

CPCBC4012

READ AND INTERPRET PLANS AND SPECIFICATIONS

ASSESSMENT SUMMARY

The assessment activities for *CPCBC4012 Read and interpret plans and specifications* cover all aspects of the unit of competency. For Apprentices/Trainees, this includes supervisor completion of the Apprentice/Trainee Record (ATR).

Participants must read all the information given before starting any assessment task. The assessment tasks are intended to be fair, flexible, valid and reliable. If a Participant has any questions or requires alternative arrangements to be made such requests should be directed to their Trainer/Assessor, who should note such arrangements in the 'Assessor Comments' on the affected assessment. If a Participant feels they are not yet ready to be assessed, they should discuss their options with their Trainer/Assessor.

To satisfactorily complete the assessment, the Participant is required to answer all questions correctly and demonstrate their skills to industry standards. If a Participant does not answer all questions or perform all tasks, they will be deemed 'Not Satisfactory' for the task and 'Not Yet Competent' for the unit of competency.

The Trainer/Assessor can provide the Participant with additional information on interpreting the assessment outcomes and guide the Participant's options. If a Participant is still deemed 'Not Satisfactory' they will have the opportunity to undertake a supplementary assessment or appeal the result as per the process in the Student Handbook.

By signing below, the Participant acknowledges:

- They understand the assessment instructions and requirements, and consent to being assessed.
- The work submitted is to be their own work – with the work of/with others needing to be clearly acknowledged and documented.
- They consent to any photo/video recording of their work that occurs during assessment.

Participant name	Tyanna Childs
Participant signature	

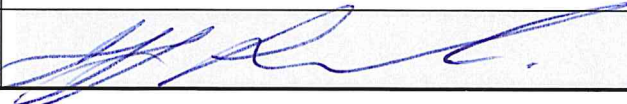
Pre-requisite unit(s) to be achieved and authenticated prior to undertaking assessment

☒ Not applicable

Task	Date completed	Assessment Results	
Theory Exam	20/12/2023	☒ Satisfactory	☐ Not Satisfactory
Workbook	20/12/2023	☒ Satisfactory	☐ Not Satisfactory
Practical Assessment	20/12/2023	☒ Satisfactory	☐ Not Satisfactory
Outcome for CPCBC4012	20/12/2023	☒ Competent	☐ Not Yet Competent

Evidence requirements checklist (ticked by assessor and evidence supplied to RTO)

- | | |
|---|---|
| ☒ Theory Exam | ☒ Practical Assessment |
| ☒ Workbook | ☒ Cost estimation sheet (<i>HO5 template available</i>) |
| ☒ Hand out 3 - Slab Plan for Activity 3 | |

Assessor name	Jeff Lewandowski
Assessor signature	

CPCCBC4012

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THEORY EXAM

Participant name	Tyanna Childs
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FOR THE PARTICIPANT	
Instructions	
- You will complete written questions as outlined on the following pages. You must attempt all questions and provide enough detail in your responses to demonstrate your knowledge. - It is anticipated that you should complete this assessment within two (2) hours, but additional time may be allowed upon negotiation with the Assessor. - You must complete all questions unassisted by the Assessor or other personnel but may refer to reference material as needed. All questions must be answered correctly for a 'Satisfactory' assessment outcome to be awarded. - An oral examination may be allowed under certain circumstances, whereby your answers will be documented by another party. - Any written questions that are incomplete, or not answered satisfactorily will need to be completed again after further training support. - If you answer a question incorrectly but modify your response, put your initials next to the written change (or the Assessor must initial a verbal change).	
Resources required	
Pen	

FOR THE ASSESSOR	
Instructions	
- Where oral examination has occurred, ensure that this is acknowledged in writing (e.g. FT001 and Assessor Comments) - All questions must be satisfactorily demonstrated by the Participant for a Satisfactory determination (indicated by an Assessor tick to the right of the question). - Assessors are to complete marking in pen of a different colour to the Participant. - If the Participant verbally modifies their response, write in the modified response verbatim and put your initials next to the written change.	

ASSESSOR COMMENTS

As necessary, outline:

- Details on reattempts, alternative arrangements or reasonable adjustments made.
- Where a Participant is deemed 'Not Satisfactory', provide recommendations for future training.

Overall happy with what Tyanna has provided.

I was not 100% clear on the questions 39-41 but Tyanna displayed a reasonable knowledge of services drawings.

Thank you,

Jeff

Q1. What is the significance of concept drawing/sketches?

Answer They Provide a vision of a project and can be used to present ideas to help in the decision-making process and results. ☒

Q2. Discuss when you may come across concept drawings/sketches.

Answer Concept drawings/sketches are typically used In the preliminary stages of planning a project to convey the initial, overall design concept usually between Architect and client. ☒

Q3. Explain what is meant by architectural plans.

Answer Architectural plans are drawing that focus on the architectural aspects of the building such as the overall design and aesthetics. They convey detailed information about a building. They focus on dimensions and finishes ☒

Q4. Provide four (4) plans that are considered part of the architectural plans.

Answer

1. Site Plan
2. Floor Plan
3. Elevation plans
4. Detail view plans

☒

Q5. Describe what structural plans are.

Answer Structural plans focus on the structure of the building and the elements/materials that make the building strong and resilient, for example concrete, steel, timber frames.



Q6. How is a structural plan different from an architectural plan?

Answer Structural plans focus on the stability of a building and making it strong. Whilst architectural plans are dealing with the finishes/aesthetics and how the building will look.



Q7. Explain what a civil plan is.

Answer Civil plans are drawings that provide an overview of in-ground elements and ground surface levels that are involved in the construction site such as bulk earthworks, civil stormwater and civil sewer.



Q8. Discuss how civil plans may be similar to other plans.

Answer Civil plans may be similar to architectural site plans and structural ground floor plans as details provided in both these types of plans are integrated with civil plans to give a summary of the building footprint.



Q9. What is the purpose for mechanical plans?

Answer The purpose of mechanical plans is to have specifications/details on the mechanical ventilation and air conditioning along with vertical transportation equipment installed/being installed within a building which will provide important information such as location, make & model, instructions, size/dimensions etc.



Q10. Discuss three (3) details you may find in mechanical plans.

- Answer**
1. HVAC Layout
 2. Size, type and layout of ducting
 3. Location of lifts, escalators etc



Q11. When would electrical plans be used?

Answer They would be used for all construction projects that have electrical components, such as power, communications, data, fire detection etc to explain the design for install and/or repair.



Q12. Provide three (3) examples of details contained in electrical plans.

- Answer**
1. Cable types and their locations
 2. Fixture types and locations
 3. Panels and switch locations



Q13. What are plumbing and drainage plans used for?

Answer

They are used for the plumbing and drainage system to a building and provide information/visual representation on the hot & cold water and sewerage and stormwater drainage components such as pipes, valves, pumps etc.



Q14. Discuss what may be needed when plans display council pipework.

Answer

A Connection point may be needed when plans display council pipework, to connect the water and sewage from the property to the mains (owned/operated by the council)
Council pipework could also indicate an easement on the property. If plans display an easement, you cannot build over the easement or obstruct unless consent is provided by the easement owner.



Q15. Why is it important to check and ensure that the plans you are using are the current version?

Answer

It is crucial to check that the currency of plans and specifications are the most up-to-date plans (& specifications) and to identify any amendments/changes made, as not doing so will result in the communication of outdated and incorrect information that can potentially lead to problems such as defects, purchase of non-compliant or inaccurate materials, costs to rectify faults etc.



Q16. What can occur if an outdated version of the plans is used?

Answer Mistakes and errors can be made due to outdated and incorrect information in the plans, which then create complications. This can result in, but not limited to, delays in a project, incorrect dimensions &/or materials being used causing defects, costs exceeding the budget in order to rectify the problems, the use of non-compliant materials etc.



Q17. Discuss what site plans are drawn to reflect.

Answer A site plan reflects the entirety of the property, including boundary's and gives an overview of external works in the construction of the building.



Q18. Discuss the purpose of reading the floor plan.

Answer The purpose of reading the floor plan is to have a clear understanding of the internal layout of the building. Reading a floor plan can help you to identify the use of the different spaces and their dimensions, to determine the different furniture and appliances needed etc.



Q19. Discuss two (2) key differences between elevation view and section view.

Answer

1. Elevation views provide an external, vertical representation of each side of a building facade (North, East, South, West), whilst Section views provide a view of the interior of the structure by cutting through the building/room via an imaginary vertical plane.

2. Elevation views and Section views look at different elements of a building. Elevation views show the connection between the external components of a build such as floor-to-ceiling height, exterior wall finish, Roof materials and height etc. Whilst Section views show the connection between internal elements, such as dimensions of fixtures, furniture and equipment. Section views also allow you to see the variations in floor levels.



Q20. Discuss the purpose of reading detail drawings.

Answer

Detail drawings give you a more in-depth view of a certain element of a project. They provide a closer look at a particular element and a more detailed description of what is involved.



Q21. Why is it important to measure from a datum point?

Answer

It is important to measure from a datum point as the datum serves as a reference point for all vertical measurements and calculations on a construction site.

The Datum point will ensure consistency and accuracy in the project build and is used by all construction personnel so that there are no conflicts or errors, as they are all working from a common reference point.



Q22. Discuss what reduced levels (RL) are and how these are established in construction drawings.

Answer

Reduced Levels are the vertical measurements on a construction site and can be established by using the datum as reference. The RL can be represented by a positive or negative symbol to identify if the reduced level is below or above the datum, or by specifically stating if it is above or below the datum.



Q23. Describe the purpose of the title block and what it contains.

Answer The purpose of a title block is to record all important information relevant and necessary to the specific drawing. This information includes, but is not limited to, project title, project site address, date of publication, amendments, client name, revision, drawing title etc. ☒

Q24. Where is the title block usually located on the plans?

Answer The bottom or right-hand side of the plan. ☒

Q25. Describe the purpose of using scale drawings in construction.

Answer The purpose of scale drawings is to precisely depict real-life building length or location of items at fixed, reduced and enlarged sizes. ☒

Q26. Describe each ratio of standard scale ranges below.

Answer ☒

Ratio	Description
1:100	The drawing is 100 times smaller than the object.
1:2	The drawing is half the size of the object.
1:50	The drawing is 50 times smaller than the object.

Q27. Describe why examining detail drawings is important.

Answer Examining detail drawings is important because they provide in-depth details and precise descriptions of a single element of the construction. They provide an understanding of the building task and specifications such as sizes and installation processes.



Q28. What is the difference between utilities plans and specifications and services plans and specifications in the context of building construction?

Answer The difference between Utilities Plans and Specifications and Services plans and Specifications are that Utilities plans and Specifications provide details in relation to mandatory elements of the construction phase such as electricity, water and sewage, plant and equipment, gas supply, cables etc, whilst Services Plans and Specifications provide details pertaining to systems that are required for the smooth flow of construction operations such as fire safety detection and protection equipment, exit signs, lighting, alarms etc.



Q29. Describe what is meant by each of the following drawing descriptions.

Answer

Drawing description	Meaning
Isometric drawings	Isometric drawings are drawing projections where a three-dimensional object is represented on a two-dimensional surface, using the same scale for all axes and where the object is shown using a 30-degree angle. An Isometric drawing does not show the true dimensions or angles of an object and you will require an isometric scale or special ruler for this.
Oblique drawings	Oblique drawings are another projection drawing, once again showing different views of how a three-dimensional object looks on a two-dimensional surface. The front face of the object is drawn in its true shape and form, however the other sides of the drawing are not drawn in the objects true shape and form.
Perspective drawings	Perspective drawings are projections showing a three-dimensional drawing on a two-dimensional surface, giving the observer a realistic depiction of the building.



Orthographic drawings	Orthographic drawings are projections showing three-dimensional objects in two-dimensions. With Orthographic drawings there are typically several different views that are provided (e.g. Top view, front view, and side view). Floor plans and elevation views are examples of Orthographic drawings.
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Q30. What are CAD drawings? Explain how CAD is used in building and construction?

Answer CAD drawings are computer aided design drawings, created using digital software to illustrate 2D drawings and 3D models. With CAD, you can create your digital designs and it enables the development and modification of the design process. These designs can be accessed through a database or cloud storage by construction personnel involved in the project.



Q31. Provide a brief description of the given classes of buildings according to the National Construction Code.

Answer

Building Class	Description
Class 1a building	A single, detached dwelling or two or more attached dwellings separated by a fire-resisting wall such as a town house.
Class 2 building	Residential apartment building consisting of two or more sole-occupancy units, where people live above, beside, or below each other.
Class 4 building	The only part of a building that is a residential dwelling within a non-residential building (class 5 – 9).
Class 5 building	Office buildings used for professional or commercial purposes, excluding class 6-9.



Class 7b building	Class 7b buildings include Warehouses, storage buildings, buildings for display of goods or produce wholesale goods.
Class 10a building	Non-habitable buildings including sheds, carports and private garages.

Q32. What is building information modelling (BIM)?

Answer It is a technology software that is 3D model based. It allows one to use tools to create, manage and modify a digital version of the construction project.

**Q33. Explain how the NCC is relevant to construction drawings.**

Answer The NCC sets the standards that construction projects, and personnel involved, must comply with.
At the completion of the build, the National Construction Codes will be used to make sure the project is compliant and passes all assessments.
Construction drawings provide important details/information regarding all components of construction and these details must comply with the NCC.

**Q34. Discuss the importance of complying with standards during a building and construction project.**

Answer Complying with standards during a building and construction project is very important as these standards will ensure safety, sustainability, functionality, and community standards of the building.
Failing to adhere to codes/standards may result in defects, non-compliance and failing of assessments. ☒

Q35. Discuss how you would identify wind bracing and tie-down requirements from construction plans.

Answer You would identify the wind bracing and tie-down requirements on a structural plan by looking at the labels and Legends, which is typically located at the bottom or right-hand side of the plans. ☒

Q36. Discuss why you would access AS 1684.2 Residential timber-framed construction Non-cyclonic areas, when reading plans and specifications.

Answer You would access AS 1684.2 to review the wind bracing table to confirm that all details in the plans and specifications conform to the building requirements and that there are no discrepancies.



Q37. Reasonable allowances are made by builders for the different construction items in a building project. Discuss what Prime Cost (PC) items are.

Answer Prime cost is an allowance that is provided for the supply and installation of goods whose value was not determined, or the item was not chosen, when the contract was entered.
These items may include kitchen appliances, tiles, lighting fixtures, door hardware etc.



Q38. Explain what Provisional Sum (PS) items are.

Answer A Provisional Sum is an allowance that has been included in the contract for works or services to be carried out but where a cost has not yet been determined as the scope of work is still to be defined.
Examples of works/services include, but are not limited to, excavations, demolition, and removal etc. ☒

Q39. Explain how to locate installation points of the services to the building from the plans.

Answer The legend of a plan is usually located to the right-hand or bottom of a floor plan and will provide the details that label (symbol or abbreviation) represents.
This will guide you in identifying the location of installation points on the plan. ☒

Q40. Explain how to locate connection points of services to the building from the plans.

Answer Similar to the installation points, look at the site plan and refer to the labels and legends or schedule to show you the label that represents a specific service and locate that label on the plan to see the connection point. Connection points are typically located outside of the property.



Q41. Explain how to locate fixtures from the plans.

Answer You would locate fixtures from the construction plans by assessing the Legend and locating the label for each fixture on the drawings.



