

CPCBC4014

PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

ASSESSMENT SUMMARY

The assessment activities for *CPCBC4014 Prepare simple building sketches and drawings* 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	

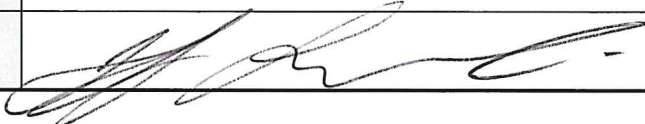
Pre-requisite unit(s) to be achieved and authenticated prior to undertaking assessment

☒ Not applicable

Task	Date completed	Assessment Results	
Theory Exam	17/01/2024	☒ Satisfactory	☐ Not Satisfactory
Practical Assessment	22/01/2024	☒ Satisfactory	☐ Not Satisfactory
Outcome for CPCBC4014	23/01/2024	☒ Competent	☐ Not Yet Competent

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

☒ Theory Exam ☒ Practical Assessment ☒ Compliance review	☒ Planning sheet ☒ Sketch/drawing of 1 structural component ☒ Sketch/drawing of 1 non-structural component
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Assessor name	Jeff Lewandowski
Assessor signature	

CPCCBC4014 PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

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.

Answers provided I found to be satisfactory, and no reattempts / adjustments required. It gets a pass from me.

Jeff

Q1. Describe each of the following types of plans and explain what they are used for.

Answer

Type of plan	Description	Use
Presentation drawings	Presentation drawings portray materials through the use of various tones and/or hatches but does not typically include the specifications required for construction. They are not realistic drawings and are used for their name's sake – for presentation.	The use of Presentation drawings is to explain the design and usually presented to clients during the design process.
Isometric drawings	Isometric drawings are a type of three-dimensional drawing on a two-dimensional surface, where the object is shown using a 30-degree angle and uses the same scale for all axes.	Isometric drawings are used to project a three-dimensional drawing of an object on a two-dimensional surface.
Orthographic drawings	Orthographic drawings are projection drawings that are two dimensional. Typically, several alternative views are provided such as top view, front view, and side views etc.	Orthographic drawings are used to provide the appropriate construction personnel with a view of an object from every angle to help with the planning of the construction. I
Perspective drawings	Perspective drawings provide three-dimensional drawings on a two-dimensional surface, that depict a realistic image of an object/building.	Perspective drawings are used to recreate the perspective and depth of an object/building.



Q2. A client doesn't understand where or how two (2) wall inserts would look beside a window in the designated living room. What type of drawing could you draw to assist in their understanding?

Answer A perspective drawing would help in conveying the vision for the 2 x wall inserts beside a window. You would find Perspectives in the Architectural plan.



Q3. What type of drawing would you need to present to builders or contractors to give a visual aid of all angles of the building?

Answer You would present an Orthographic drawing to provide top view, front view, side views etc. These drawings would be found in the architectural plan – elevation views. .



Q4. What type of drawings are used to demonstrate landscape features such as trees, rocks and shrubs?

Answer Perspective, Orthographic and Presentation drawings can be used to demonstrate landscape features such as trees, rocks and shrubs. To view landscaping features, you can view the site plan and landscape plan.



Q5. What type of information can you interpret from a site plan?

Answer A site plan provides an overview of the entire property. The key features/information you can interpret from a site plan is:

- Block Identification
- Boundary and boundary length
- Proposed building
- Adjacent properties
- Existing trees (the site plan will advise if these are to be retained or removed.
- Road Identification
- Verge
- North Point
- FLL (Finished floor level)
- Existing fences
- Easement (if any)
- Contour Lines and level
- Datum



Angle of boundary intersection
Location of power connection
Setback
Offset
Driveway
Crossover
Path
Clothes hoist

Q6. What is building information modelling (BIM)?

Answer BMI is a technology software that allows one to use technological tools to create and manage digital 3D model representations of the physical and functional characteristics of structures/buildings/places.
Building Information Modelling also allows construction personnel to collaborate on the project in real-time.



Q7. Explain how the NCC is relevant to construction drawings.

Answer The NCC establishes the minimum mandatory requirements that must be met with construction projects and the personnel involved for new and existing buildings within Australia regarding safety, health, amenity and sustainability.
The National Construction Codes will be used to check the project is compliant and passes all assessments at completion.
The construction drawings and plans, along with specifications, will have important information that relate to, but not limited to, dimensions, materials, construction processes, notes etc, and these drawings, along with the information included in the drawings, must adhere to the National Construction Codes to ensure the buildings safety, health, amenity and sustainability.



Q8. Discuss the importance of complying with standards during a building and construction project.

Answer

Complying with Standards is important as it helps you to accomplish compliance with government minimum requirements set out in the NCC and Australian Standards.

Standards also provide specific examples of best practices that can be implemented during the building and construction phase.

Following these standards will ensure that you meet the minimum requirements for safety, sustainability, and property functionality.



Q9. Why is it important to confirm that construction plan information complies with building and construction regulations.

Answer

It is important to confirm that construction plan information complies with building and construction regulations to ensure the safety, health and welfare of the public, along with structural integrity, accessibility, and reduction on environmental impact. By confirming the information on the construction plans, you are ensuring to follow these regulations and can identify any discrepancies there may be. The end goal at completion of the construction is to get a Form 15 Compliance certificate, and to do so you must comply with the building and construction regulations.



Q10. When selecting information from plans to present to others, what will determine the format of the information you wish to present?

Answer

Intended Audience – Who are the plans for? What is the technical expertise of the audience and their understanding of the construction industry. This will help you to determine if the plans you provide are more technical or simpler versions.

Purpose – What is the purpose of these plans/drawings? The primary goal of the presentation of plans needs to be determined as it will guide the level of detail and the format in which the plans need to be in.

Presentation – The presentation must be done in the most appropriate manner so that the intended audience can properly understand the information.



Q11. What is involved when inspecting drawing equipment for serviceability?**Answer**

You must examine for functionality to ensure that the equipment or tool intended for use is suitable for its intended purpose and is free of any faults or issues.

When inspecting, check the following:

- Manual tools have no cracks, dents, chips, jams, or faults.
- That maintenance logs on equipment are serviced regularly and up to date.
- All software that is needed is also up to date.
- Verify the proper functionality of tools and/or equipment to ensure they operate as intended.
- Document the identified errors and faults and report these as per the appropriate company procedure.

**Q12. Listed below are common drawing conventions. Provide a brief explanation of each.****Answer**

Drawing convention	Explanation
Sheet layout	A sheet layout refers to the arrangement and presentation of various drawings, details and information in the drawing sheet or within a digital document. The sheet layout should adhere to the Australian Standard AS 1100, Part 3 Architectural drawing.
Title Block	A title block is an essential element on any plan or drawing, usually located at the bottom right-hand corner, or top right-hand corner of the drawing and contains vital information about the project. It serves as a key reference point for anyone reviewing the plans and includes important administrative details, including but not limited to, Type of drawing/plan, project titles, scale, date plan was drawn, Address, revision/amendment information and number, client, builder etc.
Line types	Line types are variations in the style and appearance of lines used to represent different components, features, or conditions in the design. Some examples of Line types are: Grid lines, boundary lines, section lines and Dimension lines



Symbols	Symbols refer to graphical representations that are commonly used in building and construction to relay information such as objects, materials, fixtures, placements etc.
Dimensions	Dimensions refer to the measurement and size specifications of an object, including but not limited to, length, width, height, thickness.
Dimension lines	Dimension lines indicate the measurements of objects or features and provide information about the size, distance and layout. They are often depicted by a solid line with terminators (slash, thick dots, arrows etc) on each end
Abbreviations	Abbreviations are shortened forms of words used to represent key information in drawings. They are used to simplify notations and to keep drawings clear and efficient.

Q13. Explain what is learned and confirmed by reading AS 1100.101.

Answer AS 1100.101 provides information on technical drawings and the basic principles that apply. It covers –

- Applicable abbreviations and terminology, and the proper use of them
- Materials, sizes and layout of drawing sheets
- Appropriate use of numerals, symbols, and distinct uniform letters
- Recommended scales and their applications.
- Types and thicknesses of lines
- Projections
- Sections



Q14. Provide a brief explanation for the following building and construction methods.

Answer

Methods	Explanation
Solid brick construction	Solid brick construction refers to masonry construction that employs layers of brick with header bricks used to bind them together. A solid brick construction consists of an inner and an outer layer of brick.
Brick veneer construction	Brick veneer construction contains a non-load-bearing layer of bricks which is used as the exterior surface and conceals the load-bearing wooden or steel framing.
Framing	Framing refers to the techniques and process of building the structural framework of a building or structure by fitting together separate structural elements and components, providing a structure with both support and form.
Post and beam construction	Post and beam construction is the method of using steel or heavy timber components, such as solid wooden posts and beams, to support the load of the building. The joints between the posts and beams are often secured with plates or bolts.



Q15. Define the following construction terminology.

Answer

Term	Definition
Nogging	Nogging is a horizontal piece that is placed between vertical studs or joists in a framed wall to add rigidity and stability to a structure.
Pilot hole	A pilot hole refers to a hole drilled into a material, such as wood, metal or masonry, where a fastener is then inserted, usually a nail or a screw. The purpose of a pilot hole is to guide the nail or screw into accurate placement and to reduce the risk of the material splitting or the fastener breaking.



Masonry	Masonry refers to a building technique that uses materials like bricks, concrete blocks, stone, terra cotta and bonding these materials together using mortar.
Admixture	Admixtures are substances that are added to concrete and mortar to alter its properties to achieve a specific desired effect based on the project requirements and challenges.

Q16. Discuss what different types of information you must gather to create effective sectional drawings and sketches from building plans.

Answer

To create effective sectional drawings and sketches you should obtain the architectural plans and schedule, including floor plans, elevations, and site plans. These documents will give an understanding of the overall design and layout of the building. You then need to identify the location where sectional views are needed and create a section line on the floor plan to indicate where the cut will be made for the sectional view.

A drawing scale needs to be established to ensure the sectional drawings are proportionally accurate.

Dimensions of elements within the sectional drawings are required, indicating the height and depth of these elements, along with overall dimensions of the building. Examples of items/elements where dimensions are required are: Floor-to-ceiling height, building height, dimensions of doors, windows and other openings etc.

To be able to include hidden lines in the sectional drawings, information on hidden edges and surfaces is required, along with label information so that each section can be labelled clearly and correctly.

Material information is essential also to convey crucial details.



Q17. What type of information might you need to effectively draw bracing details for a wall adjacent to ceiling joists?

Answer

You would need to review the architectural and structural plans to have an overall understanding of the building design (wall location, framing, arrangement of ceiling joists etc). You would need to know the construction details of the wall adjacent to the ceiling joists, such as materials and dimensions, along with the ceiling joist details, including size, spacing, material and any load-bearing considerations that may be relevant.

Connection details would also be required so that the drawing can include the hardware that is required to make it secure and compliant.

It is important to also know and understand the building codes and standards.



Q18. Discuss the importance of adding labels to the drawing discussed in Q17.

Answer It is important to add labels to convey crucial information and descriptions to ensure clarity and accuracy. The labels will advise of measurements, placement, materials, configurations etc. ☒

Q19. Why should the drawing be created 'to scale'?

Answer A drawing should be drawn to scale to accurately represent the size, shape and layout of structures and components. This accuracy will ensure that the construction of the structure and elements will come together as intended. ☒
A standardized scale also ensures consistency and allows all construction personnel and stakeholders to interpret and understand the drawings, along with providing accurate cost estimations as the drawings can be used to quantify materials, labour and other resources required for construction.

Q20. When using symbols and abbreviations, how can you ensure that each reader of the plans understand what they mean?

Answer Ensure that a legend is provided, with clear and detailed explanation of each symbol and abbreviation used.
It is important to adhere to the Australian Standards to ensure that the symbol and abbreviation is appropriate for the element or component that is being referenced. If there are project specific elements where project specific symbols or abbreviations have been created, clearly document and communicate these symbols in the legend, along with making all project personnel and stakeholders aware of their meanings.
Steer clear of the use of symbols or abbreviations that may overlap with other elements in the drawing, such as shading, symbols and lines.



Q21. Discuss the sheet layout and information included to present elevation drawings to the local council for approval.

Answer When presenting elevation drawings to the local council for approval, the sheet layout should include a Title block containing project information (project name, address, drawing type, name of client, Designers details, date the plan was drawn, revision/amendment number, Scale of drawing, total floor area), along with a North Arrow to clearly indicate the orientation of the drawing, plus a legend and applicable symbols.
The elevation drawings should include elevation views, materials and finishes, dimensions, Landscaping, and any other specific requirements they may have requested such as a shadow diagram.



Q22. What format would you produce construction plans to present to each of the following recipients?

Answer	Recipients	Format (hard copy/ digital)
	Client	You can provide a client with a hard copy or digital (depending on their preference). A PDF copy of the plans would be best as it is easily viewable on various devices and can be printed for those who want a hard copy.
	Builder/ Contractor	Within our organization at Alder Constructions we use Procore (Digital format) to present plans.
	Local Council	It would be best to check with the appropriate council so that you can present in their preferred format and to their specific submission requirements..



CPCCBC4014 PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

PRACTICAL ASSESSMENT

Participant name	Tyanna Childs
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FOR THE PARTICIPANT
Instructions - The tasks outlined on the following pages will require performance of normal workplace activities, as a result of a structured activity set by an Observer in the workplace or a simulated activity set by your Assessor/Observer. - The timeframe for these tasks will be established by your Assessor/Observer, in consideration of location conditions and industry requirements. - You must complete all tasks unassisted by the Assessor or other personnel, unless the steps note this assistance. - You must attempt all tasks (and itemised steps) for a 'Satisfactory' assessment outcome to be awarded. - For any observation conducted that is incomplete, or without satisfactory performance, the observation will need to be completed again after further training support.

FOR THE ASSESSOR/OBSERVER
Instructions - The following observation record should be used to judge and record your observations of the Participant as they complete the task(s) set. You must record your observations of the Participant's performance. - For each occasion, indicate the task performed and whether it was a simulation or workplace-based task. - Any simulated assessment must ensure the Participant still performs under workplace conditions which reflect industry standards. - In the comments, provide clear detail regarding the task that the Participant was required to do (e.g. PPE used, materials handled, attachments connected, plant types). - All steps must be satisfactorily demonstrated by the Participant for a 'Satisfactory' determination (indicated by an Assessor tick to the right of each itemised step, or an Observer tick to the right of each itemised step, and confirmation by an Assessor in the Assessor Comments). - Where you have determined that one or more task steps have not been satisfactorily demonstrated, provide the Participant with additional support and outline details of such assistance in the Assessor/Observer Comments. Allow the Participant two (2) further opportunities to demonstrate the task again to allow an opportunity for a 'Satisfactory' assessment outcome to be achieved. - If after three (3) attempts the Assessor determines that the Participant cannot demonstrate the required steps, a 'Not Satisfactory' outcome is to be determined.

TASK OUTCOME					
Task	Date	Task Type (Tick)	Location	Task outcome (Tick)	
				Satisfactory	Not Satisfactory
Task 1 (Occasion 1)	22/01/2024	☐ Workplace ☒ Simulation	Office	☒	☐
Task 1 (Occasion 2)	22/01/2024	☐ Workplace ☒ Simulation	Office	☒	☐

ASSESSOR COMMENTS: GENERAL

As necessary, outline:

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

Tyanna's first draft was satisfactory say 7/10 but was just needed a couple of minor things adjusted after some feedback her final drawings improved and I would give 9/10 all considering level of experience.

Thanks

Jeff

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 1 Structural component

- ☒ Individual student (as named on cover page)
☐ Multiple students [☐ All from Attendance Report, ☐ Specific students involved – identify students]

Task	Provide detail
1.2B.	Specify Standard drawing conventions applied:
1.2C.	Tyanna included items such as Title block, line types, dimensions, scale, (although information was limited on the plans provided and she was unable to give a scale in this instance), symbols and notations, material specifications.
1.3B.	
1.3C.	Specify form created for presentation: A3 presentation and also digital copies.

ASSESSOR COMMENTS: PRACTICAL TASK 1: OCCASION 2 Non-structural component

- ☒ Individual student (as named on cover page)
☐ Multiple students [☐ All from Attendance Report, ☐ Specific students involved – identify students]

Task	Details
1.2B.	Specify Standard drawing conventions applied:
1.2C.	Tyanna included items such as Title block, line types, dimensions, scale, symbols and notations, material specifications.
1.3A.	
1.3B.	
1.3C.	Specify form created for presentation: A3 presentation and also digital copies.

CPCCBC4014**PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS****Practical Task 1 (2X)****Description of task:**

The participant must demonstrate the skills and knowledge to produce and prepare two (2) simple sketches of different components of the fabric of a building from a set of construction plans (HO3- CSTC RTO facility plans). The sketches must be of one (1) structural component (Occasion 1- typical wall detail) and one (1) non-structural component (Occasion 2 – shower base detail). During the demonstration, the assessor will be checking for evidence of:

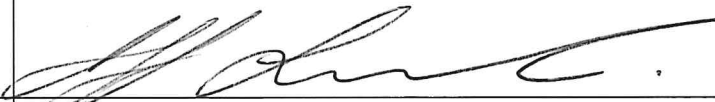
- Prepare to make sketches and drawings.
 - Determine the relevant information from construction plans that is required for sketching or drawing. *(Template available for use- HO2-Planning sheet)*
 - Check construction plan information against building and construction regulations, standards and codes for compliance, including safety and the environment. *(Template available for use- HO1- Compliance review)*
 - Consider the intended audience and purpose of drawings to determine appropriate presentation method. *(Template available for use- HO2-Planning sheet)*
 - Determine the most suitable format for the information and select and check availability of all materials, tools and equipment and check for serviceability before use. *(Template available for use- HO2-Planning sheet)*
- Create simple sketches and drawings.
 - Determine and record measurements, information and details required for drawing and sketches. *(Template available for use- HO2-Planning sheet)*
 - Using all the gathered information create two-dimensional and three-dimensional sketches/drawings of one structural section of a typical wall detail and one non-structural sectional drawing of the shower base detail using standard drawing convention.
 - Clearly identify and label the elements and components in the sectional drawings.
- Notate and process drawings.
 - Include all essential information to the drawings using dimension lines, symbols and abbreviations following standard drawing conventions.
 - Include drawing and job title, date, scale and sheet number in the title block.
 - Produce clear and descriptive completed drawings in an appropriate form for presentation.
 - Submit completed drawings with name and date attached to assessor as evidence.

These tasks may be simulated or real. The Participant is to gather evidence of how they have completed each component of the Practical Task, which is to be submitted with this Practical Assessment sheet. The Observer is to provide detailed comments on the tasks completed by the Participant (on the Observer Comments, overleaf). The Assessor is to verify the Observer's comments, noting their findings in the Assessor Comments (on the back of the Practical Assessment cover page) and provide the assessment outcome.

Resources required:

Construction plans and specifications; Access to current building and construction codes and standards, the NCC, workplace procedures and other quality documentation; Hand drawing materials, tools and equipment; PC, applications and software to access drawings and other relevant information.

Observer details

Name of observer:	Jeff Lewandowski
Role of observer (Confirm suitability to sign)	Senior Contract Administrator
Email address of observer	Jeff.lewandowski@aldercon.com.au
Signature of observer:	
Date:	22/01/2024

When completing the task, did the Participant:	Tick if satisfactorily completed. Provide comments if left unticked.	
	1 st Occasion	2 nd Occasion
1 Prepare to make sketches and drawings.		
1.1A. Determine the relevant information from construction plans required for sketching or drawing. <i>(Template available for use- HO2-Planning sheet))</i>	☒	☒
1.1B. Check construction plan information against building and construction regulations, standards and codes for compliance, including safety and the environment. <i>(Template available for use- HO1-Compliance review)</i>	☒	☒
1.1C. Consider the intended audience and purpose of drawings to determine appropriate presentation method. <i>(Template available for use- HO2-Planning sheet))</i>	☒	☒
1.1D. Determine the most suitable format for the information and select and check availability of all materials, tools and equipment and check for serviceability before use. <i>(Template available for use- HO2-Planning sheet))</i>	☒	☒
2 Create simple sketches and drawings.		
1.2A. Determine and record measurements, information and details required for drawing and sketches. <i>(Template available for use- HO2-Planning sheet)</i>	☒	☒
1.2B. Using all the gathered information create two-dimensional and three-dimensional sketches/drawings of one structural section of <u>a typical wall detail</u> (Occasion 1) and one non-structural sectional drawing of the <u>shower base detail</u> (Occasion 2) using standard drawing convention.	☒	☐
1.2C. Clearly identify and label the elements and components in the sectional drawings.	☒	☒
3 Notate and process drawings.		
1.3A. Include all essential information to the drawings using dimension lines, symbols and abbreviations following standard drawing conventions.	☒	☐
1.3B. Include drawing and job title, date, scale and sheet number in the title block.	☒	☐
1.3C. Produce clear and descriptive completed drawings in an appropriate form for presentation.	☒	☐
1.3D. Submit completed drawings with name and date attached to assessor as evidence.	☒	☐

Observer comments:

As noted above, Tyanna's first draft was satisfactory say 7/10 but was just needed a couple of minor things adjusted after some feedback her final drawings improved and I would give 9/10 considering her level of experience.

Thanks

Jeff