

## Our Economic Impact

For 60 years, Meridian Brick has been a vital economic and local partner for the Burlington area.

The Aldershot Quarry is a fully modern quarry. It has been properly licensed since 1970, with an updated August 2010 site plan, and operates under all applicable modern legislation.

Meridian Brick's Canadian operations, based in Burlington, Ontario, was formerly known as Canada Brick, then Hanson Brick and Forterra Brick. Meridian produces more than half of the clay brick in Canada — the largest such producer in the country.

Current operations include three clay brick plants and four quarries in Burlington, and Meridian employs about 170 people. These quarries provide the Provincially-significant Queenston shale, from which clay bricks are made.

Meridian Brick's economic impact is significant. Its local investment alone is worth more than \$150 million, with \$5 million each year flowing to neighbourhood businesses in purchased services and materials, \$3.5 million to Burlington Hydro and \$1.35 million per year paid in local taxes. The East Quarry project will allow Meridian's initial investment to continue in Burlington and maintain about 85 good-paying jobs.

Meridian Brick's total operation employs about 170 people. About half of those jobs rely on opening the East Quarry.

Meridian has been an active supporter of its community and GTA. Among a number of initiatives, it has supplied brick for more than 140 Habitat for Humanity homes in the GTA which are built in collaboration with families in need of housing.

Meridian has also raised funds for Bolus Gardens Parkette, and at Meridian's Tansley Quarry, the company has built a pumping station, communal reservoir and pipeline network to provide neighbours with municipal-quality water, at no cost.

## Building Burlington

In Burlington, Meridian operates **3 brick plants and 4 quarries**

Meridian employs about **170 people in the local area**

Meridian produces **55% of Canadian clay brick**

## Managing a Modern Quarry

Managing a modern quarry like Aldershot is a complex, yet ordered system of processes, monitoring and intensive reporting.

And Jack Hewitt — a chemical engineer with a focus on biochemical engineering — plays a key role in making that ecosystem run as smoothly as possible.

Hewitt is a seasoned professional, who started full time with Domtar Construction Materials in 1972, mostly performing process and project-engineering work.

In years since, he's been a plant manager at various sites, from Saskatchewan to Quebec and South Carolina. Hewitt is now a valued part of the team at Meridian Brick, as its Projects and Environmental Manager handling plant improvements and upgrades, with environmental issues top of mind.

"There is very little of the daily work that is typical," Hewitt said. "The projects part of the job is diverse and often unexpected."

Among his tasks is the long-term management of quarry sites, with each having a number of permits, site-specific conditions and reporting requirements attached to them.

Ensuring a uniform supply of raw materials is a "very-critical first step" in the manufacturing process, he said. Hewitt describes each site as unique, with plants having differing requirements for raw materials.

"I could be rebuilding a kiln one day, and dealing with a partially-flooded site the next. Lately, I'll even be learning how to grow a crop of native shrubs."

For Hewitt, the best part of the job is this sheer diversity. "After all this time, I still get challenges I haven't dealt with before," he said, pointing to the building the Aldershot Plant as the most significant project he's been involved with. "The team that managed that, really did produce a state-of-the-art plant."

Day to day, Hewitt also oversees air and water permits and all testing and reporting for the sites: "We have dozens of permits, with a variety of reporting requirements."



Jack Hewitt.

Some of those are as simple as reporting suspended-solids levels for the stormwater flow and others involve consultants and complex, detailed reports.

"Ensuring that we operate within expected limits, and tread as lightly as possible on our environment, means we can have our raw materials while continuing to provide a desirable product to our customers," Hewitt said.

Hewitt is proud of the work he does with Meridian Brick and the relentless focus on maintaining the highest-level of quality and environmental standards.

"I have been involved with aggregate resource site planning since the first plans were legislated in the early 70's," Hewitt said. "More effort and more people have been focused on the work for the East Cell than on any other site plan."

"The continually-evolving requirements under legislation, and our commitment to the neighborhoods we operate in, has really focused our efforts."



# ALDERSHOT QUARRY REPORT

ISSUE 3 - SPRING 2019

## The Aldershot East Project Has Begun Keeping You Informed of the Latest Developments

After more than three years of community consultation and six rigorous scientific studies, work has commenced at the Aldershot East Quarry in Burlington.

The Aldershot East project will allow Meridian Brick to continue investing in Burlington as it has for almost 60 years, maintaining about 85 good-paying jobs. It will ensure that Meridian Brick continues to be Canada's largest brickmaker, producing more than half of all the clay brick produced in Canada.

Meridian Brick has heard and responded to the community's concerns through a number of public consultations. Plans for the Aldershot Quarry were changed to account for these concerns, including the adoption of phasing strategies and the commission of studies above and beyond Provincial requirements.

With the conclusion of ministerial reviews of the studies concerning this project, the relevant Ministries have signed off or confirmed their satisfaction with the reports. As such, the company is moving forward as per our last public meeting.

"We always expect to face tough but fair questions about the Aldershot East project," said Meridian's Patrick Kelly.

"We've done our best to address the concerns that have been raised. We're pleased that the Province of Ontario has signed off on the studies or confirmed their satisfaction, allowing us to move forward."

As part of its efforts to answer those concerns, Meridian Brick conducted hour-by-hour sound level testing during three periods of over 24 hours each between March 19 and March 27.

Meridian Brick monitored the tree removal sound levels reaching the outer edge of the buffer zone, close to neighbouring fencelines. The test results demonstrated that at all times, sound levels complied with regulatory guidelines. You can view copies of the Sound Level Monitoring reports on our website at [aldershotquarry.ca](http://aldershotquarry.ca).



Many of the studies undertaken for the Aldershot East project have been updated and signed off on by the Province of Ontario. In this photo, dust monitoring equipment has been set up, part of Meridian Brick's efforts to monitor air quality.

Meridian operates Aldershot as a modern quarry. Operations are governed by and compliant with all provincial and regulatory standards, including the Endangered Species Act, the Environmental Protection Act of 2017, the Greenbelt Plan, the Ontario Heritage Act, the Ontario Water Resources Act and the Provincial Policy Statement.

If any issues arise during this part of the shale-excitation project — including ongoing monitoring of dust and noise — Meridian Brick will take necessary actions to ensure those issues are remedied.

Meridian Brick will continue to work to keep you apprised of new developments in the Aldershot East project as they arise. You can learn more at [aldershotquarry.ca](http://aldershotquarry.ca).

## QUARRY ANSWER

**Q: Does the Aldershot Quarry meet full regulatory compliance?**

A: Yes. It has been properly licensed since June 1970, and Meridian Brick has continually worked to comply with new legislation as it has come into effect. As a result, the Aldershot Quarry is a fully modern quarry and is compliant with all present regulations. This includes a revised Site Plan, with that plan amended to include the Tyandaga West protection measures, referred to above, and evolving Provincial standards. Operations are governed by, and compliant with provincial and regulatory standards that include the Endangered Species Act, Environmental Protection Act; 2017 Greenbelt Plan; Ontario Heritage Act; Ontario Water Resources Act and the Provincial Policy Statement of 2014. Meridian Brick operates the Aldershot Quarries in compliance within this strict regulatory framework.

## UPDATES: The Studies

### Archaeological Survey **UPDATED!**

ASI, the consultants for Meridian Brick, has recently completed Stage 3 Archaeological Assessment of the site. No significant artifacts were found, and no further studies are required. The report was finalized in June 2018 and submitted to the Ministry of Culture and Sport for Review and entered in the public record. The Ministry indicated in December that the site can be considered "free of further archaeological concern."

The Stage 2 Archaeological Survey team had earlier conducted a test pit survey in areas deemed to have archaeological potential. Survey intervals were conducted primarily at five metres but judgemental survey intervals were done in the valley lands where low and wet conditions were encountered. Intensification of the test pit survey at intervals of 2.5 metres and the excavation of a one-metre-square test unit were also employed in one location where cultural material was recovered.

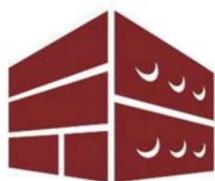
This assessment resulted in the identification of a pre-contact Indigenous site. The survey identified a small area where 6 flakes of chert were found indicating as is stated on page 7 in the Stage 2 archaeological survey "... likely represents a single, brief tool repair event." The site is estimated to be 1m X 5m.

The Stage 3 assessment covered this site. Both the Mississaugas of the New Credit First Nation and the Six Nations of the Grand River were paid to provide monitors during this assessment. Ultimately, no significant artifacts were found.

You can review completed studies in full on our website [www.aldershotquarry.ca](http://www.aldershotquarry.ca)



ASI conducted a Stage 3 Archaeological Assessment as per Provincial requirements. Ultimately, no significant archaeological artifacts were found.



## Stay Updated. Visit [aldershotquarry.ca](http://aldershotquarry.ca)

If you're seeking more information about Meridian Brick and Project Aldershot, visit the Aldershot Quarry Report website at [aldershotquarry.ca](http://aldershotquarry.ca).

It keeps visitors up to date on the most-recent information about quarry plans.

Here, you'll find published official plans, reports and notices of community meetings.

The website also provides a comprehensive question-and-answer series about Meridian, its quarry and its community engagement and

addresses issues about the quarry's development. Key findings of each study are also discussed.

On the website, you can also e-mail questions to Meridian through an online contact.

People who are interested can also sign up for the company's newsletter.

[meridianbrick.ca](http://meridianbrick.ca) is the main corporate website for Meridian Brick that incorporates its products, resources and dealers for homeowners, builders and architects/ designers.

# INSIDE

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Staged Tree Removal and Progressive Rehabilitation  
Our Enduring Connections in Burlington  
Our Tradition

# Phased Tree Removal and Progressive Reforestation

Meridian Brick is proceeding with its commitment to a phased tree removal plan which will result in more trees ultimately being planted than will be removed.

Tree removal, which has started, is needed to allow for shale quarry work to continue, but there will be no clear-cutting.

As per the progressive rehabilitation plan, Meridian Brick will plant more than 25,000 trees. The East Quarry will be fully reforested, and some of the trees will be planted in the Centre Quarry.

Trees will be removed in six phases of about 1.8 hectares each. At the same time, the quarries will be progressively rehabilitated and reforested. This means that by the time the last phase happens, there will be 30-year-old trees and shrubs on the site that were planted during the first rehabilitation phase.

Having heard the concerns of residents regarding the trees, Meridian Brick has committed that removal will be done gradually, with sensitivity to the site ecology and neighbours in mind.

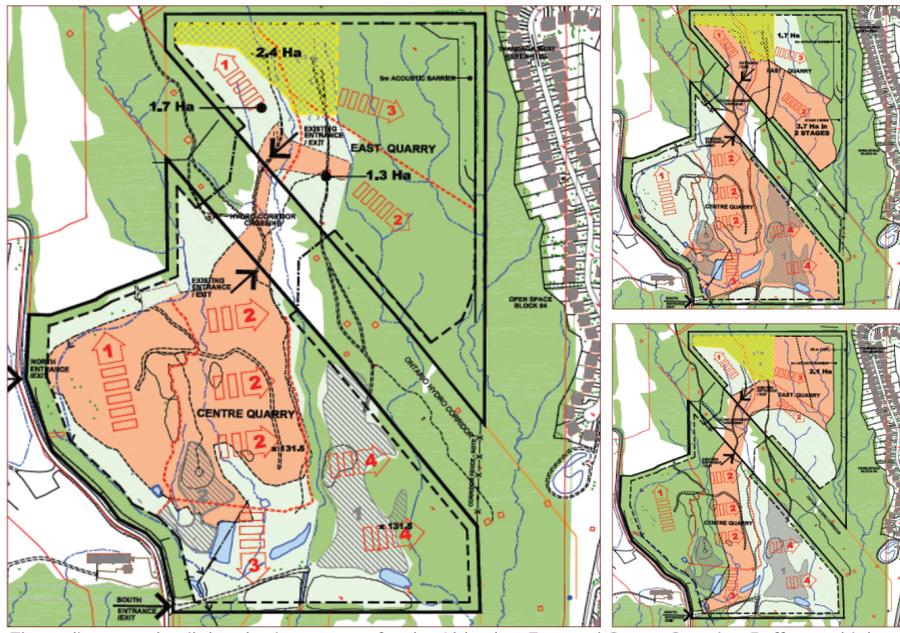
In the first five years, Meridian Brick will only remove trees from Stage 1 of the East Quarry. By years 5 to 15, trees will be removed from Stage 2.

However, a 150-metre buffer will remain between neighbours' fencelines and the quarry. As Meridian Brick progresses into the quarry, those trees will be removed as required, while also being progressively replanted, until the East site is eventually restored to a fully-forested landscape.

A 2.4-hectare section of the East Quarry will not be excavated. Instead, this area has been set aside for species at risk, including eastern flowering dogwood and American columbo.

Of note are the communities of American Columbo found within the site. Meridian Brick will preserve these at-risk plants with a buffer around each community to ensure they are undisturbed.

Meridian Brick also conducted a voluntary assessment for construction noise from tree removal and earth excavation. The study predicted operations would not exceed recommended best management practices during the life of the East Quarry.



These diagrams detail the phasing process for the Aldershot East and Centre Quarries. Buff areas highlighted on the map indicate areas being actively quarried, while pale green areas indicate those areas being cleared. These pale green areas will undergo progressive rehabilitation and reforestation. The area coloured yellow demarcates the 2.4-hectare Species at Risk Habitat Management Zone, which will remain undisturbed. Dark green areas indicate forested areas, setbacks and final rehabilitated areas.

LEFT: Stage 1. This stage will take place over approximately the first five years of the project.  
 TOP RIGHT: Stage 2. The actively-quarried area will proceed southeast, while a buffer between the homes nearest the quarry will remain in place. This stage should be carried out between years 6 to 15.  
 LOWER RIGHT: Stage 3. Progressive reforestation will begin in the southwest part of the East cell. By now, much of the Centre cell will be rehabilitated. This will be the final stage of the quarry project.

## Public Consultation Review

Meridian Brick has been engaged in full and responsive public consultations about the quarry work over a period of more than three years. Ongoing discussions have involved community leaders, neighbours and stakeholders.

A public meeting was held in 2015 regarding the project. Comprehensive and interactive community meetings were also held on May 25 and Nov. 29, 2017, with feedback received and responded to.

These meetings endeavoured to ensure that residents of nearby properties are fully informed about the process of the project, hear

from experts, and have their questions and concerns addressed.

Since then, a review of Meridian Brick's Environmental Noise Study resulted in a series of additional noise control measures for the second and third stages with respect to the new quarry work. The review establishes a protocol for the ongoing monitoring of noise, which Meridian Brick will adhere to during the tree cutting.

Meridian has pledged to implement an acceptable dust-monitoring process as work continues.

# UPDATES: The Studies

Over the past two years, Meridian Brick has carried out a number of studies in their due diligence prior to starting work in the East Quarry.

The predecessor of the current Ministry of the Environment, Conservation and Parks has carried out successful peer reviews on the following reports; Air Quality Assessment, Short Term Predictive Ambient Air Quality Monitoring Program and the Environmental Noise Study. This section of the newsletter details the latest on those studies, including the outcomes of reviews by the Province of Ontario.

All final reports and updates will be posted on [www.aldershotquarry.ca](http://www.aldershotquarry.ca)

## Noise Study UPDATED!

In 1996-98, the developer of the Tyandaga West community commissioned SS Wilson Associates Consulting Engineers to conduct a noise study for the project. The original study was approved by the then Ministry of Environment.

In response to community concern, new sound level criteria will be implemented during Stage 2 of the project, about five years from now. Meridian Brick will also engage in ongoing noise monitoring. The report was sent to the Ministry and has been signed off by them.

These updates mark the latest stage in an ongoing process of ensuring quarry noise will fall within Provincial guidelines.

In response to community concern, Meridian retained SS Wilson in 2015 to conduct a new, updated noise study based on current noise standards. The study included environmental noise generated by operations and potential effects on nearby noise-sensitive land uses. It was also to recommend appropriate noise control measures; if deemed necessary, in accordance with the applicable governmental sound level criteria.

This investigation found that the operations will achieve applicable sound criteria, with predicted sound levels to be in compliance with the Ministry of the Environment Conservation and Parks' applicable sound level criteria.

A southward extension of the berm to provide a noise buffer during Stage 2 of the project is

recommended. In a voluntary assessment for tree and overburden removal construction noise, it was predicted operations would not exceed recommended best management practices during the life of the East Quarry. With the application of recommended noise-control measures, the operation of shale excavation will result in acceptable sound levels that are at or below recommended sound-level criteria.

Sound level monitoring on the property line carried out during the recent tree cutting operation showed maximum sound levels well below the voluntary limit of 60 dBA. You can view copies of the Sound Level Monitoring reports on our website at [aldershotquarry.ca](http://aldershotquarry.ca).

## Quarry Dust UPDATED!

Meridian Brick's Air Quality Assessment and Short Term Predictive Ambient Air Quality Monitoring Program reports have been revised as per comments by the provincial Ministry of the Environment, Conservation and Parks. These reports take into account the Ministry's comments provided during the peer-review process.

The Ministry recently signed off on these peer-reviewed studies. There were no major changes to the reports. Meridian, our consultants and the Ministry will be working out details about the monitoring of air quality in the future.

The airborne emissions previously analyzed include excavation, material delivery, road dust --- on-site and on King Road from the facility entrance to the North Service Road --- and wind erosion from stockpiles.

The airborne emissions assessed from the facility were crystalline silica and particulate matter, specifically respirable, inhalable and total particulate matter. Assessment covered three time periods, a one to five-year scenario, with the Centre Quarry only; a six-to-15-year scenario involving the Centre and East Quarries; and a 16-to-25-year scenario affecting the East Quarry only.

The results have confirmed that particulate and silica concentrations from Meridian sources and background sources including Highway 403 and the QEW are predicted to be well within accepted health-based benchmarks, even under worst-case conditions. As well, during field-testing from Meridian sources, silica was undetectable using state-of-the-art detection instruments.



Dust-monitoring equipment used for the Short Term Ambient Air Quality Monitoring.

## Human Health Study

The benchmarks underlying the dust, silica and human health study are based on long-term exposure, including for asthmatics and children. The locations evaluated included adjacent land surrounding the quarry that includes residential homes to the northeast, a school to the southeast, a gun club and model airplane club in a park to the southwest.

levels - even when measured based on double the amount of shale extraction Meridian Brick currently extracts - will be well below regulatory benchmarks. Both studies found that the cumulative health risks to residents at all study locations are negligible, even when background sources of dust and silica are taken into account.

Both studies determined that dust and silica

When new quarrying actually begins on the

East site, a dust-monitoring program will begin, with results made available to multiple government authorities upon request.

It is important to note that in the event of an exceedance of regulatory limits on dust levels, Meridian Brick would have to scale down operations or introduce effective remedial measures, in order to remain within regulatory limits.

Continued on Next Page...

# Salamander Update

In 2016, neighbours raised concern about the potential for endangered salamanders to occur in the area. Understanding these concerns and knowing its obligations regarding protection of species at risk, Meridian Brick engaged Goodban Ecological Consulting and a team of four recognized salamander experts to conduct salamander surveys, which have found no evidence of salamanders on the endangered species list.

The study surveyed the local tributary system six times between late 2016 and late June 2018, including the area where neighbours reported salamanders of interest. The surveys were exhaustive, with careful searches of virtually all suitable covering along headwater tributary system, and enhanced with placement of numerous leaf litter bags in small online pools and untreated

pine-covered boards placed alongside tiny headwater streams.

Meridian Brick's report has now been finalized and submitted to the Ministry of Natural Resources and Forestry. The exhaustive survey found that the Allegheny Mountain Dusky Salamander and Northern Dusky Salamander are absent from the site. While no Jefferson Salamander or unisexuals were found on or adjacent to the site, Meridian Brick has agreed to annual monitoring and management.

The Stage 1 area in particular was reviewed by the consulting team and found to be a very dry type of forest, and therefore unsuitable habitat for the Jefferson Salamander and unisexuals. Meridian Brick is nevertheless managing the area as a potential dispersal habitat.



Salamander survey, being undertaken by Goodban Ecological Consulting and a team of four recognized salamander experts.

