

PROJECT NAME

SKYLINE PHOSPHATE CONVEYER DEMOLITION

PROJECT HIGHLIGHTS

Highlights from the work relate to the integrated capability of the services that Gemini employed early in the project. Construction resources worked closely with engineering and lead to the production of cost effective solutions to methods of structural reinforcement. Furthermore, the all service capability enabled work to proceed in timely and efficient manner addressing quickly the issue of risk mitigation. A key project success was in Gemini's ability to develop a high quality solution and plan of action for the client with a high degree of certainty in regards to cost and schedule that was only possible through the employment of integrated services.

PROJECT DESCRIPTION

Gemini was contracted by Sherritt International to demolish its existing skyline phosphate conveyor structure. It was agreed that the work would be undertaken in four phases to accommodate the client's decision action cycle, which depending on the overall risk posed by the structure, the client could elect to demolish, reinforce and leave the structure as is. Gemini was awarded the contract because of its all service capability, whereby it could employ a suit of services that included engineering, procurement, project management, field inspection and construction services necessary to address the problem. By definition this was an integrated solutions project for Gemini.

SCOPE OF WORK

Gemini provided integrated services to Sherritt International to develop a detailed plan to demolish their existing 45 year old skyline phosphate conveyor at their Fort Saskatchewan facility. The project was subdivided into multiple task phases. Phase 1 of the project involved undertaking a detailed assessment of the existing condition of the phosphate conveyor structure with the objective to:

- Ascertain using visual and nondestructive testing methods to determine the degree of corrosion damage to the primary and secondary structural members of the conveyor structure.
- Ascertain through the aid of detailed structural simulation calculations the requirement for additional stabilization of the bents and towers of the conveyor during the process of demolition.
- Develop a comprehensive demolition plan detailing requirements for structural reinforcement of corroded or damaged members, hazardous waste disposal, dust control, hazard mitigation with falling debris and lift requirements.
- Develop a step by step dismantling plan detailing equipment and man-power resource requirements.

Phase 2 of the project involved the development of a detailed capital estimate complete with a supporting project schedule and risk assessment study. The risk assessment evaluated the risks the structure poses to the facility and its people in its present state, during demolition, and in the case should demolition activities be delayed for more favourable weather conditions. In each case, mitigation measures were recommended and accounted for in the capital estimate depending on the final course of action by the client. Gemini, in the development of this supporting documentation, assisted the client in its presentation to management in its request for funding.

Following management review and approval, the client elected to delay demolition activities until the summer of 2011, in lieu of scheduling and more favourable weather conditions. In response, Gemini, as part of phase 3, mobilized field construction forces to structurally reinforce the structure while it awaits demolition. The structural reinforcement plan implemented is that developed during Phases 1 and 2. Phase 4, the final phase, is the demolition of the structure which was scheduled for the summer of 2011. Demolition activities are undertaken by Gemini Field Solutions.

RELEVANT SKILLS EMPLOYED

Gemini's ability to undertake this work as an integrated solution is what differentiates it from its competition. Unlike most companies, Gemini is able to employ, as required, a multitude of services that includes engineering and construction. In doing so, Gemini is able to capture and employ the talents and expertise of all its staff in all areas to provide a high quality solution to the client's problem. For example, Gemini utilized an expert in demolition to work in conjunction with engineering to develop a comprehensive demolition plan that optimizes cost, safety, environment, schedule, client down time and work efficiency.

