

CVEN30008 Engineering Risk Analysis

Tutorial 2-Qualitative Risk Analysis

Each student group is allocated one of the following projects. The students should work in their groups to identify 6 risks associated with the selected project. They should also propose control measure for each risk.

One student from each group should present their findings to the class.

Project 1	Excavate a services trench through the University grounds & install an electrical cable
Context	To be done during University term with minimum disruption to University activities. The University's vital services must be maintained (power, communications & water supply), The work must take up the least space possible, not damage trees, reinstate ground surface immediately after finishing & complete the project as quickly as possible. The services route generally follows an existing road way.
Hazards	Lots of existing underground services to avoid, lots of trees along the route, lots of pedestrian traffic and some vehicle traffic along the route, soft ground to trench in, limited space to stockpile materials, only space for one delivery vehicle at a time
Risk Owner	Contractor's Project Manager
Tutorial : Identify six(6) Risks (what if)	????????????????
Tutorial : Propose Control Measures for the six risks	????????????????

Project 2	Organise & operate a University campus charity party
Context	The charity organisation has a high profile and good reputation. Good publicity is required. The venue is on the south lawn in summer time and starts at dusk. The University offers use of toilets and power supply but not security staff. The Campus must be vacated by midnight and left clean by 9-00am next day. It is proposed to use amateur musicians and have a food stall run by volunteers. If there are complaints about the event, it may be banned in future.
Hazards	Drugs & alcohol, a large crowd in a confined area, "gate crashers", bad weather, large quantities of cash money on site, temporary power set-up for lights, stage sound and food stalls.
Risk Owner	Project Manager for the student group running the event.
Tutorial: Identify six (6) Risks (what if)	???????????
Tutorial: Propose Control Measures for the six risks	????????????

Project 3	Replace the asphalt surfacing on a busy footpath in Lygon street.
Context	<p>The footpath is in front of shops that mostly operate 9 to 5 Monday to Thursday but late on Friday and normal hours Saturday and Sunday. Some cafes & restaurants operate till 11PM most nights. The footpath is used by pedestrians and is designed for disabled persons also. Kerb-side parking is provided adjacent the footpath and the running lane beyond that is shared by cars and push bikes.</p> <p>The work involved is stripping back existing asphalt, excavating 300mm and placing bedding sand then 30mm bluestone pavers to the finished level.</p> <p>Shopkeepers wish to maintain access at all operating times and have minimum disruption in front of their shops.</p>
Hazards	Pedestrians, disabled persons, car-parking adjacent the footpath, shop front glass, delivery of goods to shops, pet animals, limited space for construction access and materials storage.
Risk Owner	Construction Site Manager
Tutorial: Identify six (6) Risks (what if.....)	????????????????????
Tutorial: propose Control Measures for the six risks	????????????????????

Project 4	Design & construct a new drainage pipeline through a parkland with conservation values.
Context	<p>The alignment of a 500 mm diameter jointed concrete storm drain has to pass through a large park over a distance of 1 km. Other alignments to avoid the park were investigated but were found to be unviable.</p> <p>The park has acknowledged environmental values with many native trees and shrubs, typical native fauna as well as endangered bird species and some rare insect species that have been recorded in the past but not sighted recently.</p> <p>The trench excavation will be 3 m deep on average in firm to soft clay material and with the water table varying from 30 cm to 3 m below surface.</p> <p>A small natural waterway crosses the drain alignment and this contains protected amphibians. The waterway leads to a local wetlands that is managed by the Catchment Management Authority.</p>
Hazards	Poor ground conditions, limited access, stringent environmental controls, an aggressive local "Friends of the Park" group who are against the drain project, onerous construction contract conditions regarding environmental protection, construction noise, construction pollution, high water table and wet winter conditions.
Risk Owner	Construction Project Manager
Tutorial Identify six (6) Risks (what if)	????????????????????
Tutorial : propose Control Measures for the six risks	????????????????????