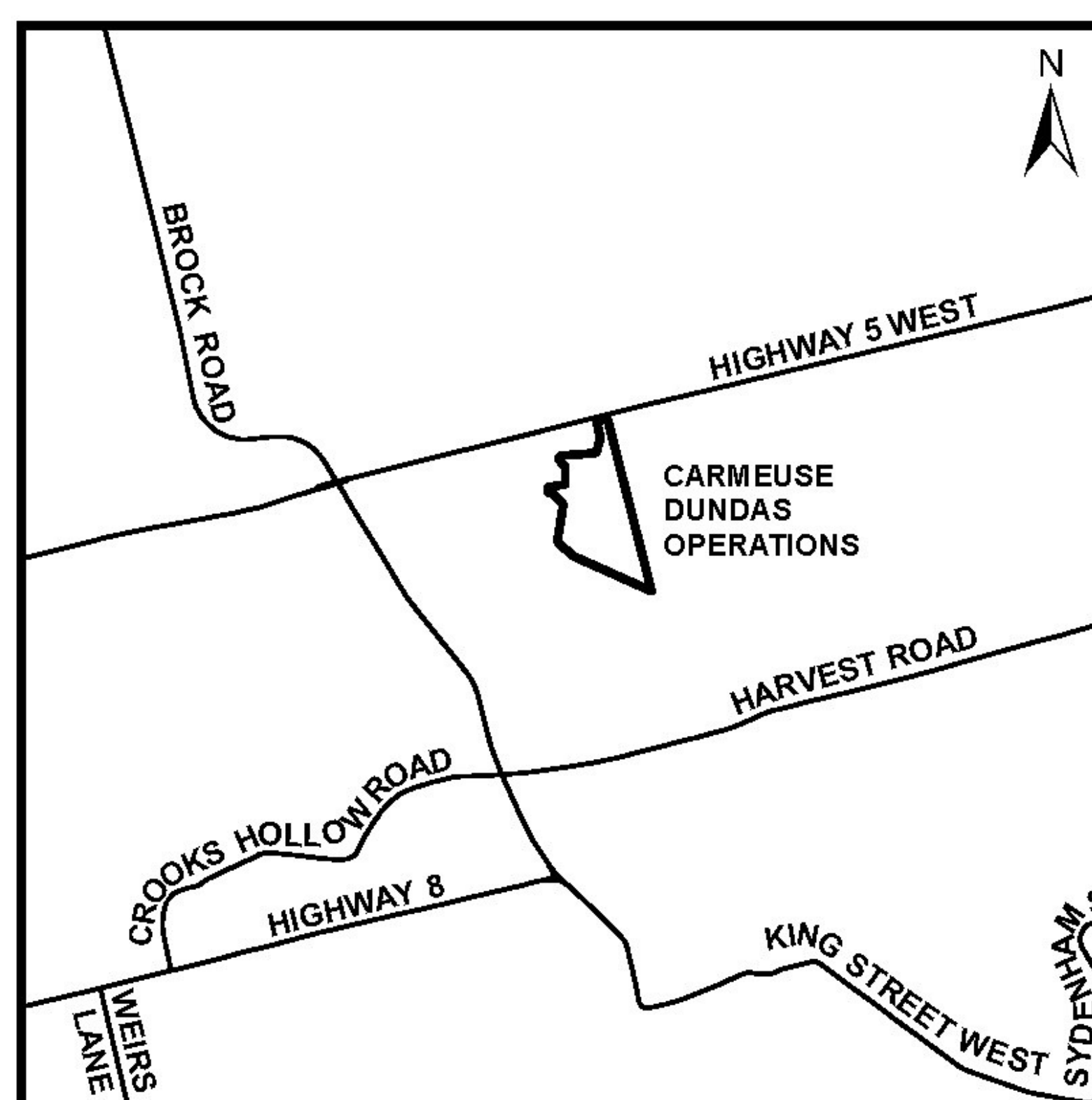


WELCOME

Welcome to the Carmeuse Lime (Canada) Limited (Carmeuse) – Dundas Operations Public Open House, a part of the Site-Specific Standard Process.

Carmeuse invites you to learn about us, our operations, regulatory requirements, and our plan to reduce air emissions.

We welcome your questions and comments.



About Carmeuse

Carmeuse is an international producer of high calcium and dolomitic lime, chemical grade limestone and crushed limestone aggregate products that are a vital part of important industries such as steel manufacturing, energy, environmental services, and construction.

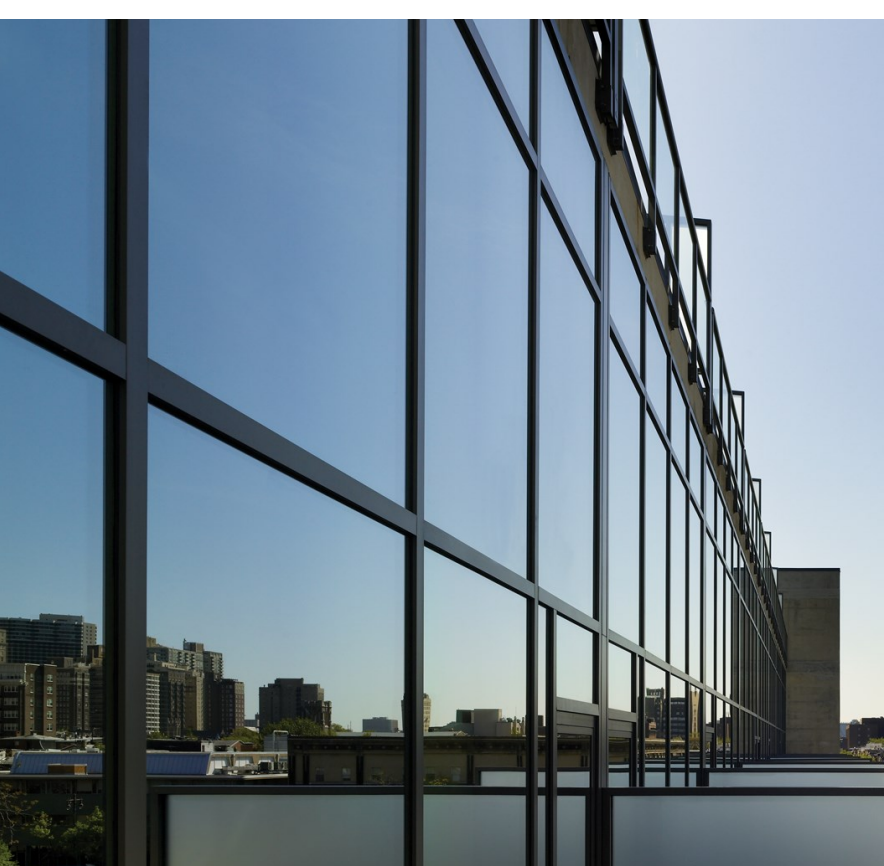
Facts about Carmeuse:

- Parent company in business over 150 years
- Dundas facility operating since 1953
- Over 20 production facilities, staffed by up to 2,000 employees in Canada and the United States

Carmeuse products make steel stronger, air cleaner, water more pure, and roadways last longer —they are a vital ingredient in the materials that build and renew infrastructure around the world.

Lime and limestone are an essential part of:

- Water Treatment — Municipal and industrial water treatment processes
- Remediation of Soils, Industrial Sludges and Animal Waste
- Chemical Processes — Production of glue, sugar cubes, leather and more
- Glass and Fiberglass Manufacturing
- Paper and Pulp — Filler in paper to improve optical properties
- Flue Gas Desulfurization — Emissions control in the power generation industry
- Masonry and Mortars — Hydrated lime for mortars, stuccos, and finishing plaster
- Road Construction — Soil stabilization, soil modification and asphalt additive
- Mining — Refining copper, zinc, nickel, gold, silver, and aluminum
- Steel Making — Converting iron ore to pig iron; as flux agents in primary furnace operations, and for refractory sustainability.



Carmeuse Dundas Operations

The basic processes occurring at the Dundas facility are:

- Calcining (kiln heating and drying) limestone supplied from the adjacent quarry operated by Lafarge
- Fuel (petcoke) milling
- Processing (crushing/screening) the lime products
- Storage, handling and truck loading operations



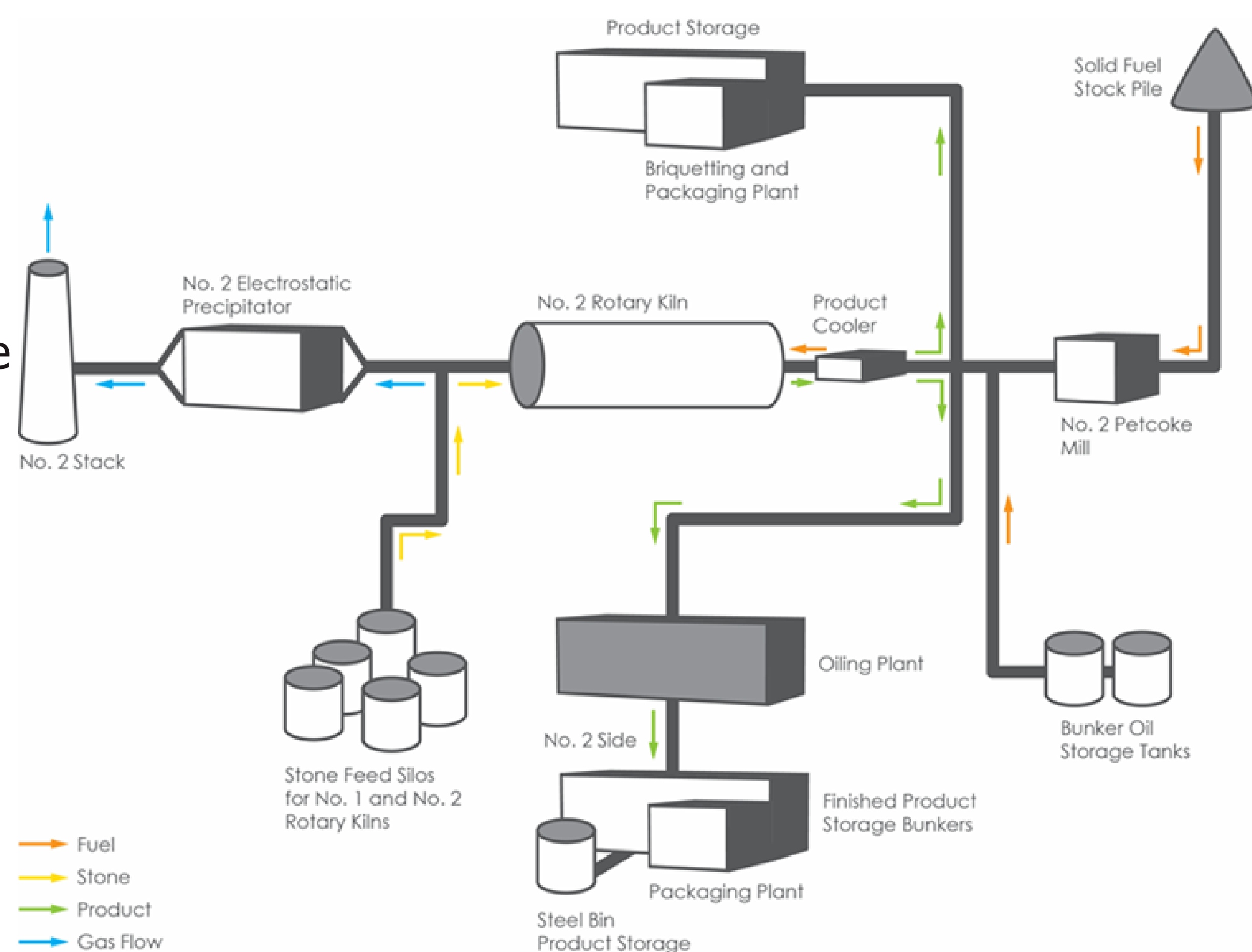
Facility highlights:

- Total capacity of the three kilns is 400,000 tonnes of lime per year
- Lime kilns operate up to 24 hours per day for 365 days per year
- Existing air pollution control devices:
 - An Electrostatic Precipitator on each kiln
 - 23 existing baghouses (fabric filters) reducing emissions on handling/loading and processing activities

The sources of Calcium Oxide and Suspended Particulate Matter are:

- Point Sources - such as kiln Electrostatic Precipitators and baghouse stacks
- Process Fugitive Sources - truck loading of lime products, transfer and handling of material and storage piles

The adjacent Lafarge quarry emits Suspended Particulate Matter from its operations but does not release Calcium Oxide.



Regulatory Background

In Ontario, air quality is regulated under Ontario *Regulation 419/05 Air Pollution – Local Air Quality* (Regulation). The Regulation sets out air quality standards which have been developed by the Ministry of the Environment, Conservation and Parks (Ministry) to:

- Protect human health
- Protect the environment
- Prevent nuisance impacts

Applicable air quality standards:

- Calcium Oxide - $10 \mu\text{g}/\text{m}^3$ based on potential for corrosion impacts which are more stringent than health-based effects
- Suspended Particulate Matter - $120 \mu\text{g}/\text{m}^3$ based on visibility impacts which are more stringent than health-based effects



When the Carmeuse Dundas facility is operating at full capacity, dispersion modelling predicts that the maximum off-property concentrations of Calcium Oxide and Suspended Particulate Matter at times may not meet the applicable air quality standards.

The Regulation includes three compliance approaches:

1. A facility can meet an air quality standard.
2. A facility can request and meet a Site-Specific Standard. To obtain a Site-Specific Standard the facility must reduce emissions as much as feasible with current technology.
3. A facility can register and meet the requirements under a Technical, Equipment or Industry Standard (if available).

Carmeuse received two Site-Specific Standard approvals from the Ministry in 2018: one for Calcium Oxide and one for Suspended Particulate Matter. The Site-Specific Standard approvals require Carmeuse to reduce emissions of Calcium Oxide and Suspended Particulate Matter through best management practices, process optimization, and additional feasible dust control measures, as described in the Action Plan.



Site-Specific Standard Update

In February 2018, Carmeuse obtained Site-Specific Standards for Calcium Oxide and Suspended Particulate Matter from the Ministry. To obtain the Site-Specific Standards, Carmeuse completed the following activities.

Ambient Monitoring Program

An ambient monitoring program was conducted in 2014 to quantify ambient airborne ground level Calcium Oxide and Suspended Particulate Matter concentrations resulting from emissions from Carmeuse's operations, as well as other industrial operations and agricultural activities.



Refined Emission Summary and Dispersion Modelling Report

An emissions inventory was developed for Carmeuse's facility in general accordance with the Ministry's guidelines and procedures. As required by the Ministry, a series of conservative assumptions (e.g., all processes operating at their maximum capacity concurrently with sources burning fuels that result in the highest emission rates, etc.) were used to develop a maximum operating emissions scenario.

Technology Benchmarking Report

The Technology Benchmarking Report identified technically feasible emission control options to reduce the emissions of Calcium Oxide and Suspended Particulate Matter. Applicable options to control emissions include: removal or reduction in the size of storage piles; partial or full enclosure of the dust generating source/activity; dust extraction (vacuum); and, dust control and fabric filtration (also called baghouses).

Action Plan

An Action Plan to reduce emissions, consisting of nine items for Suspended Particulate Matter and eight items for Calcium Oxide are included in Carmeuse's Site-Specific Standard approvals from the Ministry. Implementation of these action items started in 2018 and were scheduled to be completed in 2026; however, implementation is ahead of schedule and expected to be completed in 2021. Further details regarding implementation of the Action Plan are provided on subsequent information boards.

Stakeholder Input

Carmeuse held a public open house on February 17, 2016 to support the application for the Site-Specific Standard approvals. Representatives from Carmeuse, Stantec, and the Ministry were available to answer questions. Written comments and questions were also received and responses were provided. Additionally, the application was posted on the Environmental Bill of Rights Registry for public comment. As a condition of the Site-Specific Standard approvals, Carmeuse will continue to hold annual public open houses to present updates on implementation of the Action Plan until all of the actions have been implemented.



Action Plan Implementation

An Action Plan was developed that incorporated the results of the Technology Benchmarking Report and provides an optimal pollution control strategy. The status of implementing the Action Plan is summarized below.

Action Item A Low-Grade Lime Storage Pile (Wind Erosion and Material Handling Emissions)

- Eliminate long-term storage of Low-Grade Lime in storage piles in various locations.
- Implement short-term storage of small amounts of Low-Grade Lime in a smaller pile within an enclosure.
 - Implementation Schedule: 2018
 - Status: Completed



December 2015: Long-term storage of lime in various locations



December 2018: Short-term storage of a small quantity of lime in a designated enclosure



December 2015: Long-term storage of lime in various locations



December 2018: Storage piles of lime removed

Action Plan Implementation

Action Item B Bunker Loadout

- Enclosure of the Bunker Loadout area completed in 2018 (metal sheeting).
- Engineering assessment completed in 2019 concluded that installation of loadout chutes and a dust collection system is not feasible due to insufficient clearance between transport trucks and the loadout bins.
- Alternative mitigative actions have been implemented including reducing the frequency of loadouts and improving supervision of loading operations.
- The operational mitigative measures achieve an equivalent reduction of fugitive emissions from the Bunker Loadout.



December 2015: Bunker Loadout area open and pile of lime



December 2018: Bunker Loadout area enclosed with metal sheeting and pile of lime removed

Action Item C Bin Loadouts

- Enclosure of Bin 12/13, 10/19 and Steel Bin Loadout Areas
 - Implementation Schedule: 2018
 - Status: Completed



December 2015: Bin 12/13 Loadout with damaged dust curtain (plastic strips)



February 2021: Bin 12/13 Loadout area dust curtains

Action Plan Implementation

Action Items D and E Kiln Smoke Chambers

- Enclosure of fallout area for Kiln #1 and Kiln #2 Smoke Chambers
 - Implementation Schedule: 2018
 - Status: Completed
- Chute and fallout bin for Kiln #3 Smoke Chamber
 - Implementation Schedule: 2018
 - Status: Completed



December 2015: Kiln #2 Smoke Chamber Fallout area open



December 2018: Kiln #2 Smoke Chamber Fallout area enclosed with metal sheeting and plastic dust curtain screen

Action Item F General Production Area

- Increasing the surface area with concrete and pavement under the production area.
 - Implementation Schedule: 2018 to 2026
 - Status: Completed in 2020



December 2015: Accumulated material in production area and gravel surface



December 2018: Removal of accumulated material and new concrete and pavement

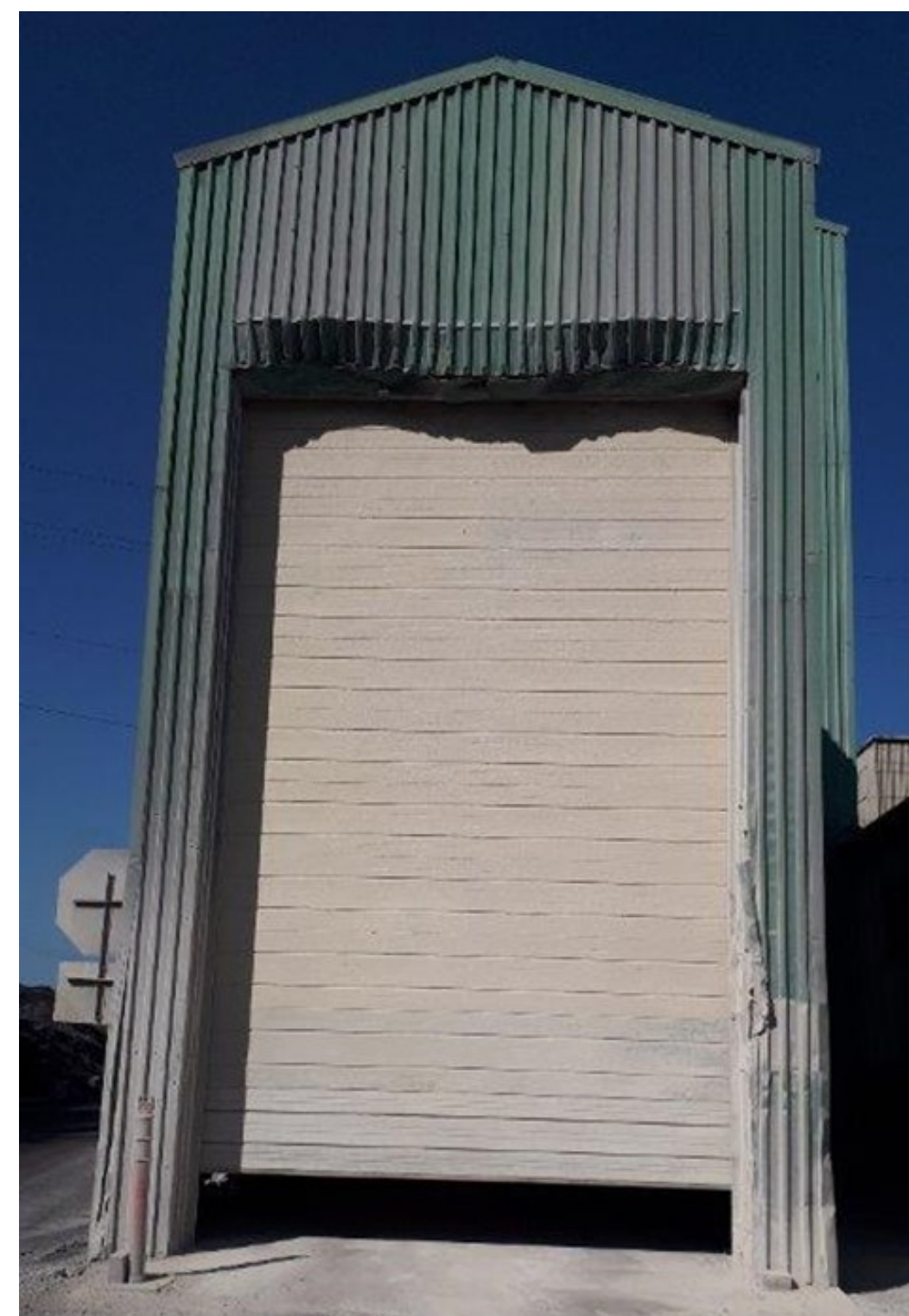
Action Plan Implementation

Action Item G Screening Plant Hoppers

- Partial enclosure of the screening plant hoppers.
 - Status: Completed



December 2018 Screening Plant Hopper



September 2020 Screening Plant Hopper with new door installed

Action Item H Buggy Hopper

- Partial enclosure of the buggy hopper.
 - Status: Scheduled to be completed before the end of 2021



December 2018: Buggy Hopper

Action Item I Stone Intake

- Full enclosure of the stone intake to reduce emissions of Suspended Particulate Matter.
 - Status: Scheduled to be completed before the end of 2021



December 2018: Stone Intake

Additional Initiatives

Carmeuse has voluntarily completed the following additional initiatives to further reduce emissions of Calcium Oxide and Suspended Particulate Matter.

Paving the Parking Lot

Paving of the employee parking lot reduces fugitive dust from vehicular traffic and enables effective cleaning with a wet street sweeper.



July 2017—Gravel Lot



August 2017— Paved Lot

Management of Truck Overfilling

Automated and administrative controls to prevent overfilling of transport trucks.

Designated drop area for load adjustments and prompt transfer of dropped material to the Buggy Hopper.

Improved operation of the Buggy Hopper and conveyor to increase recycling of lime back into the process.



December 2018 - Buggy Hopper and Conveyor



December 2018 - Designated Area for Overloads



Site-Specific Standard Approval

The Site-Specific Standards for Calcium Oxide and Suspended Particulate Matter are provided in the table below. The Site-Specific Standards consider the maximum ground-level concentrations predicted by the air dispersion modelling with the facility operating at maximum capacity.

Contaminant	Applicable Dates	Site-Specific Standard (micrograms per cubic meter, $\mu\text{g}/\text{m}^3$)	Averaging Period
Calcium Oxide	From February 23, 2018 to June 1, 2023	94	24-hour
	From June 1, 2023 to 2028 (10 years after date of issuance)	73	
Suspended Particulate Matter	From February 23, 2018 to June 1, 2023	298	24-hour
	From June 1, 2023 to 2028 (10 years after date of issuance)	187	

The following table summarizes the predicted maximum modelled off-property ground-level concentrations of Calcium Oxide and Suspended Particulate Matter before and after implementation of the Action Plan.



Timeline	Description	Maximum Predicted Ground-Level Concentration ($\mu\text{g}/\text{m}^3$)					
		Off-Property		At Wilkinson Heavy Precast		At Maximum Residential Receptor	
		Calcium Oxide	Suspended Particulate Matter	Calcium Oxide	Suspended Particulate Matter	Calcium Oxide	Suspended Particulate Matter
2016 to 2023	Before Action Plan	94	298	76	181	38	90
2023 to 2028	After Implementation of Action Plan	73	187	60	139	30	68
Overall Percent Reduction		22%	37%	21%	24%	22%	25%

Community Investment

Carmeuse is committed to providing financial and volunteering support to agencies whose primary emphasis is helping underprivileged children with educational, training, and mentoring opportunities.

Locally, Carmeuse has sponsored:

- Big Brothers and Sisters
 - “Promise Scholarship” for children’s post-secondary education
- Two Baseball Teams in Waterdown annually
- One Hockey Team annually
- Other organizations such as:
 - Flamborough’s YFC Youth Unlimited
 - City Kidz
 - Flamborough’s Food Bank



Thank you for attending

Should you have any additional comments or questions, please contact Stantec or Carmeuse. We would appreciate your comments within a month of the Public Information Meeting.

Kim Ireland
Project Contact
Stantec Consulting Ltd.
200-835 Paramount Drive
Stoney Creek, ON L8J 0B4
Tel: 905-381-3279

Chris Martin
Regional Environmental Manager
Carmeuse Lime (Canada) Limited
600 Highway #5 West, P.O. Box 2029
Hamilton, ON L8N 3S9
Tel: 519-535-0530

E-mail: CarmeuseProjects@stantec.com

Visit us at: www.carmeuse.com