

CPCCBC4014

PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

ASSESSMENT SUMMARY

The assessment activities for *CPCCBC4014 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	Rex Henderson
Participant signature	

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

☒ Not applicable

Task	Date completed	Assessment Results	
Theory Exam	Select Date.	☐ Satisfactory	☐ Not Satisfactory
Practical Assessment	Select Date.	☐ Satisfactory	☐ Not Satisfactory
Outcome for CPCCBC4014	Select Date.	☐ Competent	☐ Not Yet Competent

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

- | | |
|---|---|
| ☐ Theory Exam | ☐ Planning sheet |
| ☐ Practical Assessment | ☐ Sketch/drawing of 1 structural component |
| ☐ Compliance review | ☐ Sketch/drawing of 1 non-structural component |

Assessor name	
Assessor signature	

CPCCBC4014

PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

THEORY EXAM

Participant name	Rex Henderson
------------------	---------------

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.

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

Answer

Type of plan	Description	Use
Presentation drawings	typically include people, vehicles and trees, taken from a library of such images, and are otherwise very similar in style to working drawings. Rendering is the art of adding surface textures and shadows to show the visual qualities of a building more realistically.	The main purpose of a presentation drawing is usually to 'sell' the architect's idea to the client, or to some person or lending institution in order to finance the building operation, or to the judges of a competition.
Isometric drawings	An isometric drawing is a pictorial representation of an object in which all three dimensions are drawn at full scale. It is a type of 3D drawing that uses a 3D representation, but the angles between the axes are always 120 degrees and the proportions are maintained, giving the illusion of depth and space.	The purpose of an isometric drawing is to represent a three-dimensional image on a two-dimensional surface. An isometric drawing of a cube is the most common isometric drawing. An isometric drawing creates a top and two side views. The views are formed by using three axes.
Orthographic drawings	An orthographic projection is a way of representing a 3D object by using several 2D views of the object. Orthographic drawings are also known as Multiview's. The most commonly used views are top, front, and right side.	An orthographic drawing is a clear, detailed way to represent the image of an object. It may be used by engineers, designers, architects, and technical artists to help a manufacturer understand the specifics of a product that needs to be created.



Perspective drawings	Introduction. Perspective in art usually refers to the representation of three-dimensional objects or spaces in two dimensional artworks. Artists use perspective techniques to create a realistic impression of depth, 'play with' perspective to present dramatic or disorientating images.	Introduction. Perspective in art usually refers to the representation of three-dimensional objects or spaces in two dimensional artworks. Artists use perspective techniques to create a realistic impression of depth, 'play with' perspective to present dramatic or disorientating images.
----------------------	---	---

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 Floor plan or end /section elevation with interior detail

☐

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 Floor plan

☐

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

Answer Site plan

☐

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

Answer A good site plan will include dimensions, vegetation, topography, and infrastructure. Since the site plan is a scale drawing that is used as a building map, everything from buildings, roads, parking, to the landscaping and garden elements, will be shown on it. ☐

Q6. What is building information modelling (BIM)?

Answer Building information modelling (BIM) is a process involving the generation and management of digital representations of the physical and functional characteristics of buildings and other physical assets. BIM is supported by various tools, technologies and contracts. ☐

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

Answer The National Construction Code is Australia's primary set of technical design and construction provisions for buildings. As a performance-based code, it sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings. At their core, construction drawings provide a roadmap for the construction process. They detail dimensions, materials, specifications, and other essential information, enabling builders to execute tasks accurately. ☐

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

Answer

If a project has not met the requirements of its associated Standards and Codes, it can result in legal action - costing time and valuable resources. Non-compliance can also result in dangerous building or infrastructure defects, that can pose serious public health risks.



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

Answer

Upon completion of the project, a final inspection by local authorities is typically mandatory before occupancy or use of the structure. This inspection ensures that all aspects of the building comply with safety codes and regulations. It also verifies that everything has been constructed according to approved plans.



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

Answer

Tables and figures are particularly effective when large amounts of information have to be presented and discussed in an effective way. In fact, many journal editors and reviewers take a quick look at all the figures and tables in a manuscript before they actually start to review it.



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

Answer

Scales on digital plans need to be accurate.
Scale dimensions or rulers shown on civil plans need to be the correct size/length as this can affect works on site.

Calibration of equipment is important also to ensure the equipment used is set to the correct parameters.



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

Answer

Drawing convention	Explanation
Sheet layout	The arrangement of a drawing sheet, which involves choosing its size, allocating space for margin, title block, parts list, revision panel, folding marks, and determining an appropriate scale, is referred to as the layout of the drawing sheet.
Title Block	Title blocks are used to record all important information necessary for the working drawings. They contain general as well as specific information. The data may refer to company policy or to the drawing. The form and information vary from company to company.
Line types	Object lines. Hidden lines. Center lines. Dimension and extension lines. Leader lines. Phantom lines. Cutting plane lines. Section lines.
Symbols	Plans use lots of abbreviations and symbols to indicate particular features. Obvious features - such as windows, doors, wardrobes and bathroom fixtures - are shown using standardized symbols, which generally don't need any explanation in a legend.



Dimensions	Dimension — the numerical value that defines the size, shape, location, surface texture, or geometric characteristic of a feature. Basic dimension — a numerical value defining the theoretically exact size, location, or orientation relative to a coordinate system.
Dimension lines	Dimension line — a thin, solid line that shows the extent and direction of a dimension. Arrows — symbols at the ends of dimension lines showing the limits of the dimension, leaders, and cutting plane lines.
Abbreviations	Engineering drawing abbreviations and symbols are used to communicate and detail the characteristics of an engineering drawing

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

Answer Sets out the basic principles of technical drawing practice, and covers terminology and abbreviations used in technical drawings; materials, sizes and layout of drawing sheets; types and thicknesses of lines; types and dimensions of letters, numerals and symbols; drawing scales; projectioning; sectioning; dimensioning



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

Answer	Methods	Explanation
	Solid brick construction	Brick masonry is an ancient construction method known for its strength, durability, and beauty. It involves placing bricks carefully and bonding them together with mortar. Over time, different bricklaying techniques have emerged, each with its own characteristics.



Brick veneer construction	Brick veneer is a method of construction where a property of either a wooden or steel frame is concealed with a single layer of bricks as the exterior layer. It offers the same look as double brick, however if the bricks were to be removed the structure of the house would still stand.
Framing	In the building trades, the technique is variously referred to as stick framing, stick and platform, or stick and box, as the sticks (studs) give the structure its vertical support, and the box-shaped floor sections with joists contained within length-long post and lintels (more commonly called headers)
Post and beam construction	Post-and-beam construction is mainly used in open-plan homes because the beams carry the roof's load and reduce the need for interior walls. In this construction method, the posts and beams provide vertical support to the structure. Diagonal shafts may be used to carry lateral loads.

Q15. Define the following construction terminology.

Answer

Term	Definition
Nogging	In construction, a dwang Scotland and New Zealand, nogging piece, nogging, noggin or nog (all derived from brick nog) England and Australia, or blocking North America, is a horizontal bracing piece used between wall studs to give rigidity to the wall frames of a building.
Pilot hole	Pilot holes are small-diameter holes drilled into a material. They guide a screw, bolt, or nail during subsequent fastening. Drilling pilot holes prevents the material, like wood or plastic, from cracking or splitting. Accurate placement of pilot holes is essential for a project's aesthetics and structural integrity.
Masonry	Masonry is the craft of building a structure with brick, stone, or similar material, including mortar plastering which are often laid in, bound, and pasted together by mortar. The term masonry can also refer to the building units (stone, brick, etc.)



Admixture	Admixtures are defined in AS 1478 as 'a material, other than water, aggregate and cementitious materials, used as an ingredient of concrete, and added to the batch in controlled amounts immediately before or during its mixing to produce some desired modification to the properties of the concrete'.
-----------	--

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

Answer ☐ A section drawing is a drawing that shows the vertical cut transecting a building. This vertical cut is normally along the primary axis, but it can be done anywhere. The drawing will show the interior and exterior profiles, as well as the interior spaces, the walls that separate the inside from the outside, and more.

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

Answer ☐ This will be displayed on the structural engineers plans. The classification of a building will determine this. It is reflective from the wind speed or loading applied to the wall.

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

Answer Labels determine how you read the plan and what information is relevant. You will consider all structural information on structural plans but consider all set out information from architectural plans and the like.



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

Answer By providing a proportional perspective, they offer clarity, precision, and a means to visualize large-scale projects on a standard medium. Whether you're crafting the blueprint of a building or designing a piece of machinery, scale drawings ensure that every detail is captured, proportioned, and represented correctly



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

Answer Keeping a legend and using symbols and abbreviations in mechanical drawings can improve the clarity and efficiency of communication between engineers, manufacturers, and end-users, while reducing the cost and time of producing and revising drawings



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

Answer

- 1.A scale bar or a measured dimension.
- 2.A scale of 1:100 or 1:50.
- 3.Whether the plan is existing and proposed.
- 4.Every elevation of the building, e.g. front, side(s) and rear and state the direction in which each elevation faces, e.g. rear (south)



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

Answer

Recipients	Format (hard copy/ digital)
Client	Hard copy
Builder/ Contractor	Hard copy and digital
Local Council	Digital



CPCCBC4014 PREPARE SIMPLE BUILDING SKETCHES AND DRAWINGS

PRACTICAL ASSESSMENT

Participant name	Rex Henderson
------------------	---------------

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)	Select Date.	☐ Workplace ☐ Simulation		☐	☐
Task 1 (Occasion 2)	Select Date.	☐ Workplace ☐ Simulation		☐	☐

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.

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. 1.2C. 1.3B.	Specify Standard drawing conventions applied:
1.3C.	Specify form created for presentation:

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. 1.2C. 1.3A. 1.3B.	Specify Standard drawing conventions applied:
1.3C.	Specify form created for presentation:

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:

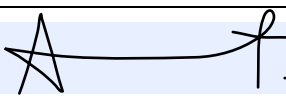
- Prepare to make sketches and drawings.
 - Determine the relevant information from construction plans that is required for sketching or drawing. *(Template available for use- HO2-Planning sheet)*
 - Check construction plan information against building and construction regulations, standards and codes 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:	Adrian Wyatt
Role of observer (Confirm suitability to sign)	Site Manager
Email address of observer	Adrian.wyatt@mcnab.net.au
Signature of observer:	
Date:	8/08/2024

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:

Rex has a great understanding of this module.