

## **SCHEDULE C – Wells and Natural Features**

### **PURPOSE**

The purpose of this document is to describe the agreed to protocol and processes that shall be put in place to guide key stakeholders should there be an unacceptable reduction in groundwater quantity and/or degradation in water quality as a result of below water table extraction at the proposed Strada Aggregates Inc. (Strada) quarry (the “Quarry”).

The Ontario Water Resources Act in part ensures, if a well disruption is observed, and water quantity or quality diminishes, the person or organization responsible for the disruption is responsible for returning the groundwater to its former condition. This protocol was developed with this fundamental policy in mind based on the following trigger: *If the science proves that the Strada below the water table application for the Quarry is viable and the application is filed, in lieu of NDACT objecting to the application, NDACT requires Strada to follow this protocol that protects water supply wells and natural features at Strada's expense and to fund all costs associated with remediating unanticipated well and/or natural features issues demonstrated to be the result of Strada's Quarry operations for participating landowners.*

This document includes a description of:

- Identifying the Target Participation Area
- Registering Participants in the Program
- Well and Natural Feature Monitoring
- Water and Natural Feature Disruption Complaint Procedures
- Reporting

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### **THE PROTOCOL**

#### **LIFESPAN**

This protocol shall commence on date of signing and terminate when the Quarry license is surrendered. The Complaint Procedures, Reporting and Funding Solutions listed herein commence upon Strada's receipt of a license under the Aggregate Resources Act.

#### **PROGRAM INITIATION**

##### ***IDENTIFY THE TARGET PARTICIPATION AREA (TPA)***

Strada's Hydrogeologist and the Community Peer Reviewer (CPR) shall:

- Map out and identify the specific TPA through the application development process.
- Identify the proposed site and its monitoring wells within the TPA
- Identify all landowner properties within the TPA

Strada in consultation with NDACT shall:

- Develop a database for tracking all landowner properties within the TPA
- Develop the processes to register Participating Landowners and inventory their wells and natural features information

##### ***IDENTIFY THE TARGET PARTICIPANTS***

Landowners within the TPA who agree to participate in the protocol including registering, establishing the baseline and monitoring wells and natural features on their property are considered **Participating Landowners**.

Participating Landowners shall have access to all remedies set out in this protocol.

Should a Participating Landowner's property change hands during the lifespan of this protocol the rights and the responsibilities of the protocol shall automatically transfer to the new property owner. The new property owner shall be required to register and sign-off on their participation rights and responsibilities.

Should a landowner within the TPA wish to become a participant later in the program, they must agree to register, establish a baseline and twenty-four (24) months of monitoring data before being able to have access to the remedies set out in the protocol.

##### ***DEVELOP THE REGISTRATION MATERIALS***

Strada in consultation with NDACT shall develop **Landowner Registration Document**. This document shall describe the Landowner's responsibility to the program including allowing future access to the property for well and/or natural feature monitoring in order to have the right to participate in any of the remedies described herein. Once signed, this document registers the Landowner in the Program. There is also an opportunity to decline participation at the time.

Strada in consultation with NDACT shall develop the **WELLness Check materials** including:

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- Select and create a list of **Certified Well Inspectors (CWI)** that Participating Landowners shall use for the purposes of participating in this protocol
  - Strada shall pay for each Wellness Check as a public service
  - Strada shall engage with the CWI's to set the fee for the service to be provided
  - Strada shall train the selected CWI's as to what is required for their services
- Produce a "WELLness Check" information package including information about:
  - The deadlines for completing the check,
  - The list of CWI's available to conduct the check, as well as
  - The details around the tasks that shall occur during the check including capturing a baseline for flow and water particulate levels
- Produce a checklist of types of natural features. This checklist shall be used at each site to initiate the tracking of the natural features on the property

### ***DEVELOP THE COMMUNICATION PLAN***

STRADA and NDACT shall host a Town-Hall and Social Media outreach to explain the purpose of the program and to stress:

- Participation in this program is subject to landowner permission and accessibility of the well and/or natural feature for monitoring purposes.
- Participating Landowners shall agree the information collected shall become public information.

NDACT shall approach landowners in the TPA to:

- Solicit participation in the WELLness Check
- Advise on the importance of allowing Strada Hydrologist or Ecologist to access their property to conduct a Natural Feature inventory
- Advise on the importance of agreeing the information collected shall be public information and shared with Strada, NDACT, various ministries, agencies and/or CPRs

### ***REGISTRATION PROCESS***

To register to become a participant in the program, Landowners in the TPA shall be able to:

- Register at the Town Hall Session,
- Notify Strada by calling 519-XXX-XXXX, (Community hotline) or
- Emailing STRADAHHELPME@strada.com.

Strada shall update the Landowner's information in the TPA Database.

Strada shall deliver the Landowner Registration Document to the Landowner, once a signature is retrieved, Strada shall provide the Landowner with a WELLness Check Package.

### ***THE WELLNESS CHECK PROCESS***

The responsibility of having the WELLness check conducted is up to the Participating Landowner:

- The Participating Landowner shall contact the CWI and arrange for a site visit
- The CWI shall conduct the WELLness check
- The CWI shall complete all WELLness documentation
- The Participating Landowner shall update the Natural Features checklist with an

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- inventory of their property's Natural Features
- The CWI shall return all documents to Strada
- Strada shall update the Participating Landowner's information in the TPA database
- Strada shall send a "thank-you for completing the WELLness" email/letter to the Participating Landowner

### **WATER MONITORING**

#### **On-Site Well Monitoring**

On-site monitoring wells shall be used to measure seasonal fluctuations of the water table and the water quality **before** below water table extraction begins. Any variations in water levels or water quality shall be observed and trends shall be documented. This data shall be used to provide an observed baseline across the site.

As quantity is monitored in real-time, during the extraction season, Strada's Hydrogeologist and the CPR shall determine frequency of groundwater monitoring for quality from select on-site monitoring wells. This data shall be used as a guide to ensure that below water table extraction activities are not adversely affecting the water.

Where monitoring wells are removed due to extraction, Strada's Hydrogeologist and the CPR shall determine if they require replacement as specified in the detailed monitoring plan that shall be prepared for the operation and incorporated in the conditions of approval by the ARA.

#### **Participating Landowner Well Monitoring**

Certain Participating Landowners may be required to participate in and ongoing Well Monitoring Process, which is important, should there be a future water disruption (quantity or quality problem).

Select Participating Landowner's wells shall be part of Strada's Hydrogeological Studies and used to measure the seasonal fluctuations of the water table and water quality **before** below water table extraction begins. Any variations in water levels or water quality shall be observed and trends shall be documented. This data shall be used to provide an observed baseline across the TPA.

In order to determine that below water table extraction activities are not adversely affecting the environment, **after extraction commences**, groundwater monitoring for quantity and quality shall occur on select sites during the extraction season on consistent dates. Strada's Hydrogeologist and the CPR shall determine the targeted sites and frequency of monitoring.

#### **Participating Landowner Natural Features Monitoring**

As noted above, Strada shall maintain an inventory of the types of Natural Features identified on the Participating Landowner properties.

The Strada Subject Matter Expert (SME) and the CPR shall identify select properties as study areas for monitoring purposes. Reviewing Agencies such as the MNRF and the local Conservation Authority, may provide comments on the appropriateness of the study area.

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Strada shall conduct site visits of the study area by permission of Participating Landowners **before** below water table extraction begins in order to capture baseline data of the study area. This data shall be used to provide an observed baseline across the TPA and shall contribute to the data which may be important should there be a future disruption to natural conditions on the property.

Reviewing Agencies may also request permission of Participating Landowners to inspect the study area natural features to confirm and verify Strada's fieldwork observations.

Strada shall conduct site visits of the select properties **during the extraction season** in order to monitor for any anomalies in the data from the baseline. The Strada SME and the CPR shall determine the frequency of the visits during this time.

## SCHEDULE C – Wells and Natural Features DISRUPTIONS

### Well Disruption Complaint Procedure

- 1) Participating Landowners experiencing a water disruption should first eliminate pump or hydro issues as the source of the disruption.
- 2) Following that, Participating Landowners experiencing a water disruption (quantity or quality) shall immediately notify Strada at 519-XXX-XXXX, (Community hotline) or STRADAHELPME@strada.com.
- 3) Upon receipt of any water complaint, Strada shall notify the Responsible Agency/Ministry.
- 4) Strada shall then conduct the **Investigation Process**:
  - a) Strada shall supply each affected well with a temporary water supply within 48 hours of the complaint, and thereafter until such time as the cause of the disruption can be determined. Strada shall arrange temporary water system hook up and removal, and the first and subsequent loads of water to the system. Strada shall fund the temporary solution.
  - b) Strada shall send a **CWI (from a pre-determined list) and/or a qualified hydrogeologist** to investigate the complaint within 24 hours of the notification in order to determine the complexity of the complaint. The investigation shall consider the following information in order to understand and resolve the complaint:
    - Details of the complaint – address/location, history of problem, nature of complaint
    - Comparison of the current state of the well to its Monitoring data
    - Location of the well and proximity to the pit/quarry
    - Condition and performance of private well pumping system
    - Depth of the well and comparisons to depths of adjacent wells
    - Available water well records and pumping rates for the complaint well, adjacent wells
    - Geologic setting for the area
    - Pumping rates in the area
    - Other relevant information of a hydrogeological nature
- 5) The results of the investigation shall be reviewed with the landowner in consultation with the CWI and reported to the Responsible Agency/Ministry
- 6) If the **Investigation Results** determine that the operation at the Quarry **can obviously and definitively be excluded** as the cause (e.g. a mechanical failure was determined), Strada shall provide the affected party with a report of the investigation and the inspector's proposed solution. Strada shall maintain temporary water supply under Item 4(a) for up to an additional week to allow the affected party to make alternate

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water supply arrangements. The landowner shall be responsible for funding any proposed solution suggested by the CWI.

- 7) If the **Investigation Results** determine that the operations at the pit/quarry **cannot obviously and definitively be excluded** as the cause, Strada shall escalate the matter further with the **Responsible Ministry Escalation Investigation**. Strada shall continue to supply water until such time as the cause of the disruption can be determined and the situation addressed.
- 8) If the **Responsible Ministry Escalation Investigation** determines that below water table extraction at the pit/quarry **has not caused the adverse effect to the well in question**, Strada shall maintain the temporary water supply supplied under Item 4(a) for an additional week to allow the affected party to make alternate water supply arrangements.
- 9) If, after consultation with the affected party and Strada, the **Responsible Ministry Escalation Investigation** determines that below water table extraction at the pit/quarry **has caused an adverse effect at the well in question**, Strada shall, at its expense, either restore or replace the affected water supply to ensure that historic water supply and/or water quality are restored. Long term remedial actions, which could be developed with the cooperation of the landowner, may include but are not limited to:
  - o Lowering the intake of the well pump.
  - o Deepening or enlarging or replacing the well.
  - o Providing water treatment in conjunction with the above.
  - o Providing supplemental water storage (i.e., larger pressure tank).
  - a) If a new well or an alternate supply is the elected solution, Strada shall secure confirmation that the old well has been properly plugged according to Regulation 903
  - b) The remedial action(s) selected shall depend on the condition and construction of the existing well and pump, the overall cost of the action (capital and operational), and the well owner's preference.
  - c) Remedial action(s) shall be implemented in a timely manner. Strada shall assume all costs of remediation; however, should the well owner wish to upgrade or enhance the system beyond the agreed to solution, that shall be done at their own cost.
  - d) If the **Responsible Ministry** determines that anticipated costs for the investigation, clean up and restoration shall be significant, the CWI shall bill Strada directly for all costs incurred.
- 10) After the **Responsible Ministry** solution has been implemented, should the Participating Landowner still not be satisfied with the outcome, Strada shall fund a legal opinion from a Lawyer chosen by the Participating Landowner (to a maximum value of \$10,000 per instance), sharing the results with Strada. Any further action shall be at either party's cost.

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- 11) NDACT shall be notified of all complaints and provided with copies of all reports and investigative findings

### Natural Feature Complaint Procedure

- 1) The Participating Landowner experiencing a water disruption with their Natural Feature shall immediately notify Strada at 519-XXX-XXXX, (Community hotline) STRADAHHELPME@strada.com.
- 2) Upon receipt of a Natural Feature complaint:
  - a) Strada shall notify the local **Responsible Agency and/or Ministry**
  - b) Strada shall open a complaint ticket in the Complaints database, taking down the Details of the complaint – e.g. address/location, history of problem, nature of complaint
- 3) Strada and the **Responsible Agency and/or Ministry** shall investigate the complaint to determine the complexity of the complaint. In its investigation Strada shall consider the following information in order to understand and resolve the complaint:
  - a) Details of the complaint – address/location, history of problem, nature of complaint
  - b) Comparison of the current state of the natural feature to its Monitoring data
  - c) Location of the natural feature and proximity to the pit/quarry
  - d) Change to the natural feature in comparisons to changes in adjacent natural features or wells
  - e) Geologic setting for the area
  - f) Pumping rates in the area
  - g) Other relevant information of a hydrogeological nature
- 4) If it determined the operation at the pit/quarry **can** obviously and definitively be excluded as the cause: Strada and the **Responsible Agency and/or Ministry** shall provide the affected party with a report of the investigation. Funding a solution shall be the responsibility of the landowner.
- 5) If it is determined the operation at the pit/quarry **cannot** obviously and definitively be excluded as the cause, Strada shall accept the solution determined by the **Responsible Agency and/or Ministry**. Strada shall be responsible for funding quantifiable and qualifiable losses of the affected Participating Landowner related to the loss of the Natural Feature (Quantifiable: through verifiable loss of income; Qualifiable: through replacement cost).
  - a) Strada will be billed directly and pay for any and all costs incurred.
- 6) If after the **Responsible Agency and/or Ministry** solution has been implemented, should the Participating Landowner still not be satisfied with the outcome, Strada shall fund a legal opinion from a Lawyer chosen by the Participating Landowner (to a maximum value of \$10,000), sharing the results with Strada. Any further action shall be at either party's cost.



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- 7) NDACT shall be notified of all complaints and provided with copies of all reports and investigative findings

### **Funding Solutions and Second Opinions**

As noted above, Strada is required to fund certain solutions to disruptions and “second opinions”. In order to ensure this compensation is readily available for Participating Landowner use, Strada shall maintain a \$250K Performance Fund.

- The Fund shall be administered by a 3<sup>rd</sup> Party Financial Service.
- The Fund shall be initiated at the commencement of the Registration Process.
- Strada shall fund the solution or second opinion from this account.
- Should there be a drawdown, Strada shall be responsible for topping-up the \$250K balance.
- Strada shall provide an annual report summarizing the activity in the Fund.
- The Fund shall be released to Strada when the Quarry License is surrendered.

## **REPORTING**

### **Well & Natural Feature Monitoring Reports**

As noted earlier, Strada shall produce an annual report that shall be made available to the public, NDACT and the Municipality by the end of January of the next calendar year. The report shall summarize the previous year’s results as well as provide detailed results and analysis of

- The On-Site Monitoring
- Participating Well Monitoring
- Participating Natural Features Monitoring

### **Complaint Dashboard**

Strada shall develop a dashboard that displays the substantiated complaints identified in the Complaint Database. Information shall include location, general nature of the complaint, status and resolution details (e.g. who is at fault, recommended remediation, etc.). A summary of the status of the Performance Fund shall be displayed as well.

Access to the dashboard shall be read-only by the general public.

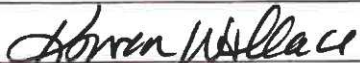

All substantiated complaints filed throughout the life of the quarry shall remain on the dashboard. All complaints filed throughout the life of the quarry shall remain in the database.

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## SIGN-OFF PAGE

The Parties agree to the terms and conditions described in this Schedule which is part of the larger Strada/NDACT Community Engagement Agreement between the Parties.

Signed on this 08 day of August, 2022

	<b>NDACT</b>	<b>STRADA AGGREGATES INC.</b>
<b>REPRESENTATIVE NAME &amp; TITLE</b>	Karren Wallace Chair	Grant Horan, Controller Executive Officer
<b>SIGNATURE</b>		

## **SCHEDULE C – Wells and Natural Features**

### **DEFINITIONS**

**CPR:** Community Peer Reviewers. Team of consultants selected by the community to participate in the pre-application and application review processes.

**GWRA:** Ground Water Recharge Area:

**Municipal Well:** municipal water source for human consumption

#### **Natural Features:**

Pertaining to natural water features such as, but not limited to:

- Springs
- Swamps or marshes
- Vernal Pools
- Ponds
- Lakes
- Streams, Creeks, Rivers
- Spring run-off channels

Pertaining to general natural features such as, but not limited to:

- Bobolink
- Salamander
- Brook Trout
- Local flora and fauna
- Woodlots

**Overburden:** Bedrock is mountainside or solid rock; Overburden is the materials (ie. sand, gravel, dirt, clay) on top of the rock.

**Participating Landowners:** are those landowners within the target participation area who agree to participate in this program including registering, establishing the baseline and continuous monitoring of wells and natural features on their property. Participating landowners shall have access to all procedures set out in this protocol.

**Responsible Ministry** can include:

- **MNRFF:** Ministry of Northern Development, Mines, Natural Resources and Forestry
- **MOEE:** Ministry of the Environment and Energy

**Reviewing Agencies** can include:

- Local Conservation Authority
- Niagara Escarpment Commission

**SME:** Subject Matter Expert provides the knowledge and expertise in a specific subject, business area, or technical area for a project/program.

**TPA:** Target Participation Area is a mapping of the area where the proposed site and the

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Participating Landowners are located for monitoring and protocol participation purposes.

**Well:** private water source for domestic or farm water consumption purposes

- **Dug/Bored wells** are holes in the ground dug by shovel or backhoe. They are lined (cased) with stones, brick, tile, or other material to prevent collapse. Dug wells have a large diameter, are shallow (approximately 10 to 30 feet deep) and are not cased continuously.
- **Driven wells** are constructed by driving pipe into the ground. Driven wells are cased continuously and shallow (approximately 30 to 50 feet deep). These wells draw water from aquifers near the surface and though driven wells are cased, they can be contaminated easily because they draw water near the surface.
- **Drilled wells** are constructed by percussion or rotary-drilling machines. Drilled wells can be thousands of feet deep and require the installation of casing. Drilled wells have a lower risk of contamination due to their depth and use of continuous casing.

**WHPA:** Well Head Protection Areas

## REFERENCES

*Aggregate Resources of Ontario: Technical Reports and Information Standards*

<https://files.ontario.ca/mnrf-aggregate-resources-of-ontario-technical-reports-and-information-standards-2020-en-2021-03-18.pdf>

*Clean Water Act, 2006, S.O. 2006, c. 22*

<https://www.ontario.ca/laws/statute/06c22>

*Drinking Water: Wells on your property:*

<https://www.ontario.ca/page/wells-your-property>

*Water Supply Wells: Requirements and Best Practices*

<https://www.ontario.ca/document/water-supply-wells-requirements-and-best-practices#section-8>

*Dufferin County Watersheds:*

<https://dufferincounty.maps.arcgis.com/apps/webappviewer/index.html?id=ccaca772a30647879993b88fb1c23e02>

*Ontario Water Resources Act R.S.O. 1990 (The Wells Regulation):*

*R.R.O. 1990, Reg. 903: WELLS*

<https://www.ontario.ca/laws/regulation/900903>

*Ontario Water Resources Act R.S.O. 1990, c. O. 40*

<https://www.ontario.ca/laws>

*Source Water Protection Atlas*

<https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?viewer=SourceW>

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***Strada Aggregates Permit to Take Water, Ground Water NUMBER 3210- AKRL9C  
2021 GROUNDWATER AND SURFACE WATER MONITORING REPORT  
SHELBURNE PITS 1-4. Prepared for Strada Aggregates, March 2022***

### ***B-9 Resolution of Groundwater Quality Interference Problems***

<https://www.ontario.ca/page/b-9-resolution-groundwater-quality-interference-problems#:~:text=This%20guideline%20describes%20the%20Ministry's,Approval%20issued%20by%20the%20Ministry.>