

**UNIVERSITY OF SOUTH AUSTRALIA**  
**SCHOOL OF GEOINFORMATICS, PLANNING & BUILDING**

PROGRAMS:           **Master of Project Management/Graduate Diploma in Project Management**  
                          **/Graduate Certificate in Building & Planning**

COURSE:             **INDUSTRY-BASED PROJECT PROCESSES (12425)**

EXAMINATION:       **Internal Exam, Semester 2, 2002**

DURATION:          **3 Hours of Exam time preceded by 10 minutes of Reading time, a total of 3 Hrs 10 Mins.**

For ENTEXT students 10 minutes of Reading time plus 3.5 Hours of Exam time, a total of 3 Hrs 40 Mins.

EXAMINER:          **Mauro Maurovic**                           **Tel – 8226 7342**

INSTRUCTIONS TO CANDIDATES:

- This exam is worth 100% of the total marks
- Reference materials and calculators are allowed. This is an open-book exam
- Answer All four questions based on a case study provided

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**Industry Based Project Processes – Case Study**

In September 2000, **ACME Fabricators** advised staff that their new factory and offices at semi-rural Angle Vale would be ready for completion by the end of April 2002. **ACME** were a responsible company and like to keep their staff happy and their premises clean and tidy. As the premises at Angle Vale were developed on a 4.5-hectare site, which was previously used for grain crops, **ACME** decided that significant landscaping would be required to enhance the amenity of the otherwise bare site. The Senior Executive group pictured a lovely green lawn with trees and shrubs that softened the impact of the otherwise stark buildings and this also included some land contouring.

They notionally allocated \$232,000 for the project and developed a tender document, which specified that they needed to have any work completed by the time that they

moved to the new premises. They subsequently invited tenders for a quote for the work and a landscaping plan.

A Company called **Arbor Industries** won the tender after a bid of \$175,000 that was substantially lower than any other tenderer. **Arbor** also prepared a landscaping plan, which was based on existing drawings of the site, provided in the tender. A drawing of what the landscaping would look like was also prepared so that the evaluation team could picture the end result.

**Arbor** met with the **ACME** senior executives to agree project start date, access and security of plant and equipment and a fixed price contract was signed.

A project was scoped and planned by **Arbor**, had specific milestones for siteworks, irrigation, lawn planting and tree and shrub planting. **Arbor** had undertaken many similar jobs on city sites in the past and based on knowledge and skills of the project team, they did not think that a formal project management plan would be needed. All they wanted was agreement on the scope of the project and the key deliverable dates. From experience, they wanted to deal with only one person from **ACME** and it was agreed that the Finance Manager, a Senior Executive would be responsible for the Project.

**Arbor** commenced work on the 16<sup>th</sup> of November 2000 with site preparation including weed eradication. Work progressed smoothly up until 20<sup>th</sup> of January 2001, when the newly prepared and level ground for the lawn was damaged significantly by heavy vehicles delivering machinery, plant and equipment to the site.

The **Arbor** project manager arranged his first meeting with the **ACME** Finance Manager to complain and indicated that he would have to re-do the site for the lawn which would take an extra 3-5 days. The Finance Manager agreed that it was not **Arbor's** fault and that work would have to be re-done, but as there was no more funding available he suggested that the project manager make the savings somewhere else from within the project. This was agreed but not specified.

By the end of January the landscaping site works were finished and the irrigation system was installed. Planting was to be done in three phases – shrubs, bushes and small trees first, then larger trees and finally the lawn. Shrub planting would take approximately 4 days, trees 7 days and the lawn would be laid in three separate operations over 2 days.

On the first day after the planting commenced, some of the project team noticed a few small plants seemed to be missing or broken off. These were quickly replaced. After the last day however it was noted that around 35% of the plantings had been destroyed by rabbits or hares (as it was later determined) within the first 3 days. The Project Manager was very concerned and called another meeting with the **ACME** Finance Manager. Although sympathetic, the Finance Manager agreed that tree guards needed to be placed around trees but that was a contingency that the Project Manager should have considered. The **Arbor** Project Manager indicated that pests were **ACME's** problem and again the Finance manager agreed that the **Arbor** project manager make savings elsewhere within the project.

The project manager reviewed his budget and costings and determined that the only way to re-coup the losses from having to replant the shrubs and protect them, was to plant fewer plants and much smaller trees which came at a much lower cost. Another way to make some savings was to try and re-design the irrigation system using less sprinklers. within the project.

Instant lawn was tentatively ordered for around the middle of March 2001 so that delivery missed the hottest part of the year. Unfortunately, the commercial growers had heavy demand for the lawn and advised that the last shipment could only be made by mid-February 2001 to allow them time to plant new lawn in time for winter and spring clients. **Arbor** had no choice and accepted delivery in mid February 2001.

As it turned out, it was particularly hot when the lawn delivery was made over the 2 days, with hot gusty Northerly winds.

Since the original project was scoped and commenced, the Finance Manager had secured a new position in another company and was leaving in the 3<sup>rd</sup> week of February 2001, just as the lawn started to brown off and die in patches. By this time, the project was well ahead of schedule by about 3 weeks, due to the early delivery of the lawn, but the larger trees and plants had not yet been planted. Water coverage of the lawn was barely enough and when it is windy, doesn't fully water all areas. **Arbor** was over-budget by about \$24,000.

The new Finance Manager, who started one week after the original one left **ACME**, was asked by the company to continue in the role of her predecessor on this project.

The new Finance manager has now been advised by the **Arbor** Project Manager (seeking an opportunity), that about \$25,000-\$30,000 more is needed for the project to be completed, as was agreed by the previous Finance Manager. The new **ACME** Finance Manager was not sure how to deal with this having no background to the project. She tries to contact the original Finance Manager but cannot as he has taken holidays before taking up the his position.

The new **ACME** Finance Manager reviews the budget for the project and sees that there is a fixed price contract with no contingency amounts and advises the **Arbor** Project Manager accordingly. The **Arbor** Project Manager informs her of the problems caused by the heavy vehicles earlier in the project and vermin.

Because of the refusal to provide more money, the **Arbor** PM must reduces significantly the size of the larger trees that are to planted later in March-April 2001 to try and contain the budget deficit and make savings.

The project concludes with the **Arbor** being 3 weeks under-schedule, but \$25,100 over budget or 14.3% over budget. Unfortunately the Executives of **ACME** are not happy with the project at conclusion. Through the Finance Manager they indicate that the lawn is dead in patches, the plants are small and that as a result it is not like the drawing that they were provided with at tender stage. They insist that either these issues are rectified or the contracted amount be reduced.

It is at this stage that **Arbor** indicated that there were a number of verbal agreements and that **Arbor** had fulfilled its obligation and that the plants would eventually grow to resemble the drawings.

The matter is now pending between legal representatives of each company.....

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### ***Questions***

**As a professional Project Manager, you have been requested by both the legal representatives to do a Post-Project Review and specifically asked to:**

- 1. Provide an assessment on the Project from a structured methodology perspective.**
- 2. Identify any positive or negative aspects of the project.**
- 3. If there are any negative aspects, why have they arisen and how can they be avoided?**
- 4. How would you recommend that the project be brought to a close? (Ignoring the fact that lawyers have been brought in or any legal aspects of Tort and Law of Contract)?**

**\*\*\*\*\*End of Paper\*\*\*\*\***