



## **Aggregates—The Building Blocks of Our Cities**

Dufferin Aggregates' Milton Quarry is the largest producing quarry in Canada. Currently, there are approximately 467 hectares of licensed lands in the Region of Halton with an annual production of 4 million tonnes of aggregates. Aggregates are crushed rock or sand and gravel that are used in construction. Milton Quarry is located close to major highways, and is an essential supplier of high quality aggregates to the most rapidly growing community in Canada, the Greater Toronto Area (GTA). It is the unique characteristics of the Milton Quarry rock that make it essential to construction in the GTA.



The bedrock extracted at the Milton Quarry is from the Niagara Escarpment. It is processed into high quality construction aggregates following a series of processing steps. Once the overlying soil and sediment is removed, the quarry face is blasted and the manufacturing process begins. Blasted rock averaging 0.6 metres in dimension, is transported by 100 tonne haul trucks to the primary crusher. After it's been crushed, the rock ranges in size from 150 millimetres to dust size particles. The product is then further processed through a series of secondary and tertiary crushers and screens to make aggregate products desirable for numerous construction applications.

Crushed rock that is between 19 and 50 millimetres is used in the heavy construction of major highways to support the high traffic volumes and heavy truck loads. Quite often Crusher Runs are also used in the construction of municipal streets and in residential construction because of their excellent quality characteristics.

Stone size particles can range from 25 to 4.75 millimetres and are used as drainage layers under high-volume roads and in high quality asphalt mixes for municipal roads and streets, residential streets, driveways, or heavy volume/load parking lots. The stone products are also used in high strength concrete mixes, such as high rise residential buildings, bridge overpasses and abutments, such as those along the 407 and 401 highways, within concrete pavement, curbs, sidewalks, precast pipe and structures, airport taxiways and runways, such as Lester B. Pearson International in Toronto.

Sand size particles are used in high strength concrete and asphalt mixes, and in block, brick, and interlocking brick manufacturing plants. It is also used in residential construction for baselevelling under brick pavers, driveways, trench backfill, or as an uncontaminated construction fill.

To learn more about Dufferin Aggregates and the aggregate industry consider participating in their free education program. The education program includes Milton Quarry site visits. These consist of bus tours of the extraction, processing, and rehabilitation areas of the quarry. A visit to the quarry complements your curriculum expectations for the Earth and Space Systems strand for Grades 4 and 7. The focus of the site visit can vary depending on the interest and curriculum requirements of learners and educators. For information about the education program at Dufferin Aggregates or to book a site visit please contact the education program coordinator, **Lesley Hymers at 905-878-6051 ext. 609.**

## Can You Find Rocks in the City?

- **Shale** is the raw material for bricks that are used to build homes, schools, and offices.
- **Limestone** is a highly valued building stone, and it is also processed to make a variety of construction materials, such as concrete.
- The flagstone used to line your walkway or patio is cut from slabs of **sandstone**.
- You can find **slate** in flooring and roofing materials.
- Big blocks of **dolostone** and **limestone** are often used to decorate gardens and control erosion along rivers and waterfronts.

