

University of Southern Queensland

FACULTY OF ENGINEERING AND SURVEYING

ENG4111/4112 Research Project
PROJECT SPECIFICATION

- FOR:** **Rowan Alistair HOWARTH**
- TOPIC:** INVESTIGATION, DESIGN AND DOCUMENTATION OF PROPOSED CELL 3, JOHNSTONS ROAD LANDFILL
- SUPERVISORS:** Dr Vasantha Aravinthan
Mr. Ron Glasser (Project Officer, EGSC)
Mr. George Black (Principal, Black Geotechnical)
- SPONSERSHIP:** East Gippsland Shire Council
- PROJECT AIM:** This project aims to investigate current operational issues and to then develop a design that will address these issues, for the next landfill cell (Cell 3 of 5) at the Johnstons Road Landfill site, Bairnsdale.
- PROGRAMME:** (Issue C, 19 March 2009)
1. Conduct a Literature review of all relevant guidelines, standards and previous research of Landfill/Liner design.
 2. Analyze factors influencing design, existing design issues relating to cell 2, current operational issues and requirements as well as site factors/restrictions.
 3. Investigate current site conditions such as hydro-geological conditions including groundwater locations, availability and suitability of clays, feature survey, etc
 4. Establish preliminary design requirements regarding site location, required capacity, life span, gas collection, leachate collection and possible treatment etc.
 5. Evaluate and model different Liner designs with respect to meeting best practice guidelines and standards, performance and cost.
 6. Establish preliminary design, including liner design, leachate collection, gas collection? etc.
 7. Submit an academic dissertation on the research and design.
- As time permits:
8. Finalize design and establish final drawings and specification

AGREED: _____ (student) _____ (supervisor)
Date: __/__/09 Date: __/__/09