponent to the Township for undertaking such additional snow clearance and maintenance work. Upon reaching such an agreement, Schedule "A" hereto shall be amended to identify the additional Road Allowances that the Township agrees to maintain pursuant to Section 6.1 of this Agreement.

7. Assignment

7.1. The Proponent may not assign this Agreement without the written consent of the Township, which shall not be unreasonably withheld, except that no consent shall be required for the Proponent to assign this Agreement to an Affiliate or successor entity (by amalgamation, continuation, corporate reorganization, or otherwise), or for purposes of securing indebtedness or other obligations respecting the Wind Project. The Township acknowledges that a change in control of the Proponent shall not be considered an assignment by the Proponent of this Agreement or of any of the Proponent's rights and obligations under this Agreement.

7.2. For greater certainty, the Proponent shall from time to time during the term of this Agreement be entitled to assign this Agreement and all of its rights hereunder without the consent of the Township to any Secured Party as security for the Proponent's obligations to such Secured Parties, which shall be further entitled to assign this Agreement and the Proponent's rights thereunder in connection with an enforcement of their security. The Township hereby agrees to execute and deliver an Acknowledgement and Consent Agreement in favour of any applicable Secured Party or assignee thereof, in a form acceptable to the Township, acting reasonably.

7.3. The Proponent shall be entitled, with the written consent of the Township, which may not be unreasonably delayed, withheld or conditioned, to assign this Agreement to a transferee of the Wind Project other than an affiliated or successor company, and the Proponent shall thereupon be released from any and all obligations under this Agreement from and after the date of such assignment, provided that such assignee has agreed in writing with the Township, in a form acceptable to the assignee and the Township, both acting reasonably, to be bound by the provisions of this Agreement from and after the date of the assignment.

8. Default

- 8.1. If a Party commits a breach of or omits to materially comply with any of the provisions of this Agreement (the “**Defaulting Party**”), the other Party (the “**Complainant**”) may give the Defaulting Party notice in writing specifying the breach complained of and, if the Party intends to terminate the Agreement, by indicating the intention of the Complainant to terminate this Agreement unless the Defaulting Party shall have remedied the breach within the period mentioned in the notice, which period shall be not less than sixty (60) days. If the Defaulting Party shall have within such notice period commenced to remedy the breach and has diligently pursued the remedying thereof, the Defaulting Party shall be allowed one hundred and fifty (150) days after the expiry of the original notice period to remedy the breach. After the expiration of the later of the applicable periods, the Complainant may elect to terminate this Agreement or to remedy the breach, in which case the Defaulting Party shall be liable for reimbursing to the Complainant the reasonable costs of completing said remedy.
- 8.2. Whenever, and to the extent that a Party will be unable to fulfill or will be delayed or restricted in the fulfillment of any obligation under any provision of this Agreement by reason of:
- (a) strikes;
 - (b) lock-outs;
 - (c) war or acts of military authority;
 - (d) rebellion or civil commotion;
 - (e) material, energy, or labour shortage not within the control of the affected Party;
 - (f) fire or explosion;
 - (g) flood, wind, water, earthquake, or other casualty;
 - (h) changes in Applicable Law not wholly or mainly within the control of the affected Party, including the revocation by any Public Authority of any permit, privilege, right, approval, license or similar permission granted to the Proponent or the Wind Project;

- (i) any event or matter not wholly or mainly within the control of the affected Party (other than lack of funds or the financial condition of the affected Party); or,
- (j) acts of God,

(in each case a “**Force Majeure**”)

not caused by the default or act of or omission by that Party and not avoidable by the exercise of reasonable effort or foresight by it, then, so long as any such impediment exists, that Party will be relieved from the fulfillment of such obligation and the other Party will not be entitled to compensation for any damage, inconvenience, nuisance or discomfort thereby occasioned. A Party shall promptly notify the other Party of the occurrence of any Force Majeure, which might prevent or delay the doing or performance of acts or things required to be done or performed.

9. Dispute Resolution

- 9.1. In the event that either Party provides the other Party with written notice of a dispute regarding the interpretation or implementation of this Agreement (a “**Dispute**”) then both Parties shall use their best efforts to settle the Dispute by consulting and negotiating with each other in good faith to reach a solution satisfactory to both Parties. However, if the Parties do not resolve the Dispute within thirty (30) days following receipt of such notice, then either Party may provide written notice to the other Party (the “**Arbitration Notice**”) requiring resolution by arbitration and thereafter the Dispute shall be referred to arbitration in accordance with the provisions of the *Arbitration Act, 1991*.
- 9.2. The arbitration tribunal shall consist of one arbitrator appointed by mutual agreement of the Parties or, if the Parties fail to agree on an arbitrator within ten (10) days after receipt of the Arbitration Notice, then either Party may apply to a judge of the Superior Court of Justice to appoint an arbitrator. The arbitrator shall be qualified by education and training to pass upon the matter to be decided.
- 9.3. The arbitration shall be conducted in English and shall take place in the Township or another place mutually agreed upon by the Parties.
- 9.4. The arbitration award shall be given in writing and shall address the question of costs of the arbitration and all related matters. The arbitration award shall be final and binding on the Parties as to all questions of fact and shall be subject to appeal only with respect to matters of law or jurisdiction.
- 9.5. Except to the extent that a matter is specifically the subject of a Dispute, both Parties shall continue to observe and perform the terms and conditions of this Agreement pending the resolution of a Dispute.

10. Further Assurances

10.1. Each of the Parties covenants and agrees with the other that it will at all times hereafter execute and deliver, at the request of the other, all such further documents, agreements, deeds and instruments, and will do and perform all such acts as may be necessary to give full effect to the intent and meaning of this Agreement.

11. Notice

11.1. All notices, communications and requests for approval which may be or are required to be given by either party to the other herein shall be in writing and shall be given by delivery by courier or by facsimile addressed or sent as set out below or to such other address or facsimile number as may from time to time be the subject of a notice:

To the Township:

Township of Wellington North
7490 Sideroad 7W,
Kenilworth ON N0G 2E0

Attention: Debbie Zehr, Director of Public Works

Facsimile: 519-848-3228
Emergency Telephone No.: 519-321-9352

With a copy to:

Township of Wellington North
7490 Sideroad 7W,
Kenilworth ON N0G 2E0

Attention: Michael Givens, Chief Administrative Officer

Facsimile: 519-848-3228
Emergency Telephone No.: 519-321-9935

To the Proponent:

wpd Springwood Wind Incorporated
2233 Argentia Road, Suite 102
Mississauga, Ontario, L5N 2X7

Attention: wpd Windmanager Canada
Facsimile: 1- 905 – 813 -7487
Emergency Telephone No.: 1-888-712-2401

11.2. Any notice, if delivered by courier, shall be deemed to have been validly and effectively given and received on the date of such delivery and if sent by facsimile with confirmation of transmission, shall be deemed to have been validly and effectively given and received on the day it was received, whether or not such day is a business day.

12. Governing Law

12.1. This Agreement shall be governed by, and be construed and interpreted in accordance with, the laws of Ontario and the laws of Canada applicable in Ontario.

13. Miscellaneous

13.1. This Agreement may be executed by facsimile or PDF transmission and in one or more counterparts, all of which shall be considered one and the same Agreement.

13.2. This Agreement and the rights granted hereunder are and shall be of the same force and effect, to all intents and purposes, as a covenant running with the Road Allowances and these presents, including all of the covenants and conditions herein contained, shall extend, be binding upon and enure to the benefit of the Township and the Proponent, and their respective successors and permitted assigns, as the case may be. The Parties hereby acknowledge and agree that the purpose of the rights granted herein is for the transmission or distribution of electricity within the meaning of the *Ontario Energy Board Act, 1998* and *Electricity Act, 1998*.

13.3. Each obligation of the Parties contained in this Agreement, even though not expressed as a covenant, is considered for all purposes to be a covenant.

13.4. The invalidity or unenforceability of any provision or covenant contained in this Agreement shall affect the validity or enforceability of such provision or covenant only and any such invalid provision or covenant shall be deemed to be severable from the balance of this Agreement, which shall be enforced to the greatest extent permitted by law.

13.5. Each covenant in this Agreement is a separate and independent covenant and a breach of covenant by either Party will not relieve the other Party from its obligation to perform each of its covenants, except as otherwise provided herein.

13.6. No supplement, modification, amendment, or waiver of this Agreement shall be binding unless executed in writing by the Parties.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by officers of the Corporation with authority to bind the Corporation to be effective as of the Effective Date.

**THE CORPORATION OF THE
TOWNSHIP OF WELLINGTON NORTH**

Name: Raymond Tout
Title Mayor

Name: Catherine More
Title Deputy Clerk

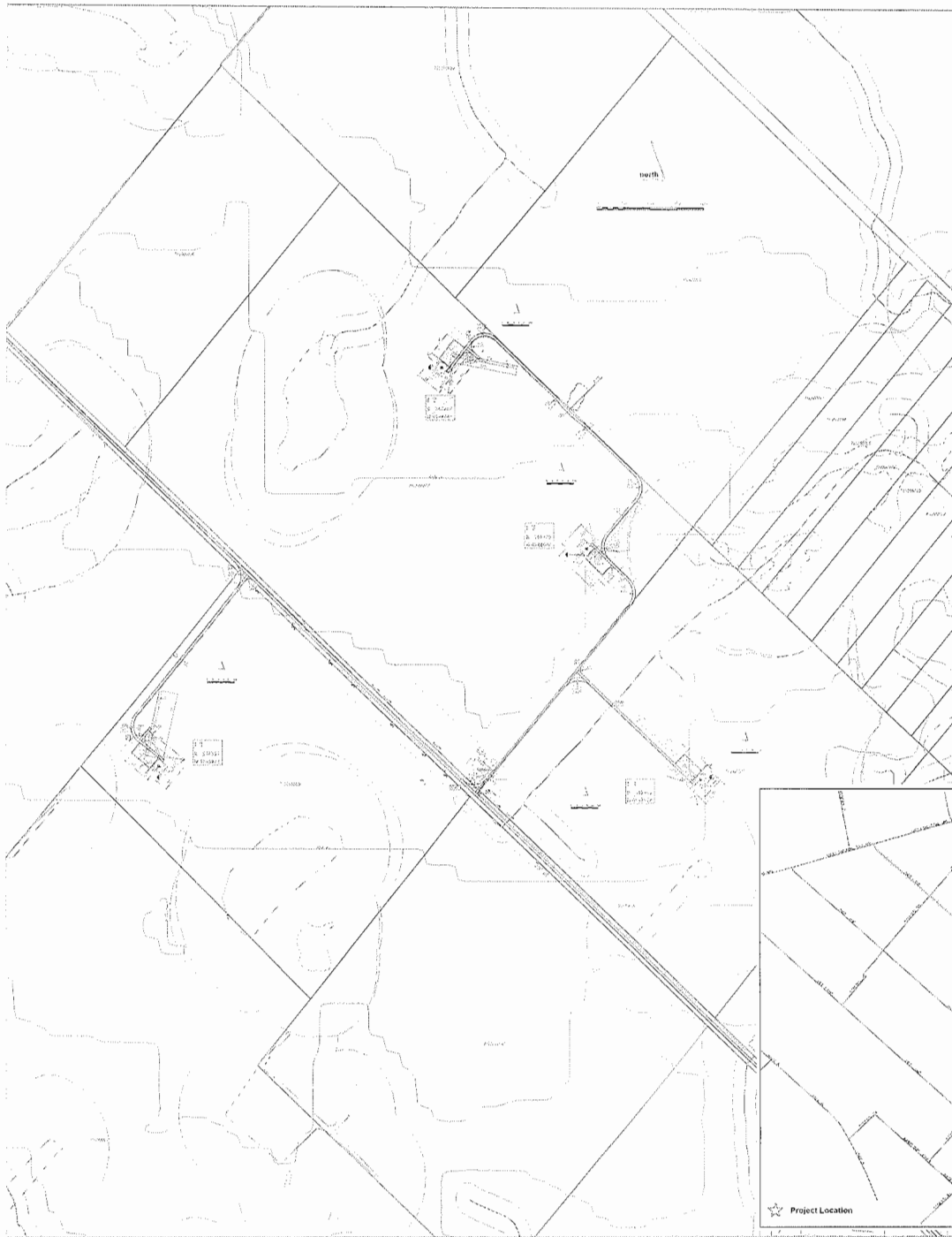
WPD SPRINGWOOD WIND INCORPORATED

Name:
Title:

SCHEDULE "A"

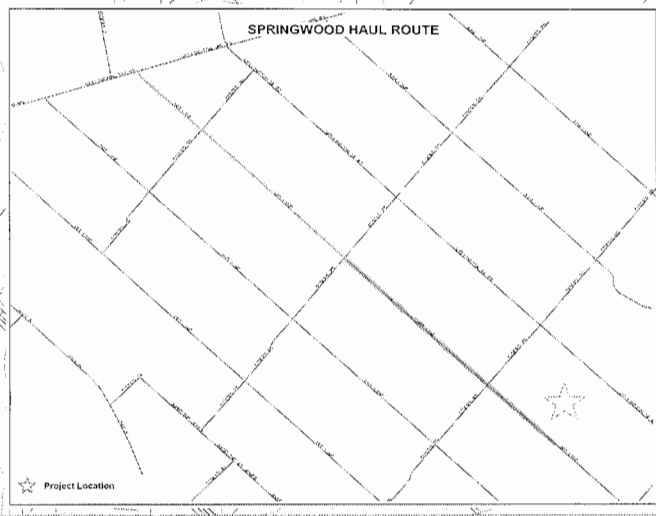
Plan showing Haul Routes expected to be required for the Wind Project (see attached Map)

DRAFT



Legend

- WTG and foundation (--- buried part of the foundation)
- Border of earthwork excavation
- WTG number
- Padmount Transformer
- Switching station
- Access Roads and assembly areas to create
- Existing roads
- Boom assembly area
- Laydown area 50m x 100m
- Crane Pad 25m x 45m
- Internal cable route (underground cable depth: 1m)
- Ductwork
- Horizontal directional drilling
- Tube bridge
- Storage surface of excavation materials
- Assembly area of the rotor ($r = 46.25m$), storage of excavation materials prohibited
- Haul Route - Township of Centre Wellington
- Haul Route - Township of North Wellington
- Washed area
- Waterbody
- Watercourse



Order of construction
WTG Type
REpower MM 92
Hub height: 100.0 m
Rotor diameter: 92.5 m
Notes

Execution plan
Knowledge of contents:
Signature (Repower) _____ Date _____
Signature (wpd construction) _____ Date _____
Signature _____ Date _____
Signature _____ Date _____

Revision	Modifications	Date	Designer

All measurements have to be controlled responsibly and have to be verified during the construction.
Any discrepancies have to be announced to the construction site management without any delay!

Project title:
SPRINGWOOD WIND FARM

Drawing title:
EXECUTION PLAN

Drawn by	Date	Name	Drawing number
Verified by- Field manager	12.07.2013	AutT	SPRI_EP_V01
Verified by- Civil Engineer			Replacement for
Issued by- Rep MM			

Site owner:
wpc Springwood Wind Incorporated
2233 Argentia Road, Suite 102
Mississauga, ON L5N2X7



Site management:
Wpd construction Canada corp.
2233 Argentia Road, Suite 102
Mississauga, ON L5N2X7

Date: 12.07.2013
Signature _____

Scale	Plan Format	Content of the table
1: 4 000	A1	Site Plan

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SCHEDULE "B"

The Permits

None.

DRAFT

THE CORPORATION OF THE
TOWNSHIP OF WELLINGTON NORTH

BY-LAW NUMBER 84-13

BEING A BY-LAW TO CONFIRM THE PROCEEDINGS OF THE
COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF
WELLINGTON NORTH AT ITS SPECIAL MEETING HELD ON
SEPTEMBER 30, 2013.

AUTHORITY: Municipal Act, 2001, S.O. 2001, c.25, as amended, Sections 5(3) and 130.

WHEREAS the Municipal Act, 2001, S.O. 2001, c.25, as amended, Section 5(3), provides that the jurisdiction of every council is confined to the municipality that it represents and its powers shall be exercised by by-law.

AND WHEREAS the Municipal Act, 2001, S.O. 2001, c.25, as amended, Section 130 provides that every council may pass such by-laws and make such regulations for the health, safety and well-being of the inhabitants of the municipality in matters not specifically provided for by this Act and for governing the conduct of its members as may be deemed expedient and are not contrary to law.

NOW THEREFORE the Council of The Corporation of the Township of Wellington North hereby **ENACTS AS FOLLOWS:**

1. That the action of the Council at its Special Meeting held on September 30, 2013 in respect to each report, motion, resolution or other action passed and taken by the Council at its meeting, is hereby adopted, ratified and confirmed, as if each resolution or other action was adopted, ratified and confirmed by separate by-law.
2. That the Mayor and the proper officers of the Township are hereby authorized and directed to do all things necessary to give effect to the said action, or to obtain approvals where required, and, except where otherwise provided, the Mayor and the Clerk are hereby directed to execute all documents necessary in that behalf and to affix the corporate seal of the Township to all such documents.
3. That this by-law, to the extent to which it provides authority for or constitutes the exercise by the Council of its power to proceed with, or to provide any money for, any undertaking work, project, scheme, act, matter or thing referred to in subsection 65 (1) of the Ontario Municipal Board Act, R.S.O. 1990, Chapter 0.28, shall not take effect until the approval of the Ontario Municipal Board with respect thereto, required under such subsection, has been obtained.
4. That any acquisition or purchase of land or of an interest in land pursuant to this by-law or pursuant to an option or agreement authorized by this by-law, is conditional on compliance with Environmental Assessment Act, R.S.O. 1990, Chapter E.18.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED
THIS 30TH DAY OF SEPTEMBER, 2013.**

RAYMOND TOUT
MAYOR

CATHERINE MORE
DEPUTY CLERK