

6.1(a)



CAPITAL PAVING INC.

Quality Construction by Quality People

P.O. Box 815 Guelph, Ontario N1H 6L8

September 8, 2014

RECEIVED

SEP 11 2014

Township of Puslinch

Township of Puslinch
7404 Wellington Road 34
Guelph ON
N1H 6H9

File	CAP/Σ10
Council Agenda	2014/09/11
For Your Information	
Please Handle	
Copy	
TO	
CLERK'S DEPARTMENT	

ATTENTION: Ms. Karen Landry, CAO/Clerk

RE: 2014 Compliance Assessment Reports

Dear Ms. Landry,

Please find enclosed with this letter, copies of the 2014 Compliance Assessment Reports for the following aggregate sites and has also been filed with the Ministry of Natural Resources and County of Wellington:

- (1) 2014 Annual Compliance Assessment Report for Pit Licence Number 20085 – **Wellington Pit**, located on Lots 7 and 8, Concession 3, in the Township of Puslinch, County of Wellington; and
- (2) 2014 Annual Compliance Assessment Report for Pit Licence Number 5465 – **Pit 1**, located on Lot 22, Concession 7, in the Township of Puslinch, County of Wellington.

Should you have any questions, please do not hesitate to contact me at 519 – 822 – 4511.

Yours truly,
CAPITAL PAVING INC.

George Lourenco, P.Eng
Resources Manager



6.1(b)

Licensees Compliance Assessment Report - Aggregate Resources Act

Background Information			Year: 2014
Licensee: Capital Paving Inc.		Licence ID #: 20085	MNR District/Area Office: Guelph District
Lot: 7 & 8	Conc.: 3	Geographic Twp.: Township of Puslinch	Municipality: County of Wellington

Observations

OPERATING STANDARDS	IN COMPLIANCE?			COMMENTS	Remedial Action?
	Yes	No	N/A		
A - Site Access					
A1	Boundaries (clearly marked)	X			
A2	Entrance and Exits (location/closed)	X			
A3	Lease/Ownership/Extraction Agreement	Lease Agreement in place with multiple landowners			
B - Site Protection					
B4	Fencing	X			
B5	Fencing (site plan variation or temporary relief granted)	X		All fencing in place as per site plans	
B6	Screening (trees/berms)	X		Berms built according to site operations plan	
B7	Setbacks (15m / 30m or other)	X			
C - Operational Details					
C8	Operating Sequence	X			
C9	Stripping (overburden)	X			
C10	Overburden Seeded	X			
C11	Extraction Depth	X			Lowest floor elevation +/- 307 m
C12	Buildings/Scales (location)	X		Scale house located in designated area	
C13	Equipment (any specific conditions or restrictions)	X			
C14	Plant (location/any specific conditions or restrictions)	X		Plant located in designated processing area	
C15	Scrap (location/removal)	X		Scrap removed on regular basis	
C16	Stockpiles (location)	X			
C17	Topsoil (location/seeded)	X			
C18	Excavation Faces	X		Excavation faces well below regulatory limit	
C19	Ponds (location/depth)	X			
C20	Internal Roads (any specific conditions or restrictions)	X			
C21	Haul Routes (external/any specific conditions or restrictions)	X			
C22	Blast Monitoring Report (quarries only)		X	No Blasting	
C23	Dust Suppression	X		Water applied when required	
C24	Hours of Operation (any specific conditions or restrictions)	X			
C25	Well Monitoring Reports	X		Reports sent to MNR and Township Annually	
C26	Identification Sign (as per Sect. 5.22 of Provincial Standards)	X			
C27	Orderly Conditions	X			
C28	Blasting Hours (quarries only)		X	No Blasting	

Note: Any ("No") requires completion of Page 3

Date Submitted to MNR: Y / M / D	2014/09/08	Please ensure that the site plan you have is the most current, approved plan and is the same as the one MNR has on file.
Is the site held in reserve? <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO		

Copies of Report Sent to:	County/Regional Municipality	Local Municipality	Ministry of Natural Resources
(by September 30th)	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES

TO BE COMPLETED BY PERSON CONDUCTING REVIEW (including on-site inspection)			
Date Inspected: Y / M / D	2014/08/22	Review Conducted by: George Lourenco (Please Print)	Signature (if different than licensee):
Name of Company and Address: Capital Paving Inc., P.O. Box 815, Guelph ON N1H 6L8			
Position with Company: Resources Manager			

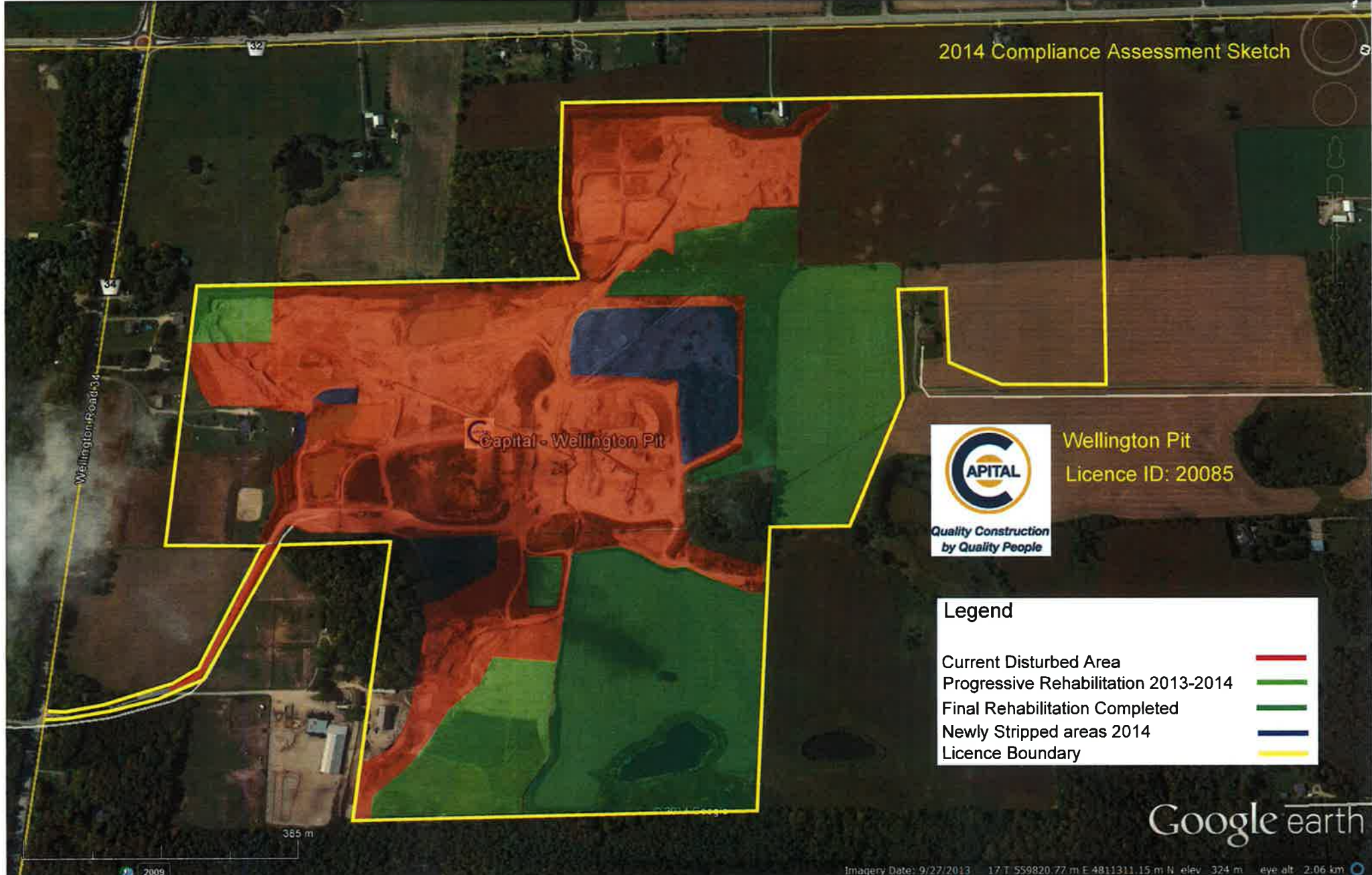
Signature of Licensee or Authorized Official:


FOR MNR OFFICE USE ONLY				
Accepted by MNR: (✓ one)	YES <input type="checkbox"/> NO <input type="checkbox"/>	Date Accepted: Y / M / D	/ /	MNR Signature:
Field Audit by MNR: (✓ one)	YES <input type="checkbox"/> NO <input type="checkbox"/>	Date Inspected: Y / M / D	/ /	MNR Signature:
Follow up Notice Required?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Licence ID #:		

- Pursuant to subsection 57(4) of the ARA, it is an offence to furnish false information.
- You must provide a sketch if remedial action is required or progressive rehabilitation has been performed.
- In order to extend the 90-day remedial action deadline date, you must obtain the Aggregate Inspector's approval (in writing) prior to filing the report with the Inspector or local MNR office.
- Please submit this report to the local Aggregate Inspector who administers your site, or the local MNR office.

(NOTE: ALL INFORMATION IN RESPECT OF THIS REPORT IS AVAILABLE FOR PUBLIC REVIEW)

2014 Compliance Assessment Sketch



Capital - Wellington Pit



Wellington Pit
Licence ID: 20085

Legend	
Current Disturbed Area	
Progressive Rehabilitation 2013-2014	
Final Rehabilitation Completed	
Newly Stripped areas 2014	
Licence Boundary	

Google earth

6.1(c)

Licensees Compliance Assessment Report - Aggregate Resources Act

Background Information			Year: 2014
Licensee: Capital Paving Inc.		Licence ID #: 5465	MNR District/Area Office: Guelph District
Lot: 22	Conc.: 7	Geographic Twp.: Township of Puslinch	Municipality: County of Wellington

Observations

OPERATING STANDARDS	IN COMPLIANCE?			COMMENTS	Remedial Action?
	Yes	No	N/A		
A - Site Access				<div style="border: 1px solid black; padding: 5px; text-align: center;"> CLERK'S DEPARTMENT </div> <div style="border: 1px solid black; padding: 5px;"> TO Copy Please Handle For Your Information Council Agenda Oct 11/14 File CAP/EIO </div>	Y
A1	Boundaries (clearly marked)	X			
A2	Entrance and Exits (location/closed)	X			
A3	Lease/Ownership/Extraction Ownership by Capital Paving Inc.				
B - Site Protection					
B4	Fencing	X			
B5	Fencing (site plan variation or temporary relief granted)	X	Relief granted on south Boundary with St. Mary's Cement		
B6	Screening (trees/birms)	X			
B7	Setbacks (15m / 30m or other)	X			
C - Operational Details					
C8	Operating Sequence	X			
C9	Stripping (overburden)	X			
C10	Overburden Seeded	X			
C11	Extraction Depth	X	Lowest floor elevation +/- 309 m		
C12	Buildings/Scales (location)	X	Located in industrial zone. Not in licence.		
C13	Equipment (any specific conditions or restrictions)	X	Located in industrial zone. Not in licence.		
C14	Plant (location/any specific conditions or restrictions)	X	Located in industrial zone. Not in licence.		
C15	Scrap (location/removal)	X			
C16	Stockpiles (location)	X			
C17	Topsoil (location/seeded)	X			
C18	Excavation Faces	X			
C19	Ponds (location/depth)	X			
C20	Internal Roads (any specific conditions or restrictions)	X	No restrictions		
C21	Haul Routes (external/any specific conditions or restrictions)	X	No conditions		
C22	Blast Monitoring Report (quarries only)		X		
C23	Dust Suppression	X	Water is applied regularly when required		
C24	Hours of Operation (any specific conditions or restrictions)	X	No Restrictions		
C25	Well Monitoring Reports	X			
C26	Identification Sign (as per Sect. 5.22 of Provincial Standards)	X			
C27	Orderly Conditions	X			
C28	Blasting Hours (quarries only)		X	No Blasting	

Note: Any ("No") requires completion of Page 3

Date Submitted to MNR: Y / M / D	2014/09/08	Please ensure that the site plan you have is the most current, approved plan and is the same as the one MNR has on file.
Is the site held in reserve? <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO		

Copies of Report Sent to:	County/Regional Municipality	Local Municipality	Ministry of Natural Resources
(by September 30th)	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES

TO BE COMPLETED BY PERSON CONDUCTING REVIEW (including on-site inspection)			
Date Inspected: Y / M / D	2014/08/22	Review Conducted by: George Lourenco (Please Print)	Signature (if different than licensee):
Name of Company and Address: Capital Paving Inc., P.O. Box 815, Guelph ON N1H 6L8			
Position with Company: <i>Resource Manager</i>			

Signature of Licensee or Authorized Official: 
--

FOR MNR OFFICE USE ONLY				
Accepted by MNR: (✓ one)	YES <input type="checkbox"/> NO <input type="checkbox"/>	Date Accepted: Y / M / D	/ /	MNR Signature:
Field Audit by MNR: (✓ one)	YES <input type="checkbox"/> NO <input type="checkbox"/>	Date Inspected: Y / M / D	/ /	MNR Signature:
Follow up Notice Required?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Licence ID #:		

- Pursuant to subsection 57(4) of the ARA, it is an offence to furnish false information.
- You must provide a sketch if remedial action is required or progressive rehabilitation has been performed.
- In order to extend the 90-day remedial action deadline date, you must obtain the Aggregate Inspector's approval (in writing) prior to filing the report with the Inspector or local MNR office.
- Please submit this report to the local Aggregate Inspector who administers your site, or the local MNR office.

(NOTE: ALL INFORMATION IN RESPECT OF THIS REPORT IS AVAILABLE FOR PUBLIC REVIEW)



September 10, 2014

Our File: 199-024

CLERK'S DEPARTMENT	
TO	
Copy	
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For Your Information	
Council Agenda	✓ OCT 11/14
File	E12/min

Township of Puslinch
 RR3, 7404 Wellington Road 34
 Guelph, ON N1H 6H9

Attention: Ms. Karen Landry
 CAO/Clerk

Re: Mini Lakes Wastewater Treatment
 Plant Effluent Monitoring Report,
 2nd Quarter (2014)

Dear Ms. Landry:

We have reviewed the "Mini Lakes Mobile Home Community Quarterly Monitoring Program – 2nd Quarter 2014" report, as submitted by Stantec Consulting Limited on August 1, 2014. We are pleased to provide our comments for your consideration.

The following table summarizes the average effluent quality for the second quarter (Q2) (column 2), the year to date (YTD) average (column 3), the 12-month rolling average (column 4), the previous YTD average (2013) (column 5) and the MOE Certificate of Approval (C of A) compliance limits (column 6).

1	2	3	4	5	6
Parameters (mg/L)	Q2 Avg., (April. 1 to June 30, 2014)	YTD Avg., (Jan. 1 to June. 30, 2014)	Twelve-Month Rolling Avg., (July 1, 2013 to June. 30, 2014) ^a	Previous YTD Avg. (Jan. 1 to Dec. 31, 2013)	Compliance Limit
CBOD ₅ ^b	18.7	17.4	16.6	12.9	20.0
TSS ^c	8.7 ^f	8.6 ^f	13.1 ^f	16.0	20.0
TP ^d	0.2	0.2	0.3	0.42	1.0
NO ₃ ^e	2.9	6.4	4.4	4.8	5.0

- a. Condition 3.1 of the MOE C of A, average is defined as "any twelve (12) consecutive calendar months"
- b. CBOD₅ = 5 day Carbonaceous Biological Oxygen Demand
- c. TSS = Total Suspended Solids
- d. TP = Total Phosphorous
- e. NO₃ = Nitrate
- f. Note: Discrepancy compared to Table 1 in Stantec report due to May 26th and June 10th TSS results reported as <10 mg/L. Results were interpreted by G&M as 10 mg/L for purposes of calculating averages. Results were interpreted by Stantec as 0 mg/L for purposes of calculating averages.

The MOE C of A requires that plant effluent be sampled and analyzed on a monthly basis for each of the parameters defined above. As a minimum, plant effluent was sampled monthly for all parameters during this quarter.

Effluent CBOD₅

The average CBOD₅ effluent concentration for this quarter was 18.7 mg/L. This is below the C of A compliance limit of 20.0 mg/L for this parameter. Effluent CBOD₅ concentrations were below the compliance limit on three of the four sampling occasions during this quarter. The exception occurred on May 26, 2014, however the sample result of 38.0 mg/L is considered an anomalous result. The twelve month rolling average for this parameter remains in compliance at 16.6 mg/L, demonstrating that the plant is generally performing acceptably with respect to CBOD₅.

Effluent TSS

The average TSS effluent concentration for this quarter was 8.7 mg/L. This is below the C of A compliance limit of 20.0 mg/L for this parameter. Effluent TSS concentrations were below the compliance limit on all four sampling occasions this quarter. The twelve month rolling average for this parameter remains below the compliance limit at 13.1 mg/L, demonstrating that the plant is generally performing well with respect to TSS.

Effluent TP

The average TP effluent concentration for this quarter was 0.2 mg/L. This is well below the C of A compliance limit of 1.0 mg/L for this parameter. Effluent TP concentrations were below the compliance limit on all three sampling occasions this quarter. The twelve month rolling average for this parameter is in compliance at 0.3 mg/L, demonstrating that the plant is generally performing well with respect to TP.

Effluent NO₃

The average effluent NO₃ concentration for this quarter was 2.9 mg/L which is below the C of A compliance limit of 5.0 mg/L for this parameter. Effluent NO₃ concentrations were below the compliance limit on two out of three sampling occasions this quarter. The twelve month rolling average remains just below the compliance limit at 4.4 mg/L. The current year to date average is 6.4 mg/L due to exceedance which occurred during the beginning of 2014 (Q1). Sludge cleanout of the system and denitrification zone was subsequently undertaken in early March as a mitigation measure and NO₃ concentrations have generally reduced for the current quarter (Q2).

The long term strategy for improving plant performance is to provide better sludge management capabilities by partitioning the existing primary clarifier into two chambers, one to be used for primary clarification and sludge storage and the other for effluent polishing. It is anticipated that this will resolve issues with sludge carryover and improve sludge and effluent recirculation abilities in order to optimize nitrogen removal.

On December 6, 2012 Stantec applied on behalf of Mini Lakes for an amendment to the Environmental Compliance Approval (ECA) for the proposed sludge management improvements as well as to re-rate the plant for an average daily flow of 158 m³/d, revise the nitrate limit upwards to 8.0 mg/L and change the definition of non-compliance to "during any calendar year" from "during any 12 consecutive calendar months". Through discussion with Dianne Paron of the Mini Lakes Residents Association, we understand that the application was published to the Environmental Registry for the mandatory 45 day public

notification and comment period on June 23, 2014. The public notification period lapsed on August 7, 2014. The Mini Lakes Residents has not received any further correspondence from the Ministry of Environment with respect to this application, however we understand that Stantec will be following up and that approval is expected to be forthcoming. We have requested that Mini Lakes provide updates on the approval as available.

Average Sewage Flows

The average daily sewage flow rate to the plant ranged between 101.8 m³/d and 110.7 m³/d during this quarter. This is below the plant's current design capacity of 216 m³/d, and proposed re-rated plant capacity of 158 m³/d. The estimated number of occupied homes ranged between 230 and 250 this quarter, which represents approximately 86% of units in the current Draft Plan of Subdivision application of 292 units.

The estimated average daily flow per home ranged between 407 L/d and 481 L/d, below the design average daily flow per home of 540 L/d. The average flow is somewhat higher than has typically been observed during this quarter in previous years. The maximum daily flow rate of 800 L/unit/day was not exceeded during this quarter.

We trust this is sufficient for your requirements. If you have any questions please call.

Yours truly,

GM BLUEPLAN ENGINEERING

Per:

A handwritten signature in black ink, appearing to read 'Amanda Pepping'.

Amanda Pepping, P.Eng.

AP/mh

cc: Ms. Dianne Paron, Mini Lakes Residents Association
Ms. Judy Beauchamp, Stantec Consulting Ltd.



6.2(c6)

Harden Environmental Services Ltd.
4622 Nassagaweya-Puslinch Townline Road
R.R. 1, Moffat, Ontario, L0P 1J0
Phone: (519) 826-0099 Fax: (519) 826-9099

- Groundwater Studies
- Geochemistry
- Phase I / II
- Regional Flow Studies
- Contaminant Investigations
- OMB Hearings
- Water Quality Sampling
- Monitoring
- Groundwater Protection Studies
- Groundwater Modeling
- Groundwater Mapping
- Permits to Take Water
- Environmental Compliance Approvals

Our File: 9801
Puslinch File: E12-MIN

September 11, 2014

Township of Puslinch
7404 Wellington Road 34
Guelph, ON, N1H 6H9

Attention: Ms. Karen Landry
CAO

CLERK'S DEPARTMENT	
TO	
Copy	
Please Handle	
For Your Information	
Council Agenda	✓ Oct 1/14
File	E12/MIN

Dear Ms. Landry;

Re: Mini Lakes 2nd Quarter 2014 – Groundwater Monitoring

We have reviewed the 2nd Quarter results of the groundwater and surface water monitoring program for Mini Lakes Mobile Home Community. The monitoring program involves obtaining water quality samples from several groundwater monitors and several surface water locations in Mill Creek and waterways within the Mini Lakes site. The purpose of the monitoring was to verify that the approved expansion of the Mini Lakes Community did not result in a degradation of groundwater and surface water.

The results presented in the July 31, 2014 CH2M Hill report confirm that neither surface water nor groundwater is showing signs of chemical/biological degradation as a result of the approved sewage works.

The surface water results indicate that total phosphorous is non-detected in all of the samples taken from Mill Creek. In addition the concentrations of nitrogen compounds (nitrate, ammonia and organic-N) are also relatively low or non-detected. E. coli have been detected in all of the water samples, however, samples taken upstream of Mini Lakes also contain E. coli therefore the presence of this bacteria cannot be attributed to activities occurring at Mini Lakes.

Groundwater samples obtained from monitoring wells immediately downgradient of the leaching beds have elevated nitrate relative to other sample areas however, water obtained farther downgradient of the beds

Township of Puslinch
September 11, 2014
Page 2

suggest that nitrate is being naturally attenuated.

We are satisfied that the water quality results indicate minimal chemical and biological impact on groundwater and surface water resources.

Sincerely,

Harden Environmental Services Ltd.

A handwritten signature in black ink on a light blue background. The signature is stylized, starting with a large 'S' and 'D' followed by a horizontal line.

Stan Denhoed, P.Eng., M.Sc.
President



Stantec Consulting Ltd.
49 Frederick Street, Kitchener ON N2H 6M7

6.2(c)

CLERK'S DEPARTMENT	
TO	1/L ~ AP/SD - AUG 28/14
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Please Handle	
For Your Information	
Council Agenda	OCT 1/14
File	E12/MIN

August 1, 2014
File: 1611 07544/31

RECEIVED
AUG 11 2014
Township of Puslinch

Attention: Karen Landry, CAO/Clerk
Township of Puslinch
R.R. #4
County Road 34 Aberfoyle
Guelph, ON N1H 6H9

Dear Ms. Landry,

Reference: Mini Lakes Mobile Home Community Quarterly Monitoring Program - 2nd Quarter 2014

Please find enclosed the wastewater treatment plant effluent results for Mini Lakes Mobile Home Community, provided in Table 1 (attached). These results are provided in accordance with the Operation and Maintenance Agreement between the Mini Lakes Residents Association and The Township of Puslinch, and the Certificate of Approval (CofA) for the sewage system. This letter represents the second quarter reporting for 2014.

As shown on Table 1, plant effluent has been sampled and analyzed on three (3) occasions for this quarter.

The average CBOD₅ concentration for the quarter is 18.7 mg/L, which is below the compliance limit of 20 mg/L. CBOD₅ values were below the compliance limit on two of three sampling occasions this quarter, with the one (1) exceedance being 38.0 mg/L on May 26, 2014 deemed to be within typical variances. The 12-month rolling average for CBOD₅ is 16.6 mg/L. Overall, the plant is deemed to be performing acceptably with respect to CBOD₅.

The average TSS concentration for the quarter is 2.0 mg/L, which is well below the compliance limit of 20 mg/L. TSS values were below the compliance limit on all three (3) sampling occasions this quarter. The 12-month rolling average for TSS is 10.8 mg/L. Overall, the plant is deemed to be performing well with respect to TSS.

The average total phosphorus (TP) concentration for the quarter is 0.2 mg/L, which is well below the compliance limit of 1.0 mg/L. TP values were below the compliance limit on all three (3) sampling occasions this quarter. The 12-month rolling average for TP is 0.3 mg/L. Overall, the plant is deemed to be performing very well with respect to TP.

The average nitrate concentration for the quarter is 2.9 mg/L, which is below the compliance limit of 5.0 mg/L. Nitrate values were below the compliance limit on two (2) of three (3) sampling occasions this quarter. The 12-month rolling average for nitrate is 4.4 mg/L, which is below the compliance limit of 5.0 mg/L due to improved performance; however, nitrate slightly exceeded the 12-month rolling average in February 2014 (5.04 mg/L), which was reported to the Ministry of the Environment. Sludge cleanout of the system and denitrification zones was subsequently undertaken in early March as a mitigating measure.



Reference: Mini Lakes Mobile Home Community Quarterly Monitoring Program – 2nd Quarter 2014

Since it has been shown that consistent denitrification is difficult to achieve, operations staff need to continue close monitoring and maintenance of the denitrification process. General measures required to maintain denitrification and phosphorus removal include, but are not limited to:

- Recording of sludge depths on a weekly or more frequent basis, and prompt sludge removal (as necessary) in all clarifiers and the effluent pump chamber.
- Regular denitrification media maintenance cleanings and removal of floatable material from the denitrification chambers.
- Use of the RBC feed-forward valves to the maximum extent possible to improve soluble carbon availability and lower dissolved oxygen in the denitrification zone.
- Daily inspections and regular cleaning of all clarifier weirs.
- Balancing of chemical dosing flows; conceptual plans have been prepared and reviewed by AWC for new chemical dosing facilities in accordance with the existing CofA.

The recommended long term plan is to provide better sludge management by partitioning the existing primary clarifier into two (2) chambers, one (1) for primary clarification and sludge storage, and the second for primary effluent polishing. This will resolve issues with sludge carryover and washout, and allow much greater flexibility in recirculating sludge and effluent in order to optimize nitrogen removal. Current issues with sludge carryover are related to the buildup of sludge in the primary clarifier and washout during high flow events. Additionally, operations staff indicated that the return sludge is deposited at the discharge end, contributing to excessive buildup prior to the rotating biological contactor trains, and thus there is a higher potential for carryover. There is also no weir/baffle assembly in this clarifier to prevent sludge from entering the clarifier overflow. The proposed upgrades are as follows:

- Primary clarifier upgrades including:
 - A partition wall separating the chamber into two compartments, an inlet and sludge storage compartment having a working volume of 73 m³ and a primary effluent compartment having a working volume of 23 m³.
 - An inlet baffle plate.
 - An outlet weir box and baffle plate.
 - Extension of all sludge recirculation piping to inlet chamber.
- Denitrification inlet modifications to allow crossover between trains for redundancy and option to run on one (1) RBC train and two (2) tertiary trains.
- One (1) new effluent pump and piping for effluent recirculation to primary clarifier inlet.
- New chemical building as previously approved.



August 1, 2014
Karen Landry, CAO/Clerk
Page 3 of 4

Reference: Mini Lakes Mobile Home Community Quarterly Monitoring Program – 2nd Quarter 2014

Implementation of these upgrades will be difficult and complex due to the need to bypass the clarifier during installation using an offline tank; however, these upgrades would improve the operational efficiency of the plant, resistance to upsets (e.g., denitrification media plugging), and provide savings related to reduced sludge haulage. These upgrades will require an amendment to the current approval. Stantec has applied on behalf of Mini Lakes for an amended Environmental Compliance Approval (ECA) as of December 6, 2012 and we expect approval and construction to begin no earlier than fall of 2014 due to delays in the ECA. With the approval amendment, we also propose to re-rate the wastewater treatment plant based on the current Draft Plan of Subdivision and subsequently revise the nitrate limit upwards to 8.0 mg/L based on lower long term projected nitrate loadings than originally designed.

It must be noted that these plans are ongoing and subject to approval and financial resources, though Mini Lakes already has approval and funding in place for the chemical building upgrades. MLRA is committed to resolving this situation, and additional monitoring of initial repairs to the denitrification media system will continue in the near term.

Results for dissolved oxygen (DO) this quarter are above optimal values at an average of 6.2 mg/L, where the objective is to be below 2 mg/L to ensure reliable denitrification. The effluent DO concentrations are lower than in the previous quarter which showed DO effluent concentrations averaging 7.5 mg/L. This is primarily related to colder water temperatures in the winter which increase the DO saturation concentration. An assessment of historic nitrate data appears to show more of a correlation between seasonal temperature variation and nitrate reduction than DO concentration; however, low DO levels are generally necessary for efficient denitrification. Higher DO is expected over the winter quarter due to higher oxygen saturation concentration in cold water.

The remaining parameters shown on Table 1 have been sampled in accordance with the CofA; however, they do not have compliance limits. The results for these additional parameters are deemed to be acceptable and are reasonable for this type of wastewater treatment plant. Results for effluent E.coli this quarter show an average of 94,333 CFU/100 mL. Results for pH this quarter are consistent with expected values at an average of 7.2.

With respect to wastewater flows this quarter, the average flow per unit estimate is approximately 443 L/unit/day. This is moderately higher than the average per unit flow over the past three (3) years of approximately 400 L/unit/day; however, this is expected during the spring quarter when infiltration and inflow is highest. The design average is 540 L/unit/day and the maximum daily design flow is 800 L/unit/day. Estimated per unit flows have not exceeded the daily design basis this quarter. The average day flow was only 49.0% of the design average day flow of 216 m³/d this quarter, and the maximum day flow never exceeded the wastewater treatment plant maximum day design flow of 320 m³/d. Based on these trends and the fact that the development as a whole is approximately 65% built out based on original design (and 90% based on current Draft Plan of Subdivision application for 292 total units), it is our opinion that infiltration and inflow are not an issue at this time. The average daily flows for each month, and the corresponding estimated number of occupied homes, is given below.



August 1, 2014
Karen Landry, CAO/Clerk
Page 4 of 4

Reference: Mini Lakes Mobile Home Community Quarterly Monitoring Program - 2nd Quarter 2014

Table 2: Sewage Flow Volumes

Month (2014)	Average Daily Flow (L/d)	Maximum Daily Flow (L/d)	Estimated Number of Occupied Homes	Estimated Flow per Unit (L/d)
April	110,738	137,810	230	481
May	105,718	130,890	240	440
June	101,788	157,320	250	407

In addition to the monitoring requirements for the wastewater treatment plant, surface water and groundwater have been monitored for the development. Please find attached the letter report from CH2M Hill Canada Limited outlining the subsurface and groundwater monitoring results.

We trust this meets with your requirements. Should you have any questions, please contact the undersigned.

Regards,

STANTEC CONSULTING LTD.


Jamie Croft, M.A.Sc., EIT
Engineer Intern
Phone: (519) 585-7438
Fax: (519) 579-8806
jamie.croft@stantec.com


Judy Beauchamp, P.Eng.
Senior Project Manager
Phone: (519) 579-7273
Fax: (519) 579-8806
judy.beauchamp@stantec.com

Attachment

- c. Ms. Dianne Paron, Mini Lakes Residents Associated (letter only)
- Ms. Lynn Zettle, Region Business Banking Centre (letter only)
- Mr. Ed McGurk, CH2M Hill Canada Limited (letter only)
- Ms. Amanda Pepping, Gamsby and Mannerow Limited (attachment)
- Ms. Lynnette Armour, Ministry of the Environment - Guelph District Office (attachment)

rmc:w:\active\161107544_mini_lakes\design\report\wastewater quarterly reports\2014-q2\let_landry_q2_quarterly_rpt_20140801.docx