



**SUCCESSION
TRAINING**

BSB51415 Diploma of Project Management



Constraint Management

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ASSESSMENT WORKBOOK COVERSHEET

WORKBOOK:	Workbook 2
TITLE:	Constraint Management
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Please read the Candidate Declaration below and if you agree to the terms of the declaration sign and date in the space provided.

By submitting this work, I declare that:

- I have been advised of the assessment requirements, have been made aware of my rights and responsibilities as an assessment candidate, and choose to be assessed at this time.
- I am aware that there is a limit to the number of submissions that I can make for each assessment and I am submitting all documents required to complete this Assessment Workbook.
- I have organised and named the files I am submitting according to the instructions provided and I am aware that my assessor will not assess work that cannot be clearly identified and may request the work be resubmitted according to the correct process.
- This work is my own and contains no material written by another person except where due reference is made. I am aware that a false declaration may lead to the withdrawal of a qualification or statement of attainment.
- I am aware that there is a policy of checking the validity of qualifications that I submit as evidence as well as the qualifications/evidence of parties who verify my performance or observable skills. I give my consent to contact these parties for verification purposes.

Name: Darren O'Connor

Signature:



Date:

21/10/20

WRITTEN QUESTIONS

Part 1 – Project Scope

1. Which of the following are project initiation documentation required at the start of the project?

Select all that apply.

☐	a. Communications log
☒	b. Project plan
☐	c. Work Breakdown Structure (WBS)
☐	d. Gantt Chart
☒	e. Project charter
☐	f. Risk management

2. Which of the following are components of a project scope-management plan?

Select all that apply.

☒	a. Project deliverables
☐	b. Project staff assignments
☐	c. Change request
☒	d. Project justification
☒	e. Product description
☐	f. Performance reports
☒	g. Project objectives
☐	h. Project funding requirements
☐	i. Quality metrics
☐	j. Budget forecasts

3. In your own words, discuss how project time and cost affect the project scope. Do not exceed 100 words.

Time, cost and scope are fully integrated on a project and as a triple constraint if one is affected then all three are affected in some way. With time and cost for example a project has a set duration and cost to complete a certain scope. If time durations blow out, cost may increase and scope may be missed. In some instances if there is constraints on time and costs the quality of the scope can suffer also.

4. Which of the following are events or problem areas relating to project scope that could trigger the need for a formal change request?

Select all that apply.

☒	a. The deliverables may not meet quality requirements.
☐	b. Grammatical and typo errors are found in the project initiation documents.
☒	c. The deliverables may not be what the client wanted, even though they were covered in the project plan.
☐	d. The stakeholder considers the change request and advises the project manager.
☒	e. Observance of non-working holidays affecting project time.
☒	f. Additional quality requirements (such as new legislation or changes in standards) will render the deliverables non-compliant.
☒	g. Failure of equipment needed to produce the deliverables.
☐	h. Missing documentations in the project's information system.
☒	i. Raw materials are no longer available.
☒	j. Supplier or contractor closing business.

5. Which of the following are procedures that typically must be followed under change control processes?

Select all that apply.

☐	a. Project manager seeks advice from supervisor regarding changes in cost.
☐	b. Project manager assigns a project team member to recalculate for the critical path.
☒	c. Project manager provides the change request to the appropriate stakeholder for approval.
☒	d. The stakeholder considers the change request and advises the project manager.
☒	e. The project manager updates the project plan and other documentation where required.
☒	f. Project manager drafts the change request.
☐	g. Project manager delegates the authority to the project team members in advising other stakeholders of the changes.
☒	h. The project manager advises relevant stakeholders (sponsor, team members, etc.) of the changes.
☒	i. Details of the proposed change to be communicated to the project manager.
☐	j. The project sponsor and owner may automatically terminate the project contract.

6. The following are methods of measuring work outcomes and progress against plans. Match each method to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Method	Description
c	Units completed	a. Also known as the 'steps' method, this is used for projects that involve subtasks that need to be completed in an orderly fashion.
a	Incremental milestones	b. In this method, tasks that are being calculated tend to occur over a longer duration time and include multiple subtasks, where subtasks can have different units of measurements.
d	Start / finish	c. This method is used when project tasks are done repeatedly. Assuming that each task is completed at the same amount of time, resources and effort, each task is counted and totaled.
b	Weighted or equivalent units	d. This method is used to determine the percentage of the work completed and the percentage of the work that is still yet to be completed.

7. Which of the following are activities involved in decomposition of the total work project?

Select all that apply.

☐	a. Summarise project tasks in the form of a written report.
☒	b. Identify and analyse the deliverables and related work.
☒	c. Structure and organise the work breakdown structure (WBS).
☐	d. Arrange the smallest project tasks to form an aggregate representation of the total project task
☒	e. Decompose the upper work breakdown structure (WBS) levels into lower level detailed components.
☐	f. Calculate duration and resource effort for each project task.
☒	g. Develop and assign identification codes to the WBS components.
☐	h. Inspect whether work and deliverables meet requirements and product acceptance criteria.
☐	i. List resources required for each project task.
☒	j. Verify that the degree of decomposition of the work is necessary and sufficient.

8. List three (3) ways in which the Work Breakdown Structure (WBS) can be created.

- a. Phase
- b. Stage
- c. Task

9. The following are some problem areas in scope management. In your own words, briefly discuss each problem area.

Do not exceed 100 words for each discussion.

Problem areas	Discussion
Scope creep	Scope creep is where small changes in the scope occur throughout the duration of the project and often the project manager is not aware of the changes until the change becomes quite substantial. It can lead to increase cost that cannot be recovered.
Sponsor / project owner approval	Sponsor/project owner approval is where the project sponsor who is the end user of the project give their approval to proceed. For example, they would approve change requests
Project team accountability	Most projects have a full team behind the Project manager and each member has a role and responsibility. The project team along with the project manager to deliver the project. Everyone in the team is accountable to carry out their duties to ensure the success of a project.

10. In your own words, discuss the significance of scope management.

Do not exceed 150 words.

Scope management is an integral part of any project. The project manager and project team need to understand fully what has been included and excluded to complete the project. Managing the scope effectively will go a long way toward completing the project within the allocated timeframe and budget. Effective scope management will minimise the chances of scope creep occurring and the additional costs and time that can be a result. Effective scope management establishes control procedures to track issues that could result in the project changing during the life of the project.

11. The *PMBOK Guide* outlines the following processes in project scope management. List one (1) tool or technique used in each process.

Project Scope Management	Tool or technique
Collect requirements	Date Gathering
Define scope	Product Analysis
Create WBS	Decomposition
Verify scope	Inspections
Control scope	Data Analysis

12. Consider the roles and responsibilities of the project manager in project planning. List five (5) roles of the project manager in project planning and list at least one responsibility for each of these roles.

Roles (list five (5))	Responsibilities (List at least one (1) for each role)
Understanding the project	Creating the project plan once the project is understood
Scope management	Creating a WBS for the project
Time management	Establishing the project schedule baseline
Cost Management	Creating the cost baseline for a project
Quality management	Ensure the final product meets the stakeholders expectations

Part 2 – Project Time

- The following are estimation tools and techniques used in determining duration. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
b	Analogous estimating	a. This technique uses a statistical relationship between historical data and other variables to calculate an estimate for activity duration.
a	Parametric estimating	b. This uses parameters such as duration, budget size, weight, and complexity, from a previous, similar project, as the basis for estimating the same parameter to measure for a future project. This technique relies on the actual duration of previous, similar projects as the basis for estimating the duration of the current project.
e	Three-point estimating	c. This is guided by historical information. It provides duration estimate information or recommended maximum activity durations from prior similar projects. This can also be used to determine whether to combine methods of estimating and how to reconcile differences between them.
c	Expert judgement estimating	d. Contingencies are accounted for into the overall project schedule to account for schedule uncertainties.
d	Reserve analysis	e. This technique uses a mathematical formula to determine a weighted average of estimates. It uses the formula: $Te = \frac{To + 4 \times Tm + Tp}{6}$.

2. The following are estimation tools techniques used in determining activity resource. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
d	Expert judgment	a. Several companies or organisations routinely distribute updated production rates and unit costs of resources for an extensive array of labour trades, material, and equipment for different countries and geographical locations within countries.
e	Alternative analysis	b. In this technique, when an activity cannot be estimated with a reasonable degree of confidence, the work within the activity is decomposed into more detail. The resource needs are estimated. These estimates are then aggregated into a total quantity for each of the activity's resources.
a	Published estimating data	c. This tool has the capability to help plan, organise, and manage resource pools and develop resource estimates.
b	Bottom-Up estimating	d. This technique is often required to assess the resource-related inputs to this process. Any group or person specialised with knowledge in resource planning and estimating can provide such expertise.
c	Project management software	e. These include using various levels of resource capability or skills, different, size or type of machines, different tools (hand versus automated), and make-or-buy regarding the resource.

3. In identifying the critical path, the following parameters need to be determined for each task. Discuss each parameter.

Do not exceed fifty (50) words for each discussion.

Parameter	Discussion
ES	The earliest time the task can start providing that any predecessor tasks must be complete first
EF	The earliest start time for this task plus the time to complete the task
LF	The latest time the task can be complete without delaying the project
LS	The latest finish time minus the time to complete the task

4. Which of the following statements accurately explain the process of developing the project schedule, including the schedule baseline?

Select all that apply.

☒	a. Developing the schedule is the process of analysing activity sequences, durations, resource, requirements, and schedule constraints to create the project schedule.
☒	b. The project schedule and schedule baseline are developed or established using the activity lists, activity attributes, project scope statement as the bases.
☒	c. Entering the activities, durations, and resources into the scheduling tool generates the schedule baseline.
☐	d. Tools and techniques used in developing the project schedule and schedule baseline include decomposition of the total project work.
☐	e. Developing the schedule baseline starts and ends in the planning phase of the project.

5. Schedule control is the process of monitoring the status of the project to update project progress and manage changes to the schedule baseline.

Which of the following are processes that are involved in schedule control?

Select all that apply.

☒	a. Determining the current status of the project schedule.
☐	b. Defining activities or specific actions to be performed to produce project deliverables
☒	c. Influencing the factors that create schedule changes
☐	d. Decomposing total project work into its lowest levels.
☒	e. Determining that the project schedule has changed
☐	f. Estimating duration and resource effort for the project.
☒	g. Managing the actual changes as they occur.

6. Consider the methods used in project time management.
 - a. In your own words, discuss the application/use of the Gantt Chart. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Gantt Chart.
 - c. List three (2) limitations of the Gantt Chart.

- a. Gantt charts are essential to delivering projects on time. The chart gives a clear visual representation of the project schedule. It helps identify the critical path and allows the project manager to monitor progress. It assists the project team monitor the project deliverables and ensure there are delivered
- b. Calculates the progress of the project
Compare progress to the baseline
Allows milestones to be created and monitored
- c. Gantt charts are usually quite large and difficult to print
The format, not everyone has access to the software used so charts need to be in pdf format to distribute
Accuracy of the charts, durations can be estimated incorrectly so the chart is only as accurate as the information entered

7. Consider the methods used in project time management.
- a. In your own words, discuss the application/use of the Critical Path Method. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Critical Path Method.
 - c. Discuss the limitation of the Critical Path Method. Do not exceed fifty (50) words.

- a. The CPM is a tool used to determine the critical path of a project and identify the tasks that are integral to delivering the project. It breaks down the project in each task and displays them on a flow chart and can be used to calculate the project duration.
- b. Shows the tasks on the critical path
Establishes early start times for tasks
Establishes the projects critical path
- c. The CPM is only as accurate as the information entered and can change as the project progresses. It must be constantly updated to ensure the critical tasks are completed. If a certain task is delayed the path can change making other tasks critical which weren't previously.

8. The following are tools and techniques used in project scheduling. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Project scheduling tools and techniques	Description
b	Schedule network analysis	a. This is the process of looking at all of the activities that must be completed, and calculating the 'best line' – or critical path – to take so that you'll complete the project in the minimum amount of time. The method calculates the earliest and latest possible start and finish times for project activities, and it estimates the dependencies among them to create a schedule of critical activities and dates.
a	Critical Path Analysis	b. This is a graphic representation of the project's activities, the time it takes to complete them, and the sequence in which they must be done. Project management software is typically used to create these analyses. Common formats for this include Gantt Charts and PERT Charts
d	Schedule compression	c. They expedite the scheduling process by generating start and finish dates based on the inputs of activities, network diagrams, resources, and activity durations.
c	Automated scheduling tools	d. This tool helps shorten the total duration of a project by decreasing the time allotted for certain activities. It's done so that you can meet time constraints, and still keep the original scope of the project.

9. Which of the following statements accurately explain the work breakdown structure (WBS) including its application in project schedules?

Select all that apply.

☒	a. Work breakdown structure (WBS) is the subdivision of project deliverables and project work into smaller, more manageable components.
☐	b. The work breakdown structure (WBS) identifies project personnel who are responsible for each project task.
☒	c. Work breakdown structure (WBS) helps define activities of the project which provide the basis for estimating, scheduling, executing, and monitoring and controlling the project work.
☐	d. The work breakdown structure (WBS) is used to represent the full project scope of the project.
☒	e. The work breakdown structure provides the relationships among all components of the project and the project deliverables.
☒	f. The work breakdown structure (WBS) is used as the basis for the scope baseline which is used in identifying activities or specific actions to be performed to produce of the project deliverables.
☐	g. Project work at lowest levels are not included in the work breakdown structure (WBS)

Part 3 – Project Cost

1. The following are processes involved in project cost management including budgeting the cost of the project. In your own words, discuss each.

Do not exceed fifty (50) words for each discussion.

Estimating costs	Estimating costs is a process where an approximate project completion cost is developed. It is an estimation a give point in time based on the information know at that time
Determine budget	This is the process where estimated costs of individual work packages are put together to establish a cost baseline.
Control cost	Cost control is a process for monitoring the cost incurred on a project. It helps with updating the budget and cost baseline and cost of work done to date

2. The following are different tools and techniques used in cost management. Match each to its correct description.

Write the letters that correspond in the spaces provided.

	Strategy	Description
b	Analogous estimating	a. This is used to establish both the contingency reserves and the management reserves for the project with regards to cost.
c	Parametric estimating	b. This strategy uses the values of costings from a previous, similar project as the basis for estimating the same parameter or measure for a current project. This is used when the current project is similar to a previous one in terms of defined parameters.
e	Cost aggregation	c. This uses a statistical relationship between historical data and other variables to calculate and estimate for cost. This technique is used to produce higher levels of accuracy depending upon the sophistication and underlying data built into the model. Estimates made through this project can be applied to the whole project or to segments of a project.
a	Reserve analysis	d. These are used to develop mathematical models to predict total project costs.
d	Historical relationships	e. Cost estimates are combined by work packages in accordance with the Work Breakdown Structure. The work package cost estimates are then combined for the higher component levels of the WBS and ultimately for the entire project.
g	Earned value management	f. In this technique cost performance measurements are used to assess the magnitude of variation to the original cost baseline.

f	Variance analysis	g. This is commonly used as a performance measurement. It integrates project scope, cost, and schedule measure to help the project management team assess and measure project performance and progress.
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3. List four (4) processes which are followed in monitoring the project costs against outcomes to ensure that additional expenses are not incurred.

- | |
|---|
| <ul style="list-style-type: none"> a. Sending invoices on a regular basis b. Paying invoices promptly c. Checking incoming invoices against quotes and contracts d. Using spreadsheets or a financial management software to monitor the project finances |
|---|

4. You are appointed as one of the Project Managers of Bigger than Big Corporation. As one of the Project Managers, it is essential that you have a full understanding of the organisation's policies and procedures relevant managing projects within Bigger than Big.

Review Bigger than Big Corporation's [Project Management Policy and Procedures](#) (username: cstclearner password: CstcPty@123).

- a. In your own words, discuss the organisation's Project Management Policy, including its background, purpose, and its scope.
- b. In your own words, discuss the organisation's Project Management Procedures including their purpose and scope.
- c. In your own words, list and discuss the Project Phases prescribed in the organisation's Project Management Procedures.

Do not exceed 100 words for each discussion.

- a. Bigger Than Big Corporation's (BTBC) policy outlines their project management intention for project they manage. The background covers important facets of project management like involving stakeholders. The Policy Purpose covers the project life cycle which is essential to any business & project. The Scope outlines its place in the business and links it to their Managing Change Framework. Change management is an integral part of Scope management on a project.
- b. The BTBC project management procedure outlines their project management policy and the project lifecycle by defining the process and steps that perform throughout the project to ensure the manage and deliver the projects efficiently. The scope of the procedure defines what a project is for their business and that the procedure applies to a project.
- c. Pre-initiate Phase – This is the start of the project. It defines what the project will hope to achieve depending on a business justification. This step can be skipped if a project has already been approved. This phase starts the assessment of the project size and the governance structure for the project. It depends on the size of the project, small, medium or large.

Initiate Phase – this step determines how the project will be executed. The project model for the project to achieve the project objectives is developed, i.e. the project plan. The Project manager will start working on determining the funding for the project based on the business case.

Plan Phase – this stage determines how the project will be conducted. The main aim of this stage is to determine the project schedule, the project budget, complete the risk management, communications and resource plans. A project risk register is also developed and an end of phase report. These steps are mainly focused on medium and large projects for BTBC.

Implement Phase – this stage is focused on how the project will be delivered. It is triggered by the development and approval of the detailed implementation plan which is added to the Project Initiation Document. The implementation plan contains all the activities related to systems, staff, processes and training that must be completed to achieve project deliverables.

Close Phase – this phase is the finalisation of the delivery component of the project. It has 2 main parts, the first is the handover for the completed project to the project sponsor and the second is a project evaluation to produce lessons learned for the project manager and the BTBC business.

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Part 4 – Project Quality

1. In your own words, discuss each of the following key concepts in Quality Management.

Do not exceed 100 words for each discussion.

Key Concepts in Quality Management	Discussion
Customer satisfaction	Customer satisfaction is a measure and indicator of the project's quality. If the customer is not satisfied with the end result or if it doesn't meet their needs or if the project has been run didn't meet their expectations, then they are likely to believe the quality of the project was poor. It is important to manage the customers' expectations so a project can be delivered successfully.
Prevention over inspection	This concept is based on the cost of preventing mistakes is usually cheaper than the cost of fixing them. Spending a little bit of extra time when completing a task to ensure it meets the project requirements is much better than cutting corners and ending up with a non-conforming product. Rework is costly, it caused disruption to other tasks and is generally demoralising for the project team.
Continuous improvement	Continuous improvement is the ongoing effort to improve a product, service or process. It relies on lessons learned from any issues that have been encountered in the past on during the life of the project. These improvements can be incremental, small changes or major overhauls of process & procedures.

2. In your own words, discuss the difference between Quality Assurance and Quality Control.

Do not exceed 100 words.

Quality control is focused around product testing and defect identification after it has been completed. The products are inspected/tested for defects and then it is then management's decision to release or not release a product. Quality Assurance focused more around the process. It shows an entity has a quality management system for completing works. It is done by adopting/following standards, techniques and training for example. QA is the testing of the process used to produce the end product and is used to ensure the product meets the requirements of the client/sponsor.

3. The following are standards that could apply in various projects. In your own words, discuss each standard. Do not exceed fifty (50) words for each discussion.

People standards	The is the requirements for the people working on the project. It is focused on the right people for the job i.e. they have the correct training and qualifications for the tasks being completed.
Process standards	These are the standards for the processes used to deliver the project. The quality assurance system is audit to ensure the project team are complying with the quality assurance system.
Product / service standards	These are the standards that look at the end product involving the quality control standards. For example, the Australian standards/ project specification/ Technical specifications. These are used to ensure the end product meets expectations.

4. The following are quality assurance and control methods, techniques and tools. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Methods, tools, techniques	Description
h	Benchmarking standards	a. This is a distribution of dots comparing two variables. If the two variables are completely independent you would expect the dots to be evenly distributed randomly across the graph. If there is a strong relationship though, the graph will show a straight line or a mathematical curve going through it.
g	Brainstorming sessions	b. These are graphical representations showing a visual impression of the distribution of data. Usually it shows the frequency up the Y axis of the bar graph and the measuring variable along the X axis.
d	Control charts	c. It is a graph where the X axis is time dependent. This allows you to look for time-based cycles in processes.
f	Flowcharts	d. These are also known as Shewhart charts or process-behaviour charts. These charts are used to statistically measure the quality characteristics of a process are under control. This is based on a statistical analysis where a centre line is drawn for the mean of the output, then an upper control limit and a lower control limit is created either side of the centre line. The process is then measured over a period of time and the results plotted on the graph. Once the graph has been created, it can be analysed to test the stability of the process and also any cycles of errors.
b	Histograms	e. It is very similar to a histogram, but it includes a line over the graph indicating the cumulative distribution of the results.

e	Pareto charts	f. A diagram that represents a process. It shows the steps visually as a series of boxes with arrows in between them showing the work flow. Rectangular boxes represent tasks and diamond shaped boxes represent decision points, where the flow can split into two or more directions.
c	Run charts	g. It occurs when a group meets and is presented with a scenario where they creatively come up with a range of solutions.
a	Scatter grams	h. These may be dictated to by legislation through Federal, State or Local Government regulations, and may be dictated by industry bodies.

5. List five (5) responsibilities of the project manager in quality management.

- a. Setting the quality standard for the project deliverables
- b. Ensuring all organisational quality requirements are met
- c. Coordinating the QA & QC activities
- d. Conducting project quality audits
- e. Reporting quality outcomes to the project sponsor

6. The following are methods used in managing continuous improvement. In your own words, discuss each method.

Do not exceed fifty (50) words for each discussion.

Six Sigma	It is a set of techniques and tools for process improvement. It looks to improve the quality of the output by minimizing the causes of defects and variability in processes.
Lean Six Sigma	It is a methodology that takes a group project team approach to improve performance by reducing waste. It removed waste in area of time, inventory, motion, waiting, overproducing, over processing, defects and skills
Total Quality Management	A complete and structured approach to project management that looks to improve the quality of products and services through ongoing improvements in response to continuous feedback

CASE STUDY

Instructions to Student

These case studies are hypothetical situations which will not require you to have access to a workplace, although your past and present workplace experiences may help with the responses you provide. You will be expected to encounter similar situations to these in future as you work in a project team environment.

In the real world you are likely to encounter the situation where you enter a project, taking over from another project manager. The documentation that is handed over to you is not necessarily up to scratch, and there could be serious issues with the project. This assessment captures that real life scenario.

The case studies are the first part of dealing with “multiple complex projects” required in all the units of this subject. The other assessment covering this requirement is the practical assessment. When you have completed the case studies you will be able to commence the practical assessment which covers the generic skills needed to function as an effective project team member. This assessment on the other hand covers the application of the underpinning knowledge and background theory.

Introduction

You have been appointed as a project management consultant to the project team at Awesome Landscapes Pty Ltd. Specifically, you are required to provide independent advice on seeing their current project throughout its entire lifecycle.

You have already provided advice to Awesome Landscapes in the previous workbook.

Today is 24 July 20xx. The project will shortly progress into the implementation stage. You have now been provided with up-to-date project documentation below, including an updated Project Plan. The project steering committee have reviewed the Project Plan, but they wish to have you conduct an independent evaluation of the project prior to signing it off.

As part of your consultancy services, you will be assisting the team in addressing issues around project constraints by answering the questions that follow this scenario.

The documents you need to complete the succeeding tasks can be accessed through the following links:

[Project Charter version 2 \(.pdf\)](#)

[Project Plan version 2 \(.pdf\)](#)

[Project Gantt Chart version 2 \(.mpp\)](#)

[Project Gantt Chart version 2 \(.pdf\)](#)

[Project Network Diagram version 2 \(.pdf\)](#)

(username: cstclearner password: CstcPty@123)

Note: These documents were generated in year 2016. For the purpose of this assessment, refer to ‘2016’ as the current year and ‘2017’ as the succeeding year.

1. List the three (3) project deliverables in Phase 1.

- a. Vegetation Removal
- b. Access Road Construction
- c. Retaining wall construction

2. Discuss the project constraints in terms of scope, time, cost, and quality.

Scope	This is the work that Awesome Landscapes (AL) need to do to deliver the project for Massive Eco-Development Corporation (MEDC). The scope contains what AL have allowed (inclusions) to do and what they have not allowed to do(exclusions) for MEDC
Time	This is the duration AL have to complete their works (scope) for MEDC. It is set out on the project Gant Chart with durations for each part of the works (Scope)
Cost	This is the money AL have allocated to complete the works (scope). There is a budget for the works which needs to met and project costs need to be constantly monitored to meet the budget.
Quality	This is where AL's works (scope) needs to meet MEDC expectations and standards. It will involve their planning, monitoring and controlling to produce a high stand product free of defects.

3. Review the project schedule as set out in the Project Plan and the Gantt Chart
Arrange the following tasks in the proper sequence as dictated in Phase 3 of the critical path.

Write 1 – 12 in the spaces provided; where 1 go first and 12 go last.

8	Remove weeds
11	Plant additional plants
2	Move gravel to car park
1	Expand car park
12	Remove greenhouses
9	Plant plants from greenhouses
3	Seal car park
6	Soil preparation
7	Add boulders
5	Construct stone paving pathway
10	Purchase additional plants
4	Landscape over old access roads

4. Review the Project Plan. The change request has outlined one change in the scope of the project.
 - a. What is the change in scope?
 - b. How does this change in scope impact the overall duration of the project?
 - c. How does this change in scope impact the quality aspect of the project?

- a. 3 additional retaining walls
- b. The project is starting earlier, start date is now 27th July 2016
- c. Retaining walls were always part of the scope, the quantity increase means additional work to document the works being done.

5. Why does the change request only list one change in project cost, yet when you look at the financial tables the costs seem to have increased in numerous parts of the project not even related to the item in the change request?

Do not exceed 100 words.

The change request shows an increase in scope by adding 3 more retaining walls to Awesome landscapes works. This is an increase in scope and allows for additional costs to be added to the project. This cost will be covered by Massive Eco Development Corporation. The other cost noted is an increase to the cost of procuring gravel for the road construction. This cost of materials (gravel) is not MEDC responsibility. The cost of materials to complete the scope is AL's responsibility and they must absorb the additional cost.

6. Who is responsible for working out these impacts of what initially seemed to be such a simple change, and ensuring all affected stakeholders understand the impact of such a change?

Awesome Landscapes' Project manager is responsible for working out the impact of the changes. The PM would need to firstly relay the impacts to AL's management and then relay the impacts to Massive Eco Development Corporation and update the project documentation to reflect the changes and distribute to the steering committee to ensure the changes are realized and understood by all involved.

7. Access and review the Gantt Chart version 2.
 - a. What important tasks are not included in the project Gantt Chart?
 - b. Discuss why these tasks must be included in the Gantt Chart? Keep your discussion within 100 – 200 words in length.

- a. Project Milestones are not included in the Gant Chart
- b. Project milestones should be included in Gant charts/programs to highlight the completion date of a specific task/stage/phase. The inclusion of a milestones allows the likes of the project sponsor to monitor progress without having to look into the detailed sections of a program. The project sponsor will not want to know about the completion of a single tasks. They will want to see project milestones being completed where a millstones is a project deliverable for example a building structure being completed.

8. List the three (3) personnel who signed off on the change request.

- a. Susan Wills - Program Manager - Massive Eco-Development Corporation
- b. Stephen Lyons - Planning Manager - Cascade Peaks Shire Council
- c. Kim Nguyen – Director - Awesome Landscapes Pty Ltd

9. What is the total increase in cost of the project as a result of this change request?

The cost is \$11,400.

This is the additional cost associated with Delivery of boulders/Construction of walls/install & compact soil/project management/project support staff

10. List five (5) exclusions under Stage 2 – Building Support of the Scope Management Plan.

- a. Monitoring and maintaining the main road
- b. Installation of utilities
- c. Installation of the pipes and tank for the sewage system
- d. Onsite security (this is provided by the chalet development project)
- e. Removal of additional plants or weeds from the building sites

11. Review the Project Plan. Does it follow the change management procedure? Explain your reasoning.

Do not exceed 50 words.

The change management procedure has not been correctly followed. The change register Appendix 37 has not been completed to ensure all changes are tracked. The change request also needs to be signed and the project plan needs to be updated with the signed copy and approved.

12. Access and review the Gantt Chart version 2. It shows double bars for each task.
- a. What do the coloured bars  represent?
 - b. What do the grey bars  represent?
 - c. Why do the grey and coloured bars do not match up in the Gantt chart?

- a. These lines represent the duration of a task. It can be used to monitor progress
- b. This line represents a summary of a task duration
- c. When the gantt chart was complete at the start of the project, the baseline was set. The grey lines are set to the baseline duration. With the change request for additional scope the task duration will increase with more work to do. The task duration lines will be longer than the summary baseline lines

13. Assuming the project runs on schedule, list two (2) tasks that should be in progress if Sam was to visit the site on Monday 22 August.

Do not include the task 'Project Management'.

- a. Move plants to glasshouse and dispose of weeds
- b. Delivery of granite boulders

14. If Sam was to visit the site on Thursday, 22 September, he will see that two (2) tasks are in progress, namely:
- Construction of retaining walls.
 - Install and compact soil behind walls.

According to the procedure documents, these two activities cannot happen at the same time. The retaining wall has to be built first. Once construction is completed, the soil needs to be added behind. Why are these two tasks in progress on the same day?

There is a constraint around the 2 tasks in that they both need to be completed by the 21/09/16 for construction of the building to begin. In the gantt chart both tasks have been set to start after the delivery of boulders task 15. Construction has a constraint set to start no earlier than the 03/09/16 whereas Install & compact soil has a constraint set to start as soon as possible which puts it starting once boulder delivery is complete 25/08/16. This has led to the tasks overlapping incorrectly.

Appendix 5 shows there should be a lag of 5 days between wall construction and installing & compacting soil. Taking the lag into consideration a crew can be construction a new retaining wall while another crew are installing & compacting on the wall previously built.

15. According to the Gantt Chart, if there is a delay in the completion of Task 57 'Construct stone paving walkway',
- Which tasks, if any, are immediately delayed?
 - Will this delay push out the completion of the project? Why or why not?
 - Discuss how this could affect the resourcing of the project.
 - List one (1) risk that could arise from this issue.

- 59,60,62,63,64,66,67,68,69
- Yes, the following stages 3.3/3.4/3.5 which are the finishing stages of the project are directly affected and will also be delayed thus delaying the finish date of the project
- The staff involve in Task 57 are all 100% allocated to next tasks. If they are held up on task 57 the next task will not have available resources to start
- Awesome landscapes may need to add resources to the project to cover the delay and this has not been allowed for. It will add extra cost for Awesome.

16. What is the total budget for the project expenditure?

\$462,153

17. Sam is very concerned about the cash flow of the project.
- What is the problem?
 - What would you suggest be done to rectify the cash flow issue?

- The project starts at the end of July but the first payment from MEDC isn't expected until the start of October. AL have to spend \$248,671 in that period which exceeds their cash reserves. They may have to seek an overdraft or loan for a short period to cover costs
- AL should review the planned expenditure and see if any cost saving measures are possible or if any costs can be differed. They should also raise the issue with the MEDC to discuss if Payment 1 could be paid earlier or if it could be split in 2 and half paid early. Failing that they should meet with their bank and discuss what options are available.

18. Discuss whether Awesome Landscapes should seek increased funding from Massive Eco-development Corporation to absorb some or all of these cost increases.

Your discussion must be 200 – 300 words in length.

Guidance:

The change requests have incurred extra expense, yet the funding to be paid by Massive Eco-development Corporation has not changed.

If you believe Awesome Landscapes should seek increase funding from Massive Eco-development Corporation, provide a strong argument for your case. If not, explain your reasoning.

Separating the additional costs out, there is \$6500 in additional material purchase for gravel supply which is a risk Awesome Landscaping took on the rates so they cannot seek any additional funding for these costs.

The increase to the retaining walls is \$8160 and the increase to project management is \$3240. Ordinarily it would be fair to assume with an increase in scope Awesome would be able to seek additional funding for the extra work and management of the work but going off the project plan, they will not be able to seek increased funding from Massive Eco Development Corporation.

The project plan outlines a contingency sum being available. Section 4.4 shows prior to Change Request 1 the sum was \$105,747 and the additional cost for the CR1 has been deducted from the sum leaving \$87,847 to absorb any extra costs the project will incur. It could be assumed that Awesome Landscapes may have taken full risk on the project when they accepted a contract from Massive Eco Development Corporation. This could possibly mean that any costs associated with increases to the existing scope would be absorbed by Awesome Landscaping. If there was a new scope item which was not covered in the existing scope inclusions then they could possibly seek additional funding.

19. Complete the following Audit Template with the standards determined in the previous question (Case Study Question 18). This will be given to an internal auditor to audit the financial processes at various points along the project.

Guidance: Complete only the fields highlighted in yellow. Do not complete the 'Assessment' and 'Comment' fields under 'Audit of Management of Project'.

See Below

Quality Audit Template	
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>	
Prepared by:	Darren O'Connor
Date:	
Project Manager: <i>Sam Ng, Awesome Landscapes</i>	

Project Phase:	Overall Project Status:	
Audit Date:	Audit Number:	Audit Leader:
Audit Team:		
Goal(s) of This Specific Audit: Evaluate the tender & contract procedures of Awesme Landscapes		
Audit of Management of Project:		
1. What is AL's Contract Management Procedure	Assessment:	Comment:
2. Do AL have a contract review process	Assessment:	Comment:
3. Was the scope reviewed by the PM & Director	Assessment:	Comment:
4. Was the scope agreed by the PM & Director	Assessment:	Comment:
5. What discussion were held with MEDC about scope increases/deductions	Assessment:	Comment:
6. Was the contract risks clearly outlined to AL	Assessment:	Comment:
7.	Assessment:	Comment:
8.	Assessment:	Comment:
9.	Assessment:	Comment:
Overall Assessment of Management of Project:		

Recommended Action(s)/Lessons Learned Regarding Management of the Project:

- 1.
- 2.
- 3.

Additional Audit Comments:

- 1.
- 2.
- 3.

Have you attached additional material(s)?

☐ ye ☐ n

Name(s) of attachment(s):

- 1.
- 2.

Audit Report Submitted To:

Date:

20. Sam has provided you with the following audit from a previous project (landscaping the new Cascade Peak Shopping Centre). Evaluate the audit report below and answer the following questions:
- What was the cause of the unsatisfactory results?
 - What action would you recommend to prevent the issue coming up again in this project?

- There was poor communication between the project manager and the site supervisor. The supervisor wasn't given detailed information in advance of the task. This could have led to poor planning and in turn delays to tasks being completed and cost incurred.
- I agree with the recommendations of the audit. More detailed information does need to be provided in a timely manner to allow the site supervisor to plan their works. Depending on the size of the project they should be daily or weekly meeting/site walks/planning sessions to determine upcoming works and spend time planning ahead for the site supervisor and project manager.

Quality Audit Template		
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: <i>Sam Ng</i>		
Date: <i>17 August 2015</i>		
Project Manager: <i>Sam Ng, Awesome Landscapes</i>		
Project Phase: Implementation	Overall Project Status: <i>On schedule</i>	
Audit Date: <i>17 August 2011</i>	Audit Number: <i>26</i>	Audit Leader: <i>Sam Ng</i>
Audit Team: <i>Sam Ng, John Cowley, Ann Deak.</i>		
Goal(s) of This Specific Audit: <i>To evaluate the communication and reporting processes.</i>		

Audit of Management of Project:		
1. Are tasks being communicated to site supervisor in a reasonable amount of time?	Assessment: Satisfactory.	Comment:
2. Are tasks being communicated to site supervisor of sufficient detail?	Assessment: Not satisfactory.	Comment: Tasks only being communicated as per Gantt chart. Site supervisor having to seek clarification regularly on requirements of tasks.
3. Are tasks being communicated by the site supervisor to the team members and contractors done in a reasonable amount of time?	Assessment: Not satisfactory.	Comment: Timing of communication can be improved if there wasn't the need for clarification of the details of the tasks.
4. Are tasks being communicated by the site supervisor to the team members and contractors of sufficient detail?	Assessment: Satisfactory.	Comment:
Overall Assessment of Management of Project: Tasks being communicated to the supervisor do not have the level of detail required by the site supervisor. In particular detailed plans are not provided with the task briefs. Some delays in commencing tasks have been experienced as the site supervisor has awaited clarification from the project manager.		
Recommended Action(s)/Lessons Learned Regarding Management of the Project: 1. Project manager to prepare task briefs in enough time to add the required level of detail. 2. Task briefs are to be supplied with all relevant attachments such as detailed plans.		

Additional Audit Comments:

- 1.
- 2.
- 3.

Have you attached additional material(s)?☐ ye ☒ x ☐ n**Audit Report Submitted To: Kim Nguyen****Date:****24/08/2015**

21. The quality plan is very weak on cost management. Write a Cost Management Plan (of 200 – 300 words) for managing the quality of the financial processes while the project is in progress.

Guidance: Your Cost Management Plan must cover the following quality objectives and criteria.

- a. Meeting with contractual requirements.
 - b. Paying invoices on time.
 - c. Ensure invoices are sent out in time.
 - d. Ensuring financial reporting is done on time.
 - e. Include a calendar of when payments are likely to be due.
 - f. Comparison of actual cash flow against projected cash flow.
-

The management of costs on the project is essential to the project being delivered successfully.

Particular attention needs to be paid to certain areas such as the project cashflow. The cashflow is important to both Massive and Awesome for the delivery of the project.

AL need to ensure invoices due to Massive Eco Development Corporation are submitted for payment on time and within the contractual requirements. These invoices then need to be monitored for payment to ensure they are paid on time by Massive. If contractual timelines are not adhered to Massive may delay payment.

Also, AL's creditors need to be paid on time to ensure AL's credit terms are maintained with suppliers. The suppliers will be crucial to delivering the project successfully.

To keep on top of the creditors and debtors for the project AL must have and maintain an accurate record of costs. With an accurate record of money spent versus money earned and expected pay dates AL will be able to determine any shortfall in the accounts and act accordingly before it becomes an issue.

Accurate and punctual financial monitoring & reporting is imperative to project delivery. These reports will have an element of cost forecasting that should be used to identify any financial risks to AL and Massive. Reporting should be carried out on a monthly basis and submitted on the 1st of the following month. The Project manager and Director should jointly review the reports prior to submitting to Massive. The Accuracy of the reports should be validated the follow month also to ensure and maintain accuracy.

Critical Invoice Date to Massive are;

Payment 1 Invoice Submitted– 01/09/16 – Payment Received 01/10/16

Payment 2 Invoice Submitted – 01/10/16 – Payment Received 29/10/16

Payment 3 Invoice Submitted – 01/02/17 – Payment Received 01/03/17

Payment 4 Invoice Submitted – 01/04/17 – Payment Received 29/04/17

WORKBOOK CHECKLIST

When you have completed this workbook, please ensure you have completed all parts of it:

- ☒ **Written Questions**
 - ☒ **Part 1 – Project Scope**
 - ☒ **Part 2 – Project Time**
 - ☒ **Part 3 – Project Cost**
 - ☒ **Part 4 – Project Quality**
- ☒ **Case Study**

IMPORTANT REMINDER

Students must achieve a satisfactory result to ALL assessment tasks to be awarded COMPETENT for the unit relevant to this subject.

To award the student competent in the units relevant to this subject, the student must successfully complete all the requirements listed above according to the prescribed benchmarks.

End of Document