

Client Project Submission Form

Civil Engineering Design Course ENGI - 8700

Memorial University

Faculty of Engineering and Applied Science

St. John's NL, Canada A1B 3X5

To be submitted to Instructor: Stephen Bruneau, sbruneau@enr.mun.ca, 737-2119

CLIENT

COMPANY	SDI Engineering	address	Suite 306 Terrace on the Square, St. John's		
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Proposed Project Title

Structural Design of PSA Industrial Building for Oil Sands Processing Facility

Description of Project

Perform the structural design of a 8 m x 33 m x 8.1m industrial building for Suncor. The building is part of the Millenium project in Alberta which involves expanding Suncor's new Steepbank mine to the east and south to extend its life through 2026. This building is a steel moment frame structure with metal siding and concrete foundations. Additionally, the structure supports a interior overhead gantry crane which runs the length of the building on a crane runway beam system. Roof top mechanical units and platforms are to be supported by the structure (loads will be provided).

Requirement of Student Group

Requirements for Design

- Prepare budgetary construction costs estimates using RS Means or other cost estimating tools.
- Determine building loads in accordance with NBC 2005
- Perform structural steel design for moment frames, bracing, crane runway beams, purlins and girts. Steel design to S16.1-01. Connection design is to be considered.
- Perform structural concrete design for foundations to CSA A23.1-05.
- Prepare preliminary drawings that could be submitted to contractor for pricing.

COMMENTS, CONDITIONS, RESTRICTIONS QUESTIONS

It is anticipated that a three dimensional finite element model will be created to assist in steel design. This model should be prepared using S-Frame or STAAD.