

# HIGHWAY 407 EXPANSION PHASE 1



## HIGHLIGHTS:

**LOCATION:**

Pickering/Oshawa Ontario

**PROJECT TYPE:**

Aggregate Supply for Highway Expansion

**PROJECT SCOPE:**

Highway Expansion

**AUTHORIZED CONTRACTOR:**

407 East Construction General Partnership (407 ECGP), a partnership between SNC-Lavalin Inc. and Ferrovia Agroman S.A.

**DEVELOPER/OWNER:**

Ministry of Transportation Ontario

**ENGINEERS:**

Jansen & Spaans Engineering Inc. and AIA Engineers Ltd.

**VALUE:**

\$1 B (DBFM)

**PROJECT TIMELINE:**

July 2014 - May 2016

**MATERIALS SUPPLIED:**

1,000,000 T, aggregates

## Mammoth Road Project with Entangled Logistics Meets Deadlines with JIT Aggregates Delivery

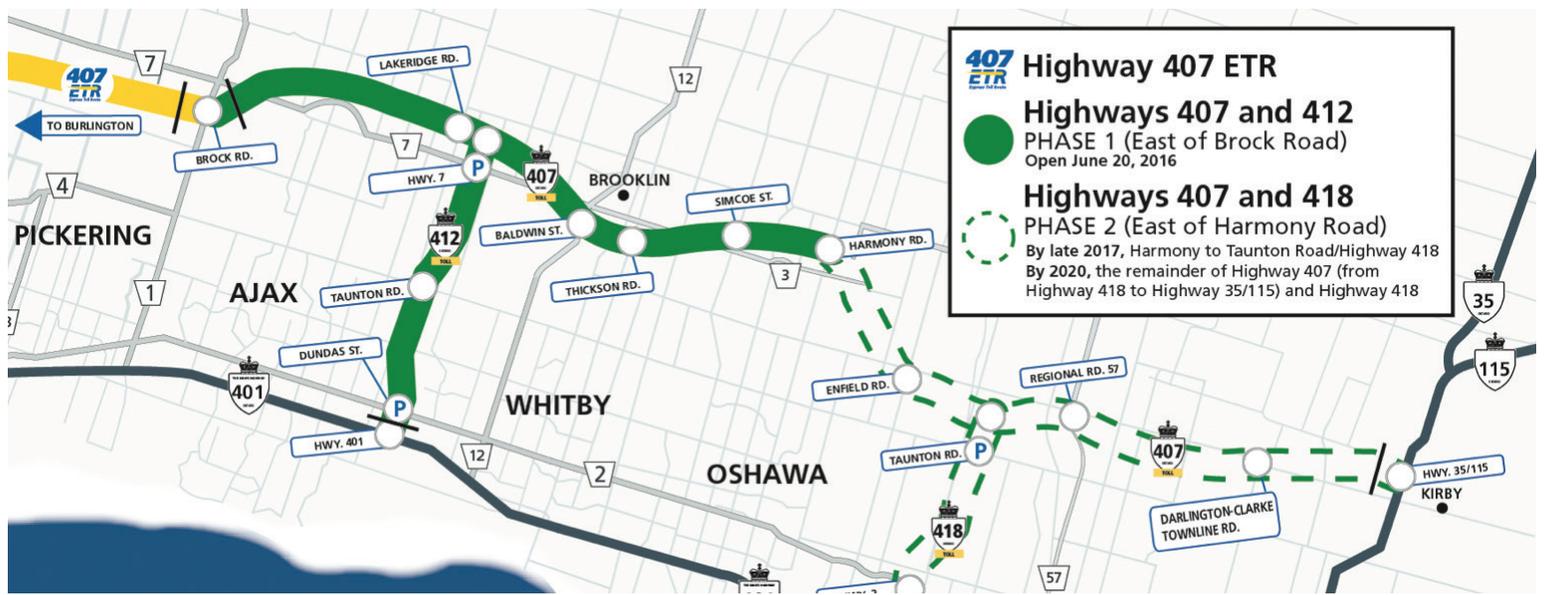
The Highway 407 phase one extension comprises over 148 new lane-km of road running north of the city of Toronto. The Ministry of Transportation of Ontario (MTO) and Infrastructure Ontario awarded the \$1B design/build/finance/maintain contract to the 407 East Construction General Partnership, a partnership between SNC-Lavalin Inc. (through its SNC-Lavalin Construction Div.) and Ferrovia Agroman S.A.

## Aggressive Timelines for Delivery of a Million Tonnes of Aggregates

The paving design was a standard superpave mix typical for Ontario highways. It was a large project with aggressive timelines. Lafarge was contracted to supply a million tonnes of aggregates for the 148 lane-km of asphalt. It would be delivered in on a just-in-time schedule to meet construction needs.

## Planning for Success with Early Collaboration

Lafarge representatives met with the owners, contractors and engineers long before construction began, to explore the challenges of the project and determine how they could be overcome. They identified logistical savings during the design phase.



## Dedicated Project Coordinator Responds to Changes

To focus on the day-to-day operations and keep things flowing, a dedicated project coordinator was assigned. He made sure that the trucks and aggregates were where they needed to be, when they needed to be there. He was able to make scheduling adjustments on the fly to help keep the project on track. He ensured Lafarge could handle two scope changes late in the project, which helped keep the build on schedule.

## 250,000 t of Aggregates Brought to Depot Close to Site

The project fell behind schedule from the start. To help adhere to the new tighter delivery timelines, Lafarge trucked two-hundred-and-fifty-thousand tonnes of aggregates that were mined at the Lafarge Brechin Quarry to the aggregates pit at Uxbridge. The pit was less than an hour from the 407 expansion site drop points. This allowed scheduling flexibility using fewer trucks that made shorter hauls to the drop points along the new highway.

## 900,000 t of Aggregates Delivered in Seven Months

The summer of 2015 had a series of torrential rainfalls that delayed construction even further. The project coordinator ensured 60 trucks per day delivered the 6,000T – 9,000 t of aggregates needed. This was double the original plan. Between April and October of 2015, 90% of the million tonnes of aggregates was delivered. It was only possible because 250,000 t of aggregates were stored at the Uxbridge quarry, which kept the trucking distance short, meaning fewer trucks were needed.

## Advanced Planning and a Key Point Person Helped Project Stay On Schedule

Lafarge's actions helped keep the project on schedule avoiding late penalties. Lafarge was able to respond to changing project demand and scope because they had a dedicated project coordinator and stockpiled aggregates close to the construction site.



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