

**AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER 3259-C76QGS  
Issue Date: October 26, 2021

The Valley Group (St. Mary's) Inc.  
1600 River Road E  
Kitchener, Ontario  
N2A 4K8

Site Location: Chicopee Tube Park  
1600 River Road E  
City of Kitchener, Regional Municipality of Waterloo

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

a tertiary treatment and subsurface sewage disposal system with a daily sewage flow of 16,000 litres per day, serving the Chicopee Tube Park in the City of Kitchener and consisting of the following:

**Proposed Works**

Previously installed Carbon addition system and correction of the term "post-denitrification" to "pre-denitification", in the description of the existing sewage works;

**Existing Works**

**Pre-treatment System**

- a three (3) compartment oil and grease interceptor with a minimum working volume of 4,500 litres receiving flow from the kitchen area, with the effluent from it being directed to a pre-treatment tank via a 150 millimetre diameter sewer; and
- a two (2) compartment pre-treatment tank with a total working volume of 21,000 litres, with 7,000 litres for primary treatment and the balance for equalization and additional treatment with the effluent from it being directed to a tertiary treatment system via a 65 millimetre diameter sewer;

### **Tertiary Treatment System**

- a sludge Storage tank with a capacity of 6,700 litres for solids retention and anoxic denitrification;
- a primary settling tank for the separation of suspended solids and anoxic denitrification with a capacity of 15,300 litres and a surface area of 6.32 square metres at the maximum water level;
- a bioreactor for aerobic BOD reduction and nitrification, with a capacity of 9,100 litres and containing 3.52 cubic metres of Kaldnes® K1 media or its equivalent;
- a bioreactor for aerobic BOD reduction and nitrification, with a capacity of 8,900 litres and containing 3.5 cubic metres of Kaldnes® K1 media or its equivalent;
- a fine bubble diffuser system to be installed in the bioreactors;
- air to be supplied by a one (1) horsepower compressor rated at 29 cubic metres per hour;
- a denitrification clarifier with a capacity of 3,900 litres and a surface area of 1.93 square metres at the maximum water level, for the recirculation of nitrate-rich effluent bio-solids to the sludge storage tank via submersible pump rated at 4.0 cubic metres per hour, and addition of **pre-denitrification carbon source**;
- a final clarifier with a capacity of 4,900 litres and a surface area of 3.51 square metres at the maximum water level, with the final effluent from it being directed to the pump chamber via a 150 millimetre diameter sewer and the recirculation of nitrate-rich effluent bio-solids to the sludge storage tank via a submersible pump rated at 4.0 cubic metres per hour; and
- a 18,900 litre pump chamber equipped with two (2) pumps each rated at 8.4 cubic metres per hour for a total dynamic head of 20 metres, directing the effluent to a shallow buried trench system;

### **Shallow Buried Treatment System**

- trenches constructed with a 35 millimetre trade size pressure pipe installed inside bio-diffuser chambers or an equivalent in imported sand fill with T = 10 to 20 minutes per centimetre; and
- a leaching bed covering an area of 920 square metres and containing 400 metres of shallow buried trench laid out in four (4) zones, each zone having five (5) runs of 20 metres of distribution pipe (for a

total of 400 metres);

- including all other controls, electrical equipment, mechanical components, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage Works.

all in accordance with the supporting documentation submitted to the Ministry as listed in Schedule 'A' of this Approval.

*For the purpose of this environmental compliance approval, the following definitions apply:*

1. "Approval" means this entire Approval document and any Schedules to it, including the application and Supporting Documentation;
2. "BOD<sub>5</sub>" (also known as TBOD<sub>5</sub>) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;
3. "CBOD<sub>5</sub>" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
4. "Director" means a person appointed by the Minister pursuant to Section 5 of the EPA for the purposes of Part II.I of the EPA;
5. "Grab Sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
6. "District Manager" means the District Manager of the Guelph District;
7. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
8. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
9. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the *Professional Engineers Act*, R.S.O. 1990, c. P.28;
10. "Licensed Installer" means a person who is registered under the OBC to construct, install, repair, service, clean or empty on-site sewage systems;
11. "Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

12. "OBC" means the Ontario Building Code, Ontario Regulation 332/12 (Building Code) as amended to January 1, 2015, made under the *Building Code Act*, 1992, S.O. 1992, c. 23;
13. "Owner" means The Valley Group (St. Mary's) Inc., and its successors and assignees;
14. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;
15. "Rated Capacity" means design daily sanitary sewage flow for which the Works are approved to handle;
16. "Supporting Documentation" means the documents listed in Schedule A of this Approval;
17. "Works" means the approved sewage works, and includes Existing Works.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## **TERMS AND CONDITIONS**

### **1. GENERAL PROVISIONS**

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.

### **2. CHANGE OF OWNER**

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within **thirty (30) days** of the change occurring:
  - a. change of address of Owner;
  - b. change of Owner, including address of new owner;
  - c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c.B17 shall be included in the notification to the District Manager;
  - d. change of name of the corporation where the Owner is or at any time becomes a corporation,

and a copy of the most current information filed under the *Corporations Informations Act* , R.S.O. 1990, c. C39 shall be included in the notification to the District Manager;

2. In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager and the Director.

### 3. RECORD DRAWING

1. A set of record drawings of the Works shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.

### 4. MONITORING AND RECORDING

The Owner shall, upon carry out the following monitoring program:

1. All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
2. Samples shall be collected at the sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed in the Effluent Monitoring Table included in **Schedule B**.
3. Samples shall be collected at the sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed in the Groundwater Monitoring Table included in **Schedule B**.
4. Within 60 days of the issuance of this Approval, background groundwater quality must be established by collecting groundwater samples and having them analyzed for the parameters listed in the Groundwater Monitoring Table included in **Schedule B**.
5. The Owner shall employ measurement devices to accurately measure quantity of effluent being discharged to each individual subsurface disposal system, including but not limited to water/wastewater flow meters, event counters, running time clocks, or electronically controlled dosing, and shall record the daily volume of effluent being discharged to the subsurface disposal system.
6. The Owner shall ensure that flow of treated effluent discharged into the subsurface sewage system does not exceed 16,000 L/d.

7. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:
  - a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
  - b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and
  - c. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.
8. The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

## 5. EFFLUENT LIMITS

1. The Owner shall design, construct and operate the Works such that the concentrations of the materials listed as effluent parameters in the effluent limits table in Schedule B are not exceeded in the effluent from the Works.

## 6. OPERATIONS AND MAINTENANCE

1. The Owner shall ensure that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the Works.
2. The Owner shall prepare an operations manual within **six (6) months** of the introduction of sewage to the Works, that includes, but not necessarily limited to, the following information:
  - a. operating procedures for routine operation of all the Works;
  - b. inspection programs, including frequency of inspection, for all the Works and the methods or

tests employed to detect when maintenance is necessary;

- c. repair and maintenance programs, including the frequency of repair and maintenance for all the Works; copies of maintenance contracts for any routine inspections & pump-outs should be included for all the tanks and treatment units;
  - d. procedures for the inspection and calibration of monitoring equipment;
  - e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager; and
  - f. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
3. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
  4. The Owner shall, upon the construction, prepare and make available for inspection by Ministry staff, a maintenance agreement with the manufacturer for the treatment process/technology or its authorized agent. The maintenance agreement must be retained at the site and kept current for the operational life of the Works.
  5. The Owner shall ensure that all septic tanks are pumped out every 3-5 years or when the tank is 1/3 full of solids and the effluent filters are cleaned out at minimum once a year or more often if required.
  6. The Owner shall ensure that the oil/grease interceptor is inspected and maintained on regular basis as required, and grease is disposed off site by a licensed hauler (e.g. at approved recycling sites).
  7. The Owner shall ensure that grass-cutting is maintained regularly over the subsurface disposal bed(s), and that adequate steps are taken to ensure that the area of the underground works is protected from vehicle traffic.
  8. The Owner shall visually inspect the general area where sewage works are located for break-out once every month during the operating season.
  9. In the event a break-out is observed from a subsurface disposal bed, the Owner shall do the following:

- a. sewage discharge to that subsurface disposal system shall be discontinued;
  - b. the incident shall be **immediately** reported verbally to the Spills Action Centre (SAC) at (416) 325-3000 or 1-800-268-6060;
  - c. submit a written report to the District Manager within **one (1) week** of the break-out;
  - d. access to the break-out area shall be restricted until remedial actions are complete;
  - e. during the time remedial actions are taking place the sewage generated at the site shall not be allowed to discharge to the environment; and
  - f. sewage generated at the site shall be safely collected and disposed of through a licensed waste hauler to an approved sewage disposal site.
10. The Owner shall employ for the overall operation of the Works a person who possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.

## 7. REPORTING

1. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges), the Owner shall, within **fifteen (15) days** of the occurrence of any reportable spill as provided in Part X of the EPA and Ontario Regulation 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.
2. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
3. The Owner shall prepare, and submit upon request to the District Manager, a performance report, on an annual basis, within **ninety (90) days** following the end of each operational season. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:
  - a. a summary and interpretation of all monitoring data and a comparison to the Effluent Limits including an overview of the success and adequacy of the Works, and a Contingency Plan in the event of not in compliance with the Effluent Limits.
  - b. a summary and interpretation of groundwater monitoring data;



- c. a summary and interpretation of surface water monitoring data;
  - d. a review and assessment of performance of sewage works, including all treatment units and disposal beds;
  - e. a description of any operating problems encountered and corrective actions taken at all sewage Works located at the property;
  - f. a record of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of all Works located at the property' including but not limited to: records of maintenance inspections for the treatment system, records of septic tank effluent filters cleaning, records of septic tank pump-outs, records of sludge pump-outs accumulated from the treatment system, records of visual inspections of all disposal systems;
  - g. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
  - h. a summary and interpretation of all daily flow data and results achieved in not exceeding the maximum daily sewage flow discharged into each one of the subsurface disposal system;
  - i. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
  - j. a summary of all spill or abnormal discharge events;
  - k. any other information the District Manager requires from time to time;
4. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is included to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this Approval the existence of this Approval.
2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
3. Condition 3 is included to ensure that the effluent discharged from the Works to the groundwater meets the

Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.

4. Condition 4 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives specified in the Approval and that the Works does not cause any impairment to the receiving watercourse.
5. Condition 5 is included to ensure that the effluent discharged from the Works meets the Ministry's effluent quality requirements, as specified, on a continuous basis, thus minimizing environmental impact on the receiver.
6. Condition 6 is included to require that the Works be properly operated, maintained, and equipped such that the environment is protected. As well, the inclusion of an operations manual, maintenance agreement with the manufacturer for the treatment process/technology and a complete set of "as constructed" drawings governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the Ministry. Such information is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the work.
7. Condition 7 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

## **Schedule A**

1. Application for Environmental Compliance Approval December 3, 2020 and received on December 16, 2020.

## Schedule B

### Effluent Monitoring Table

<b>Sampling Location</b>	on discharge from the effluent from the final clarifier and effluent from the pre-treatment tank of the Tertiary Treatment System
<b>Frequency</b>	Bi-weekly during operating season
<b>Sample Type</b>	Grab
<b>Parameters</b>	CBOD <sub>5</sub> Total Suspended Solids (TSS) Total Phosphorus (TP) Total Ammonia Nitrogen (TAN) (Ammonia + Ammonium) Nitrogen Nitrate Nitrogen Nitrite Nitrogen Total Kjeldhal Nitrogen (TKN) pH Temperature (ambient and wastewater) E. coli (final effluent only)

### Effluent Limits Table

<b>Effluent Parameter</b> (tested on outlet from the final Waterloo Biofilter Treatment Units)	<b>Concentration Limit</b> (milligrams per litre unless otherwise indicated)
CBOD5	20
Total Suspended Solids (TSS)	20
Nitrate-Nitrogen	7

## Groundwater Monitoring Table

<b>Sampling Location</b>	Three (3) groundwater monitoring wells, two (2) easterly down-gradient wells and one (1) westerly well up-gradient of the subsurface disposal system as shown in the Schedule C
<b>Frequency</b>	Monthly
<b>Sample Type</b>	Grab
<b>Parameters</b>	Nitrate - Nitrogen Nitrite - Nitrogen Total Kjeldahl Nitrogen (TKN) Water level

Schedule C

**Location of the Groundwater Monitoring Wells**



**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).  
0317-AM7RMS issued on May 11, 2017.**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

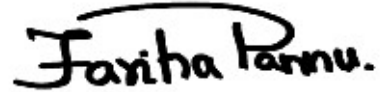
AND

The Director appointed for the purposes of Part II.1 of  
the Environmental Protection Act  
Ministry of the Environment, Conservation and Parks  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 26th day of October, 2021



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Fariha Pannu, P.Eng.  
Director  
appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*

KH/

c: District Manager, MECP Guelph District.  
David Morlock, P.Eng., FlowSpec Engineering Ltd.