

Innovation Awards

GAUVIN 2000 CONSTRUCTION LTD.

The Coquitlam Field Exposure Test Facility

The Coquitlam Field Exposure Test Facility is a 900 square foot building located on the rooftop of the two storey commercial office building occupied by Gauvin 2000 Construction Ltd.

The rooftop location was chosen because of the increased security offered by the controlled access through the building and for the unobstructed exposure to the elements in all directions. The test facility is designed to accommodate seven wall test panels on each cardinal direction (a total of 28 wall test panels) and three roof test panels on each of the north and south roof slopes (a total of six roof test panels). The wall panels are constantly being monitored electronically by the building science department of The University of Waterloo in Ontario.

The private full-scale environmental field-testing facility will operate for a period of at least two years from the initiation of the first test. The time period given will allow for the testing to be carried out through two full climatic cycles.

The project is a collaboration between Gauvin, Balanced Solutions Inc., Phoenix Structural Designs and the Building Science Corporation.



LOCKERBIE & HOLE CONTRACTING LTD.

Coquitlam Dam Seismic Upgrade

Lockerbie & Hole was recognized with an innovation award for installing the biggest underground pipeline this part of the world has ever seen. The \$2.7 million contract is part of the Coquitlam Dam Seismic Upgrade. The main scope of the work was the installation of a 1,000 foot underground pipeline ranging in sizes from 120" diameter to 30" through a valve chamber. Eight hundred feet were built with the largest diameter pipe.

Lockerbie innovated a way to reinforce the intersection of the pipes using 4lbs thick crotch plates. The largest was 16x30, weighing 44,000 pounds and was welded to the main piece at Lockerbie's fabrication facility in New Westminster.

The largest hydraulic mobile crane available in B.C. was used to place the main piece on site. When the two pipes were welded together on site, they weighed in excess of 100,000 pounds. To lift the fitting into its final horizontal position required two cranes, the large hydraulic crane (270 ton capacity) and a 100 ton supplement crane.

KWH CONSTRUCTORS CORP.

LNG Pipeline Suspension Bridge — Equatorial Guinea, West Africa

KWH Constructors took on the \$10 million contract in the very remote tropical wilderness out in Equatorial West Africa. The project involved construction of a 350 metre long suspension bridge to support a pipe carrying liquefied natural gas from the onshore facility to ships. The world's first LNG suspension bridge supports the LNG loading pipelines, utility piping, and power and instrumentation cabling. It is also the primary access way for operational personnel to the jetty since the unstable soils also precluded building a permanent access road to the jetty head. The bridge has the capacity to support three more plants ("trains").

The bridge was erected by a purpose-built cableway. All components of the cableway were fabricated and shipped from the Lower Mainland. All erection was done by building trades sent from Canada. KWH had a crew of 27 on site.

