



ROADS & INTERCHANGES

QUICK FACTS

**AVERAGE
ANNUAL DAILY
TRAFFIC:**
41,000

**TOTAL
PROJECT VALUE:**
\$769,000,000

**CONSTRUCTION
VALUE:**
\$500,000,000

**PROCUREMENT
MODEL:**
P3 DBFO

LAFARGE'S ROLE:
DEDICATED ROAD
CONTRACTOR

**LANE KILOMETRES
CONSTRUCTED:**
150 LANE-
KILOMETRES

**COMPLETION
DATE:**
2013

SOUTHEAST STONEY TRAIL RING ROAD

CALGARY, AB

PROJECT OVERVIEW

The Southeast Stoney Trail Ring Road (SEST) Project in Calgary consisted of building approximately 25 kilometres of six-lane divided highway.

At the time of its procurement, this project was the largest single highway project in Alberta's history. Lafarge's completed development of basic and auxiliary lanes, nine interchanges, 27 bridges structures, one road flyover, two rail flyovers, and additional pre-grading for future interchanges. Lafarge was the dedicated road contractor and responsible for all surface works on this massive project.



EFFECTIVE LEADERSHIP

PROJECT SPONSOR/VP



BOB SPENCE



RICHARD HISCOX

SOUTHEAST STONEY TRAIL RING ROAD

ONE-STOP SERVICE OFFERING WITH LAFARGE

Lafarge oversaw the earthworks, aggregate production and placement, asphalt paving, concrete curb and gutter, sidewalk, detour construction, and environmental mitigation shallow utility installation.

The subgrade scope of SEST involved the preparation of 1.8 million m² of subgrade as well as the delivery and placement of 2.3 million tonnes of base aggregates.

The subgrade interface was critical to the structure of the highway. The embankments were constructed from high plastic clays and required careful detail in placement to reach the required moisture and compaction requirements. The aggregates were delivered and placed in a span of 2.5 years, requiring detailed schedules and logistic plans. At any given time, there were between seven and 12 crews placing aggregates, and up to 120 trucks hauling. Additionally, Lafarge supplied and placed 650,000 tonnes of asphalt as well as 7,000 cubic metres of ready-mix concrete.

In total, Lafarge Construction's scope of work was valued at over \$100,000,000.



QUALITY ACROSS SCOPES

- STATE OF THE ART QUALITY ASSURANCE PROCESSES
- COLLABORATIVE SCHEDULING
- POWERFUL RESOURCE ALLOCATION AVAILABILITY
- PROJECT SPECIFIC HEALTH AND SAFETY PLAN
- ONGOING COMMUNICATION WITH EMERGENCY SERVICE STAKEHOLDERS



SOUTHEAST STONEY TRAIL RING ROAD

QUALITY MANAGEMENT AND VALUE GENERATION

Lafarge provided quality control services for the project including asphalt and gravel material testing, compaction and thickness and construction testing. In addition, geometric quality control and 3D Machine Control was performed, which increased productivity and allowed for more complex designs to be completed with confidence.

Lafarge is one of a select few road construction companies in Western Canada qualified to operate geometric testing equipment. We have a state of the art Level 1 inertial profiler that we use to measure surface smoothness in two dimensions, longitudinally and latitudinally, to ensure proper cross section slope and longitudinal profile.

Using our profilograph as part of our integrated road construction processes means that there is less coordination required with third party consultants, which was of particular benefit to this project. Additional benefits include more frequent and timely testing, including the testing of the first lift of pavement to identify and correct surface imperfections and more rapid deficiency repair.

These integrated processes yield scheduling improvements and reduce coordination challenges on major, complex projects. Lafarge provided a design quantity based price to control cost and scope for the project, which provided the joint venture team with cost certainty for asphalt concrete paving (ACP) and granular base course (GBC). Further cost certainty was realized in terms of project schedule due to Lafarge's supply control advantages for asphalt and aggregates.

UNIQUE CHALLENGES:

- ACTIVE ROADWAYS
- HIGH VOLUME URBAN TRAFFIC AREAS
- INTEGRATION OF STAGING AND TRAFFIC FLOWS
- EFFECTIVE CLOSURE TECHNIQUES
- ONGOING PUBLIC ENGAGEMENT
- TRADE CORRIDOR ACCESS



SOUTHEAST STONEY TRAIL RING ROAD

RESOURCE POSITIONING AND PARTNERSHIPS

Lafarge was responsible for all aspects of surface construction including all performance criteria. Armed with expertise and our knowledge of project agreement performance requirements and local specifications, we controlled the surfacing. As a local contractor, we had extensive knowledge of, and experience with, local products, suppliers and construction methods. We paved ramps, approaches and bridge decks, and completed all GBC and ACP work for this project, including full-depth construction, repairs and overlay work. We coordinated our trucking, milling and other subcontractors, and in turn worked very tightly with our joint venture partners to ensure the work was completed in a safe and timely manner.

We used continuous paving strategies (e.g. night paving, streamlined delivery) and additional construction resources from our other Western Canadian operations to meet our delivery schedule. We provided as many as six paving crews, including resources brought from Edmonton, to ensure the project's traffic availability timeline was met.

Lafarge was also closely integrated with the earthworks team for the project, and helped in terms of grading by providing its GPS equipment. Additionally, Lafarge supplied and provided laydown services for the highway granular base course. Our project team also supported traffic control during road construction activities. In addition to having a limited impact on the travelling public. Lafarge is credited as a strong performer for the project, and instrumental to the traffic availability date achieved.



