Ontario

Ministry of the Environment, Conservation and Parks
Ministère de l'Environnement, de la Protection de la nature et des Parcs

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 0062-C2FJPS
Issue Date: September 15, 2021

DiCiocco Sonny Farms Inc.
308 Talbot Rd E
Leamington, Ontario
N8H 3V6

Site Location: 310 Talbot Road East
Lot 239, STR Concession
Leamington Municipality, County of Essex

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:

establishment, usage and operation of new non-municipal sewage works, for the treatment of sanitary sewage from a greenhouse, two bunkhouses and one residence, and subsurface disposal of effluent via a Sewage Treatment Plant and Final Effluent disposal facilities as follows:

Classification of Sewage Treatment Plant: Secondary

Details of Service Area:

- **Type of Occupancy**: Greenhouse Work Camp
- **Type and Number of Units:** one (1) existing bunkhouse with 36 camp workers, one (1) proposed bunkhouse with 60 camp workers, one (1) expanded greenhouse with 10 office/warehouse employees, and one (1) four bedroom dwelling

Design Capacity of Sewage Treatment Plant:

Design Capacity with All Treatment Trains in Operation	Existing Works
Maximum Daily Flow of the Existing Residence's Wastewater Treatment System	**2,000 L/d**
Maximum Daily Flow of the Existing Bunkhouse's Wastewater Treatment System	**7,200 L/d**
Maximum Daily Flow of the Greenhouse and Bunkhouse's Biological Treatment System	**19,350 L/d**
Maximum Daily Flow of the Greenhouse and Bunkhouse's Post-Secondary Treatment System	**24,750 L/d**

Influent

Receiving Location	Types
In Collection System	Sanitary Sewage
At Sewage Treatment Plant	None

Proposed Works:

Existing Residence's Wastewater Treatment System

- one (1) existing two-compartment concrete septic tank of unknown size, equipped with an OBC approved effluent filter on the outlet pipe and two (2) access risers fitted to grade at the inlet and outlets of the tank with watertight and lockable covers, collecting raw sewage from the existing four bedroom residence, discharging effluent to the existing absorption trench leaching bed of unknown size via a distribution box;

Existing Bunkhouse's Wastewater Treatment System

Primary Treatment System

- one (1) existing 4,050 L capacity grease interceptor, collecting domestic sewage from the existing bunkhouse kitchen;

- one (1) existing 29,500 L capacity two-compartment concrete septic tank, equipped with an OBC approved effluent filter on the outlet pipe and two (2) access risers fitted to grade at the inlet and outlets of the tank with watertight and lockable covers, collecting effluent from the existing grease interceptor described above and raw sewage from the existing bunkhouse's washrooms, discharging effluent via a 100 mm diameter gravity pipe to the existing pump chamber described below;

- one (1) existing 9,100 L capacity concrete pump chamber, equipped with a high level visual/audible alarm system and alternating duplex (2) submersible time-dosed pumps (Little Giant WS50M-12-20 or Equivalent Equipment) each with a rated capacity of approximately 125 L/min at 10 m total dynamic head (TDH), discharging effluent to the existing biofilter tank described below via a 50 mm forcemain at a maximum daily flow rate of 7,200 L/d (96 cycles/day with approximately 75 L/cycle);

Secondary Treatment System

- one (1) existing 18,200 L capacity precast concrete biofilter tank, equipped with two (2) wire mesh baskets filled with a minimum of 15.0 m^3 of Waterloo Biofilter media and alternating duplex (2) submersible time-dosed effluent pumps (Little Giant WS50M-12-20 or Equivalent Equipment) each rated at 125 L/min at 10 m TDH, discharging effluent to the proposed flocculation tank described below via a 50 mm forcemain at a maximum daily flow of 7,200 L/day (12 cycles/day with approximately 600 L/cycle);

Greenhouse and Bunkhouse Wastewater Treatment System

Greenhouse Preliminary Treatment System

- one (1) existing 9,100 L capacity two-compartment concrete septic tank, equipped with an OBC approved effluent filter on the outlet pipe and two (2) access risers fitted to grade at the inlet and outlets of the tank with watertight and lockable covers, collecting raw sewage from the greenhouse, discharging effluent via a 100 mm diameter gravity pipe to the existing pump chamber described below;

- one (1) existing 4,500 L capacity concrete pump chamber, equipped with a high level visual/audible alarm system and alternating duplex (2) submersible demand-dosed pumps (Little Giant WS50M-12-20 or Equivalent Equipment) each with a rated capacity of approximately 125 L/min at 10 m TDH, discharging effluent to the proposed equalization tank described below via a 50 mm forcemain at a maximum daily flow rate of 2,550 L/d;

Influent Flow Measurement and Sampling Point

- One (1) flow measurement device at the outlet of the biofilter tank described above;

- One (1) flow measurement device at the outlet of the equalization tank described below;

Preliminary Treatment System

- one (1) 4,050 L working capacity grease interceptor, collecting domestic sewage from the proposed bunkhouse kitchen;

- one (1) 14,200 L working capacity equalization tank, equipped with a high level visual/audible alarm system and alternating duplex submersible time-dosed effluent pumps (BJM model SV400 or Equivalent Equipment) each rated at 135 L/min at a 4.5 m TDH, receiving effluent from the

Greenhouse Preliminary Treatment System, effluent from the proposed bunkhouse's grease interceptor and raw sewage from the proposed bunkhouse's washrooms and the existing bunkhouse's laundry, discharging to the sludge storage / primary clarification tank described below at a maximum daily flow of 19,350 L/day (24 cycles per day with 810 L dosed per cycle);

- one (1) two-compartment concrete sludge storage / primary clarification tank with the first compartment operating as the online sludge storage tank with a working capacity of 20,000 L and the second compartment operating as the primary clarifier with a working capacity of 9,400 L and a surface area of 3.53 m^2, equipped with a minimum of two (2) access risers fitted to grade with watertight and lockable covers, discharging effluent via a 150 mm diameter gravity pipe to the proposed moving bed bioreactor described below;

Secondary Treatment System

- Biological Treatment
    - Two (2) moving bed bioreactor tanks in series, one with a 7,000 L working capacity and the other with a 6,500 L working capacity, each equipped with a fine bubble aeration system and a minimum of 2.9 m^3 of plastic carrier with a surface area of 500 m^2/m^3, discharging effluent to the flocculation tank described below;
    - One (1) effluent return pump (Goulds model LSP0311F or Equivalent Equipment), equipped on the second moving bed bioreactor described above, returning effluent to the sludge storage / primary clarification tank;
    - Two (2) air blowers (FPZ model SCL K04-MS-2-3 NP or Equivalent Equipment) each with a capacity of 53 m^3/hr at 15.8 kPa and equipped with variable frequency drives;
- Phosphorus Treatment
    - One (1) 2,400 L working capacity flocculation tank, equipped with one (1) mixing pump (Goulds model LSP0311F or Equivalent Equipment) and two (2) eductors, discharging effluent to the secondary clarifier described below;
- Secondary Sedimentation
    - One (1) 3.07 m x 1.85 m x 1.37 m SWD secondary clarifier with sludge and scum removal mechanisms, discharging effluent to the intermediate pump tank described below;
    - Two (2) sludge return pumps (Goulds LSP0311F or Equivalent Equipment) and one (1) scum return pump (Goulds LSP0311F or Equivalent Equipment), each with a capacity of 75 L/s at 4.5 m TDH, discharging sludge and scum to the sludge storage / primary clarification tank described above;

Supplementary Treatment System

- Phosphorus Removal

    - One (1) 680 L capacity phosphorus removal chemical storage tank and two (2) metering pumps (ProMinent model CNPb-1601 or Equivalent Equipment) each rated at 0 - 23.3 mL/min to dose phosphorus removal agents (Neo RE300 or Equivalent Equipment) into the flocculation tank;

Post-Secondary Treatment System

- one (1) 4,400 L working volume intermediate pump tank, equipped with alternating duplex (2) submersible demand-dosed pumps (Little Giant model WE30G05-P4-22 or Equivalent Equipment) each with a rated capacity of approximately 35 L/min at a 33 m TDH, discharging effluent to the filter described below at a maximum daily flow of 24,750 L/day;

- One (1) .356 m diameter x 1.65 m filter cell (Canature model Nextsand NXT-ANS 14-01" or Equivalent Equipment) rated for 54,432 L/day, equipped with an intermittent backwash system, discharging the effluent to the disinfection system described below and the filter backwash to the first compartment of the sludge storage / primary clarification tank described above;

Disinfection System

- Two (2) UV disinfection units in series (VIQUA model F4 or Equivalent Equipment) (one for redundancy), each rated for 136 L/min with a minimum UV dosage of 30 mJ/cm^2, discharging effluent to the final pump tank described below;

Final Effluent Disposal Facilities

- one (1) 8,600 L working capacity final pump tank, equipped with alternating duplex (2) submersible demand-dosed pumps (Liberty model 280 or Equivalent Equipment) each with a rated capacity of approximately 110 L/min at 8 m TDH, discharging effluent at a maximum daily flow of:

    - 18,750 L/day to the new leaching bed described below via a 50 mm diameter forcemain and a precast concrete distribution box; and

    - 6,000 L/day to the existing leaching bed described below via a 50 mm diameter forcemain;

- One (1) raised Type A Dispersal Bed, consisting of four (4) cells with a total of twenty-four (24) runs (6 runs per cell) of 75 mm distribution piping, each 12.9 m long with a 1.2 m centre separation distance for a total length of 309.6 m, installed within a minimum 275 mm deep stone layer with an area of 403.2 m^2 (28.0 m x 14.4 m), having the base of the stone layer installed a minimum of 600 mm above the high ground water table, underlain by a 600 mm deep sand layer with a total contact area of 2,175 m^2 (37.5 m x 58.0 m) extending a minimum of 15 m beyond the outermost distribution pipes in the directions in which the effluent will move laterally in the soil away from the bed;

- One (1) existing raised Type A Dispersal Bed, consisting of one (1) cell with a total of thirteen (13) runs of 75 mm distribution piping, each 14.0 m long with a 1.0 m centre separation distance for a total length of 182 m, installed within a 275 mm deep stone layer with an area of 199.5 m^2 (15.0 m x 13.3 m), having the base of the stone layer installed a minimum of 600 mm above the high ground water table, underlain by a 600 mm deep sand layer with a total contact area of 750 m^2 (37.5 m x 20.0 m) extending a minimum of 15 m beyond the outermost distribution pipes in the direction in which the effluent will move laterally in the soil away from the bed;

- one (1) approximately 210 m long x 725 m wide contaminant attenuation zone located at 302 Talbot Street East, Leamington;

Final Effluent Flow Measurement and Sampling Point

- flow measurement device at outlet of disinfection channel;

Groundwater Containment

- one (1) 92.0 m long x 2 m deep cutoff wall, consisting of an impermeable HDPE geomembrane, located adjacent to the leaching beds along the eastern property line;

including all other mechanical system, electrical system, instrumentation and control system, standby power system, access risers fitted to grade with with watertight and lockable covers, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the Works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only;

all in accordance with the submitted supporting documents listed in Schedule A.

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

1. "Annual Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year, calculated and reported as per the methodology specified in Schedule E;

2. "Annual Geometric Mean Density" is the mean of all Single Sample Results of *E.coli* measurement in the samples taken during a calendar year;

3. "Annual Maximum Daily Influent Flow" means the maximum Influent collected in a single day during a calendar year;

4. "Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;

5. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;

6. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

7. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

8. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;

9. "*E. coli* " refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on the method selected, incubation temperatures include 35.5 + 0.5 °C or 44.5 + 0.2 °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);

10. "EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19;

11. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;

12. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;

13. "Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, that are required to meet the compliance limits stipulated in the Approval for the Sewage Treatment Plant at the Final Effluent sampling point(s);

14. "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;

15. "Influent" means flows to the Sewage Treatment Plant from the collection system.

16. "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;

17. "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;

18. "Normal Operating Condition" means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity;

19. "Operating Authority" means the Owner, person or the entity that is authorized by the Owner for the

management, operation, maintenance, or alteration of the Works in accordance with this Approval;

20. "Owner" means DiCiocco Sonny Farms Inc. and its successors and assignees;

21. "OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40;

22. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;

23. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;

24. "Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;

25. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;

26. "Works" means the approved sewage works, and includes Proposed Works and 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 AND OPERATING AUTHORITY

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. B.17* , as amended, shall be included in the notification;

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 Information Act, R.S.O. 1990, c. C.39* , as amended, shall be included in the notification.

2. The Owner shall notify the District Manager, in writing, of any of the following changes within thirty (30) days of the change occurring:

   a. change of address of Operating Authority;

   b. change of Operating Authority, including address of new Operating Authority.

3. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in writing, of the existence of this Approval, and forward a copy of the notice to the District Manager.

4. The Owner shall ensure that all communications made pursuant to this condition refer to the environmental compliance approval number.

3. CONSTRUCTION OF PROPOSED WORKS

1. All Proposed Works in this Approval shall be constructed and installed and must commence operation within five (5) years of issuance of this Approval, after which time the Approval ceases to apply in respect of any portions of the Works not in operation. In the event that the construction, installation and/or operation of any portion of the Proposed Works is anticipated to be delayed beyond the time period stipulated, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the delay and whether there is any design change(s).

2. Upon completion of construction of the Proposed Works, the Owner shall prepare and submit a written statement to the District Manager, certified by a Licensed Engineering Practitioner, that the Proposed Works is constructed in accordance with this Approval.

3. One (1) week prior to the commencement of the operation of the Proposed Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.

4. Within one (1) year of completion of construction of the Proposed Works, a set of record drawings of the Works shall be prepared or updated. These drawings 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.

5. The Owner shall ensure that the treatment technologies are installed in accordance with the

manufacturer's installation manual.

6. The Owner shall ensure that the Works are constructed such that minimum horizontal clearance distances as specified in the OBC are satisfied.

7. The Owner shall ensure that an imported soil that is required for construction of any subsurface disposal bed as per this Approval is tested and verified by the Licensed Engineering Practitioner for the percolation time (T) prior to delivering to the site location and the written records are kept at the site.

4. DESIGN OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Sewage Treatment Plant in accordance with the following objectives:

   a. Final Effluent parameters design objectives listed in the table(s) included in Schedule B.

   b. Annual Maximum Daily Influent Flow is within the Design Capacity of the Sewage Treatment Plant.

5. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the Final Effluent parameters listed in the table(s) included in Schedule C are met.

2. The Owner shall operate and maintain the Sewage Treatment Plant such that the Final Effluent is disinfected continuously year-round.

6. GROUNDWATER

1. The owner shall install two (2) groundwater monitoring wells between the dispersal beds and the cutoff wall, and one (1) groundwater monitoring well between the cutoff wall and the eastern property boundary.

2. Prior to the use of the Proposed Works, groundwater background quality shall be established by collecting groundwater samples at the approved monitoring wells, and having them analyzed for the parameters and frequency outlined in Schedule D.

3. The Owner shall develop a Reasonable Use Policy Objective (Cm) for nitrate using the arithmetic mean of the background concentration (Cb) obtained under paragraph 2, as per the Ministry's Guideline B-7 "Incorporation of the Reasonable Use Concept into MOE Groundwater Management Activities", April 1994.

4. The Owner shall design and undertake everything practicable to maintain the Works with the objective that the Works meet Ministry's Reasonable Use Concept - Guideline B-7 for nitrate at the one (1)

groundwater monitoring well located between the cutoff wall and the eastern property boundary.

5. In the event of any groundwater sample exceeding the nitrate trigger established under paragraphs 3 and 4, the Owner shall:

    a. report to the District Manager in writing within seven (7) days; and

    b. prepare, within one (1) month of becoming aware of the exceedance, a contingency plan acceptable to the District Manager that includes, but not limited to the following:

        i. a description of the procedures to be established to identify the source(s) and reason(s) of the exceedance; and

        ii. a description of methods or procedures to be followed in making every effort to ensure that the monitoring parameters do not exceed the respective groundwater objective concentration.

7. OPERATION 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 staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA, process controls and alarms and the use of process chemicals and other substances used in the Works.

2. The Owner shall prepare/update the operations manual for the Works within six (6) months of completion of construction of the Proposed Works, that includes, but not necessarily limited to, the following information:

    a. operating procedures for the Works under Normal Operating Conditions;

    b. inspection programs, including frequency of inspection, for 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 the Works;

    d. procedures for the inspection and calibration of monitoring equipment;

    e. operating procedures for the Works to handle situations outside Normal Operating Conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition;

    f. 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;

g. procedures for receiving, responding and recording public complaints, including recording any followup 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 maintain a logbook to record the results of all inspections, repair and maintenance undertaken, calibrations, monitoring and spill response or contingency measures undertaken and shall make the logbook available for inspection by Ministry staff. The logbook shall include the following:

   a. the name of the operator making the entry; and

   b. the date and results of each inspection, repair, maintenance, calibration, monitoring, spill response and contingency measure.

5. Upon construction, the Owner shall enter and maintain a service and maintenance agreement with the manufacturers of the treatment processes/technologies for the operational life of the Works. The service and maintenance agreement documents must be retained at the site, kept current and made available for inspection by the Ministry staff.

6. 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.

7. The Owner shall visually inspect the general area where sewage works are located for break-out once every month during the operating season.

8. 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.

9. The Owner shall ensure that the septic tanks be inspected at least twice per year by a qualified person, and the sewage sludge accumulated in the septic tanks be periodically withdrawn at the frequency required to maintain efficiency of the treatment system. The effluent filters in septic tanks shall be cleaned out at least once every six (6) months, when the tank is pumped out, or as determined by the Operating Authority, whichever comes first.

10. The Owner shall ensure that the Operating Authority possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.

11. The Owner shall have a valid written agreement with a hauler who is in possession of a Waste Management Systems Approval, for the treatment and disposal of the sludge generated from the Works, at all times during operation of the Works.

12. The Owner shall ensure the grease interceptors be cleaned out at least once per year, or more frequently as determined by the Works operator, for removal of fats, oil and grease from the kitchen wastewater.

13. The Owner shall ensure that flow of treated effluent discharged into the Greenhouse and Bunkhouse Wastewater Treatment System's subsurface sewage system does not exceed 24,750 litres per day.

14. The Owner shall retain a Licensed Engineering Practitioner or Registered Installer to conduct an inspection of the Existing Residence Wastewater Treatment System's subsurface disposal bed every five (5) years after issuance of this Approval, and prepare an Inspection Report that shall provide at a minimum, the following information:

    1. Details about general operational condition of the Works.

    2. Assessment of potential indications of failure of the Works, including but not limited to offensive odours, ponding on disposal beds or near underground tanks, sewage back-ups, etc.

15. Upon request, the Owner shall make the Inspection Reports available to Ministry staff.

8. MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out a scheduled monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in Schedule D and record all results, as follows:

    a. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.

    b. definitions and preparation requirements for each sample type are included in document referenced

in Paragraph 2.b.

c. definitions for frequency:

i. Monthly means once every month;

ii. Quarterly means once every three months;

iii. Annually means once every year;

d. a schedule of the day of the week/month for the scheduled sampling shall be created. The sampling schedule shall be revised and updated every year through rotation of the day of the week/month for the scheduled sampling program, except when the actual scheduled monitoring frequency is three (3) or more times per week.

2. 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;

b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;

c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended; and

d. for any parameters not mentioned in the documents referenced in Paragraphs 3.a, 3.b and 3.c, the written approval of the District Manager shall be obtained prior to sampling.

3. The Owner shall monitor and record the flow rate and daily quantity using flow measuring devices or other methods of measurement as approved below calibrated to an accuracy within plus or minus 15 per cent (+/- 15%) of the actual flowrate of the following:

a. Influent flow to the Sewage Treatment Plant by continuous flow measuring device;

b. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring device;

4. 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.

9. REPORTING

1. 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.

2. 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.

3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

4. The Owner shall prepare performance reports on a calendar year basis and submit to the District Manager in an electronic format by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:

   a. a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;

   b. a summary and interpretation of all flow data and results achieved in not exceeding the maximum daily flow discharged into the subsurface disposal system;

   c. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;

   d. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;

   e. a summary and interpretation of groundwater monitoring data including shallow groundwater flow direction, interpretation of analytical results and an assessment of compliance with the MOE Guidelines B-7 "Incorporation of the Reasonable Use Concept into MOE Groundwater Management Activities", April 1994 for nitrate;

   f. a summary of recommendations and contingency measures to improve treatment performance and compliance (for both surface water and groundwater);

   g. an annual review of the performance of the cutoff wall;

   h. a summary of all operating issues encountered and corrective actions taken;

   i. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;

   j. a summary of any effluent quality assurance or control measures undertaken;

k. a summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;

l. a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions when any of the design objectives is not achieved more than 50% of the time in a year or there is an increasing trend in deterioration of Final Effluent quality;

m. a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

n. a summary of any complaints received and any steps taken to address the complaints;

o. a summary of all situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;

p. any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Proposed Works;

q. any other information the District Manager requires from time to time.

10. CERTIFICATE OF REQUIREMENT

1. Pursuant to Section 197 of the EPA, no person having an interest in the Property, shall deal with the Property in any way without first giving a copy of this Approval to each person acquiring an interest in the Property as a result of the dealing.

2. The Owner shall:

    a. within sixty (60) days of the date of the issuance of this Approval, submit to the Director for their review, two copies of a completed Certificate of Requirement and a registerable description of the Property; and

    b. within ten (10) calendar days of receiving the Certificate of Requirement authorized by the Director, register the Certificate of Requirement in the appropriate Land Registry Office on title to the Property and submit to the Director the duplicate registered copy immediately following registration.

3. For the purposes of this condition, Property shall mean the property located a 302 Talbot Street East, Leamington.

Schedule A

1. Environmental Compliance Approval Application for a Municipal and Private Sewage Works submitted and signed by Henry DiCiocco, Owner of DiCiocco Sonny Farms Inc., dated October 21, 2020 and received on November 27, 2020, and all supporting documentation and information.

2. Design Brief, dated November 30, 2020 and revised on June 21, 2021, including calculations and engineering drawings, prepared by FlowSpec Engineering Ltd.

3. Emails from David Morlock, FlowSpec Engineering Ltd., to Nick Zambito, MECP, dated July 9, 2021, July 21, 2021, and August 6, 2021.

Schedule B

Final Effluent Design Objectives

Concentration Objectives

Final Effluent Parameter	**Averaging Calculator**	**Objective** (maximum unless otherwise indicated)
CBOD5	Annual Average Effluent Concentration	10.0 mg/L
Total Suspended Solids	Annual Average Effluent Concentration	10.0 mg/L
Total Phosphorus	Annual Average Effluent Concentration	0.2 mg/L
Total Ammonia Nitrogen	Annual Average Effluent Concentration	1.0 mg/L
E. coli	Annual Geometric Mean Density	*100 CFU/100 mL
pH	Single Sample Result	between 6.0 - 9.5 inclusive

*If the MPN method is utilized for *E. coli* analysis the objective shall be 100 MPN/100 mL.

Schedule C
Final Effluent Compliance Limits

Concentration Limits

Final Effluent Parameter	**Averaging Calculator**	**Limit** (maximum unless otherwise indicated)
CBOD5	Annual Average Effluent Concentration	20.0 mg/L
Total Suspended Solids	Annual Average Effluent Concentration	20.0 mg/L
Total Phosphorus	Annual Average Effluent Concentration	0.3 mg/L
Total Ammonia Nitrogen	Annual Average Effluent Concentration	2.0 mg/L
E. coli	Annual Geometric Mean Density	*200 CFU/100 mL
pH	Single Sample Result	between 6.0 - 9.5 inclusive

*If the MPN method is utilized for *E. coli* analysis the limit shall be 200 MPN/100 mL.

Schedule D

Monitoring Program

Influent - Influent sampling point

Parameters	Sample Type	Minimum Frequency
BOD5	Grab	Quarterly
Total Suspended Solids	Grab	Quarterly
Total Phosphorus	Grab	Quarterly
Total Kjeldahl Nitrogen	Grab	Quarterly

Final Effluent - Final Effluent sampling point

Parameters	Sample Type	Minimum Frequency
CBOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Ammonia Nitrogen	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly
Nitrate as Nitrogen	Grab	Monthly
Nitrite as Nitrogen	Grab	Monthly
E. coli	Grab	Monthly
pH*	Grab/Probe/Analyzer	Monthly
Temperature*	Grab/Probe/Analyzer	Monthly
Un-ionized Ammonia**	As Calculated	Monthly

*pH and temperature of the Final Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen.

**The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended.

Sludge – sludge storage tank

Parameters	Sample Type	Minimum Frequency
Total Solids	Grab	Annually
Total Phosphorus	Grab	Annually
Total Ammonia Nitrogen	Grab	Annually
Nitrate as Nitrogen	Grab	Annually
Metal Scan - Arsenic - Cadmium - Cobalt - Chromium - Copper - Lead - Mercury - Molybdenum - Nickel - Potassium - Selenium - Zinc	Grab	Annually

Groundwater - All Groundwater monitoring wells***

Parameters	Sample Type	Minimum Frequency
Total Ammonia Nitrogen	Grab	Quarterly**
Total Kjeldahl Nitrogen	Grab	Quarterly**
Nitrate as Nitrogen	Grab	Quarterly**
Nitrite as Nitrogen	Grab	Quarterly**
Static Water Level	Probe/Analyzer	Quarterly*

*The quarterly frequency is required for a minimum of 5 years from the date of issuance of the Approval, at which time it can be reduced to twice per year thereafter.

**The quarterly frequency is required for a minimum of 1 year from the date of issuance of the Approval, at which time it can be reduced to twice per year for the following 4 years and then annually thereafter. Sampling shall occur in the spring and/or late summer/early fall.

Schedule E

Methodology for Calculating the Monthly Geometric Mean Density

Monthly Geometric Mean Density

Geometric mean is defined as the n^{th} root of the product of n numbers. In the context of calculating Monthly Geometric Mean Density for *E. coli*, the following formula shall be used:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n}$$

in which,

"n" is the number of samples collected during the calendar month; and

"x" is the value of each Single Sample Result.

For example, four weekly grab samples were collected and tested for *E. coli* during the calendar month. The *E. coli* densities in the Final Effluent were found below:

Sample Number	*E. coli* Densities* (CFU/100 mL)
1	10
2	100
3	300
4	50

The Geometric Mean Density for these data:

$$\sqrt[4]{10 \times 100 \times 300 \times 50} = 62$$

*If a particular result is zero (0), then a value of one (1) will be substituted into the calculation of the Monthly Geometric Mean Density. If the MPN method is utilized for E. coli analysis, values in the table shall be MPN/100 mL.

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

1. Condition 1 regarding general provisions is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted.

2. Condition 2 regarding change of Owner and Operating Authority is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Authority of the 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 regarding construction of Proposed Works is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction to ensure the ongoing protection of the environment, and that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, and also ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.

4. Condition 5 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.

5. Condition 6 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the

Works to the environment meets the Ministry's effluent quality requirements.

6. Condition 7 is imposed to ensure that the effluent discharged from the Works to the groundwater meets the Ministry's effluent quality requirements at the property boundary, thus minimizing environmental impact on the receiver.

7. Condition 8 regarding operation and maintenance is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner. Such a manual 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 Works.

8. Condition 9 regarding monitoring and recording 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 and compliance limits.

9. Condition 10 regarding reporting 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 this Approval.

10. Condition 11 is included in order to require the Owner to give notice of this Approval to potential future owners of the property before the property is dealt with.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. 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.

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 Minister of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto, Ontario M7A 2J3	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**

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at https://ero.ontario.ca/ , you can determine when the leave to appeal period ends.

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

DATED AT TORONTO this 15th day of September, 2021

Fariha Pannu.

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

NZ/
c: Area Manager, MECP Windsor
c: District Manager, MECP Sarnia
David Morlock, FlowSpec Engineering Inc.