2025 ASSESSMENT REPORT
HDS215118 HOUSING AND DESIGN

Folio Component

The 2025 folios showed a wide range of quality. Stronger submissions demonstrated clear visual communication, purposeful analysis and a well-structured design process, while weaker folios were often text-heavy, included excessive aims, showed limited sketch development or relied on unsuitable digital tools, reducing clarity and design reasoning.

Candidates are encouraged to use this Assessment Report, alongside the Folio Guidelines and previous reports, to better understand expectations and avoid common pitfalls. The feedback below outlines strengths and weaknesses in the folios and provides targeted advice across Criteria 6, 7 and 8 to support future improvement.

Criterion 6

Client Needs Analysis

Stronger folios developed a clear and coherent narrative that introduced the client, their lifestyle and the key factors influencing their design requirements. These candidates outlined not only the client's circumstances, priorities and constraints but also considered practical, functional and aesthetic needs in a way that established meaningful parameters for the project. This descriptive, paragraph-style approach helped set the scene for the design and ensured that subsequent decisions were grounded in a well-understood context. In contrast, weaker folios tended to list basic needs without explanation or presented minimal detail, limiting the depth of analysis and reducing the relevance of later aims and design decisions.

Brief and Aims

The brief was generally articulated with confidence; however, the aims continue to be an area that requires improvement. A number of folios included too many aims, in some cases exceeding ten, which made it difficult for candidates to address them meaningfully. High-achieving students developed four to six focused aims, each derived directly from key insights presented in the Client Needs Analysis. These aims captured the essential considerations that would guide the design, moving beyond obvious requirements and instead emphasising broader functional, spatial and aesthetic priorities. In contrast, lower-quality folios tended to list simplistic or task-based aims that restated features rather than outlining conceptual intentions. Aims should be written in a concise, succinct manner that reflects the Client Needs Analysis and should not be greater than one sentence in length (two at most).

When establishing the brief, students must ensure their project involves the design of habitable spaces appropriate to a residential context. Even where the project includes work, studio or dual-purpose functions, it must still allow for sleeping and basic amenities. Aims should also remain focused on the experiential, functional and aesthetic intentions of the design rather than

operational or external constraints; as such, cost, budgeting and financial considerations should not appear in the brief or aims.

Project Context

The Project Context section continues to improve, with many students demonstrating a clearer understanding of its purpose: to explain why the project matters and how it responds to the client's needs, interests and circumstances. Stronger folios provided a clear justification of the project's relevance by situating it within a broader context that considered demographic or lifestyle trends, social or environmental influences, architectural character or relevant housing movements. These responses supported their discussion with relevant research or evidence appropriate to the project type, linked this information meaningfully to the Client Needs Analysis and included purposeful visuals that helped situate the proposal. Less effective responses tended to rely on generic screenshots or surface descriptions without explaining the wider relevance of the project to the client or bringing the information together in a meaningful way.

To produce a high-quality Project Context page, students should provide a concise explanation of why the project is appropriate for the client, integrate relevant contextual insights supported by appropriate research or evidence and use purposeful visuals that clarify rather than clutter. A focused, well-organised page that brings key ideas together and remains approximately one page in length will clearly establish the direction for the design stages that follow.

Site Analysis

The quality of Site Analysis pages varied. Stronger folios clearly interpreted the site or existing spatial conditions relevant to their project, often combining hand-drawn site plans or floor plans with annotated diagrams, purposefully selected images and photographs of the actual site or interior. Depending on the nature of the project, students considered factors such as solar path, orientation, seasonal winds, slope or contours, access, views, vegetation, noise, neighbouring context, circulation, zoning, privacy, light and room relationships, and included relevant measurements or dimensions to establish the scale and spatial relationships of the existing conditions. Clear and purposeful annotation then brought these elements together by highlighting key opportunities and constraints and showing how the analysed conditions related to the client's needs and project aims.

Less effective folios relied heavily on screenshots with limited interpretation, included irrelevant or unnecessary information or overlooked important details needed to understand the project conditions. Pages that were text-heavy, visually cluttered or unclear in how the analysed conditions informed the design direction demonstrated limited understanding of the site or spatial context.

A high-quality Site Analysis focuses on the external, internal or combined factors most relevant to the individual project, with students making balanced decisions about what to include. Clear visual communication, concise annotation and photographs taken on site help develop an informed understanding of opportunities and constraints. Organising the analysis with visual hierarchy such as headings, subheadings, keys or other visual devices, and synthesising key findings, helps ensure this section is purposeful, easy to interpret and able to guide the design development that follows.

Precedents

Stronger precedent pages presented design examples and case studies that were clearly relevant to the project direction and directly linked to the client needs analysis and aims. These responses identified specific ideas about spatial layout, materials, detailing or design intent and explained why these features were effective for the project, showing clear understanding of how each precedent informed the emerging design thinking. In contrast, weaker pages relied on aesthetic or styling imagery or product-based and furnishing images presented as precedents, with written notes that described what was visible rather than explaining its relevance or potential application. This showed limited connection to the design direction and resulted in image collections rather than purposeful precedent research.

Students are expected to produce three full pages of precedents drawn from credible design sources, with correct in-text referencing and a full reference list. High-quality precedent studies use clear visual communication, including concise annotation, diagrammatic breakdowns or small reinterpretation sketches, to highlight aspects of each example that relate directly to the project brief, client needs or aims. While some high-achieving folios in previous years used substantial written analysis effectively, students are encouraged to place greater emphasis on visual communication and succinct analytical notes to improve clarity and strengthen the link between precedents and design intent. Precedents may be organised as case studies, aim-related examples, conceptual themes, space-specific references or sets of precedents aligned with each design concept, provided the approach is purposeful and easy to follow. Regardless of structure, the focus should remain on analysing and synthesising ideas that meaningfully inform the student's own design thinking rather than collecting images with limited relevance or relying heavily on extended written description.

Referencing

Most students demonstrated an understanding of basic referencing expectations; however, the accuracy and consistency of in-text citations and reference lists varied. All information, ideas and material not created by the student must be referenced using the Harvard system.

In-text citations should follow an author and date format; for example, (Surname, Year) or (Organisation, Year), and be placed either within the body text or directly beneath the relevant image or graphic. A complete reference list must be included at the end of the folio, providing full details for every source cited in-text and using a consistent Harvard format.

Students should also note the software used to produce drawings or diagrams, particularly where components have been imported or downloaded. Any digital assets, models or materials obtained from software libraries or online repositories should be acknowledged so it is clear which elements are the student's own work. Where multimodal media techniques are used – such as hand-drawn sketches that are scanned and digitally edited, or combinations of hand rendering, digital modelling or photographic overlays – students should caption these processes to make their workflow transparent. Photographs taken by the student should also be clearly labelled (e.g. "Image taken by candidate") to distinguish original work from sourced material.

Criterion 7

Design Development

Effective design development demonstrated a clear, iterative progression through three stages of refinement, with each stage building logically on the last. High-quality folios began with hand-drawn ideation exploring spatial organisation, circulation, built form and aesthetic direction. This was strengthened when students used bubble or zoning diagrams, sketched over the existing floor plan for renovations or over the site plan for new builds, to test footprint, form and placement in response to site conditions. As ideas evolved, students expanded their exploration beyond the floor plan, using additional drawings such as elevations, sections or isometric views to investigate height, form, natural light, spatial qualities and the relationship between interior and exterior spaces. Some students further strengthened renovation projects by including diagrams or colour keys highlighting existing, removed and newly constructed walls, as well as presenting clear comparisons between the original and proposed floor plans. Students evaluated the strengths and limitations of each idea and carried forward successful elements while refining weaker areas, avoiding backwards steps and maintaining a coherent developmental pathway. Visual communication supported clarity, with diagrams, overlays, selective colour and concise annotation showing how decisions related directly to the client needs and aims.

Where development was less effective, concepts lacked meaningful progression, either remaining too similar across stages or shifting so dramatically that no iterative relationship was evident. In these folios, analysis tended to describe what had been drawn rather than evaluate or justify decisions, limiting the clarity of development. Some students relied heavily on extended written explanation without adequate visual testing or moved directly into digital drafting without first exploring ideas through sketching. Use of drag-and-drop tools such as Coohom, Planner 5D, RoomSketcher, Floorplanner or HomeByMe restricted architectural accuracy and reduced evidence of authentic problem-solving. Additional issues included missing or unclear scale, inconsistent line weights, unreadable dimensions and the absence of additional drawings needed to understand the spatial resolution of the design.

To develop strong design concepts, students should present three related but distinctive stages that show purposeful refinement and clearly reasoned decision-making. Early ideation should always be completed by hand to promote authentic exploration; for example, sketching on trace paper to test variations, refine spatial relationships and resolve problems visually before progressing into more resolved drawings. Recognised architectural drafting or modelling software may then be used to further refine ideas once initial thinking is established, although high-quality development can also be achieved through fully hand-drawn refinement when executed with accuracy and clarity. For multi-storey designs, students should clearly label each level and present storeys aligned on a single page rather than across separate pages, ensuring vertical relationships and circulation are easy to interpret. While some high-achieving folios in previous years used substantial written analysis effectively, students are encouraged to rely less on extended text and place greater emphasis on visual communication, ensuring that written notes remain purposeful and directly support the diagrams and drawings. Clear scale, readable dimensions and consistent drafting conventions help ensure accuracy, while brief summaries of key shifts between concepts assist in explaining how the development aligns with the aims and client needs established in Criterion 6. Whether presented as a refined third concept or a further resolved iteration, the pathway should remain logical, visually clear and grounded in informed analysis.

Criterion 8

Final Design

Final Design pages varied in clarity, resolution and the depth of justification shown. Stronger folios presented a cohesive set of drawings appropriate to the project type, clearly demonstrating how the resolved design fulfilled the brief and achieved the aims established in Criterion 6. Students selected exterior and interior drawings that best communicated the spatial, functional and aesthetic qualities of their proposal in relation to these aims; for example, combining plans, sections, elevations, perspectives or interior views as suited to a new build, renovation, extension or interior-focused project. Students should select drawing types appropriate to the nature and scope of their project rather than relying on a fixed set of drawing expectations. Drawings were completed to scale, following accurate architectural conventions, and were supported by clear, purposeful annotation that clarified key decisions without overwhelming the visuals. Pages were neatly presented, with drawings and information working together to communicate a coherent final design. Where substantial justification is integrated throughout these pages, the final evaluation may be concise and should avoid repeating explanations already provided. High-quality submissions also showed clear continuity with the development work in Criterion 7, refining tested ideas rather than introducing unrelated concepts and providing convincing visual evidence that each aim had been addressed. As stated in Criterion 7, projects involving multiple storeys should present levels side-by-side to maintain clarity and clearly communicate vertical alignment.

Less effective folios presented drawings that lacked clarity, accuracy or a clear connection to the brief and aims, making it difficult to understand how the design resolved the project requirements. Issues included drawings that did not follow architectural conventions, unclear or absent scale, illegible or crowded dimensions, cluttered layouts, decorative rendering that obscured information, or pages dominated by extended written explanation rather than strong visual communication. In some cases, students reverted to earlier unresolved ideas or added new elements that had not been developed in Criterion 7. As noted previously, reliance on drag-and-drop software limited accuracy and the quality of communication. Final designs may be produced through hand drawing, recognised drafting or modelling software, or multimodal approaches that blend digital and hand-rendered techniques. Regardless of method, drawings and visual communication should remain central, supported by concise annotation. While some high-achieving folios in previous years used substantial written analysis effectively, students are now encouraged to reduce reliance on lengthy text and instead use a range of well-considered drawings, diagrams and visual communication methods to demonstrate how the design resolves the brief, meets the aims and provides a clear, justified response to the client's needs.

General Advice for Students

Folio Publishing

Final folios should be clearly presented, easy to read and formatted according to the course External Assessment Specifications. Students should carefully check spelling, grammar and labelling throughout, and ensure that titles, headings and page numbers are consistent. Pencil drawings should be scanned at a suitable resolution so linework is dark, crisp and legible, rather than photographed in poor lighting or at an angle. When combining hand-drawn and digital work, pages should appear cohesive and well-integrated, with a consistent approach to fonts, layout and graphic style. Students should avoid dark backgrounds with white writing, overly decorative presentation or low-quality exports, as these reduce readability. Clean, uncluttered pages that

support clear communication of ideas remain the most effective. Students should not include a contents page, as this adds no value to the project.

Use of CAD in Folios

Computer-aided drafting and modelling can be a useful tool, but it is not a requirement of Housing & Design Level 3 and students are not disadvantaged if their folio is entirely hand-drawn. Decisions about CAD use are made at the school and classroom level, depending on access to technology, teacher expertise and time. Where CAD is used, it should support the communication of a resolved design rather than replace early ideation, which should still begin with hand sketching and exploratory drawing. Students are encouraged to use recognised drafting or modelling software suited to architectural work if digital tools are available, and to avoid drag-and-drop design programs such as Coohom, Planner 5D, RoomSketcher, Floorplanner or HomeByMe, as these limit accuracy and the use of appropriate drawing conventions. Whether produced by hand, digitally or through a multimodal approach, drawings must be clear, scaled and follow accurate conventions.

Teacher Recommendations

Teachers play a key role in helping students understand folio expectations and how each section connects to the assessment criteria. Providing clear task sheets, scaffolds and access to the Folio Guidelines and supporting documents assists students to structure their work effectively. Exemplars of successful folios can be used to teach drawing standards, layout, annotation and how to link ideas back to client needs and aims. Teachers are encouraged to prioritise visual communication in their teaching, giving students repeated opportunities to practise hand-drawing, diagramming, sketching on trace and iterating design ideas. Ongoing formative feedback focused on clarity, alignment with aims and the logical progression from analysis to development and final design supports students in producing coherent, visually strong and technically accurate folios.

Written Component

Criterion 3

Section A – Question 1: Cool Temperate Design

The question was well-balanced and offered capable students strong opportunities to demonstrate their understanding of cool-climate design. Students were required to position a compact one-bedroom dwelling on the Launceston site, apply passive solar principles and present a scaled floor plan supported by a section or elevation.

Stronger responses showed a strong understanding of passive solar design and interpreted the site conditions accurately. These students positioned the building envelope to avoid the shaded zone created by the northern vegetation and oriented the Kitchen, Dining and Living area primarily to the north. They used generous northern glazing, often achieving 75 percent or more glazing to this façade, and supplemented this with eastern or western glazing to provide morning or afternoon sunlight to the bedroom. High-quality responses demonstrated well-justified passive solar strategies including the effective use of thermal mass, insulation and double glazing. Students clearly articulated not only what strategies they selected but why they were appropriate for the site and how they would function to support thermal comfort. Many provided detailed section or elevation drawings drawn to scale that showed correct eave dimensions, realistic sun

angles and clear solar penetration into interior spaces. Some included clerestory windows or high-level glazing and explained how these improved solar access, daylighting and privacy.

Responses in the middle range often addressed several of these considerations but lacked depth of justification. While these students typically identified relevant passive solar strategies, they explained them in general terms rather than connecting them directly to site-specific conditions. Sections or elevations were sometimes attempted but lacked detail or scale, which limited their usefulness. In some cases, sketches illustrated general PSD principles but did not demonstrate how those principles were applied to the student's own design.

Weaker responses frequently placed the dwelling within the shaded area or oriented major glazing toward ineffective directions. Some prioritised views over thermal performance or located thermal mass in areas with limited sun access. Other common issues included oversized eaves that blocked winter sun, insufficient or poorly located glazing and limited understanding of sun angles. Drawings often lacked clarity or scale, making it difficult to interpret design intent. Students are encouraged to communicate climate reasoning directly through drawings, using clear sun-angle diagrams, orientation markers, annotation and accurate linework to show how their design responds to the cool climate and specific site constraints.

Section A – Question 2: Hot–Humid Design

Students were required to design a compact dwelling with a maximum footprint of 60 square metres that included a sleeping area, bathroom and combined laundry, and a kitchen–dining–living space, while responding to conditions of high humidity, the need for ventilation and shading, privacy requirements and opportunities for views. The site information indicated that prevailing breezes were partially obstructed by an adjacent building, requiring students to justify how their placement of the dwelling and openings would optimise airflow.

Stronger responses positioned the dwelling toward the southern end of the site to maximise exposure to prevailing breezes that would otherwise be partially obstructed by the neighbouring building, while also capturing the view. Effective layouts supported cross-flow ventilation by arranging spaces in a single-room-depth configuration and placing openings directly across from one another to channel prevailing breezes. Window selections were appropriate to the climate, with fully opening systems such as louvres, casement windows and breezeway panels allowing unrestricted airflow. Students explained what strategies they used, how they worked and why they were suitable for a hot-humid climate, using clear sketches and diagrams with colour to show intended airflow and spatial decision-making. Stronger responses also demonstrated a strong understanding of convection cooling and appropriate shading strategies. These students incorporated elevated floor structures, ventilated roof forms, high-level outlets and low-level inlets, clearly explaining how warm air rises and escapes while cooler air is drawn in to replace it. Shading solutions were well considered, including the use of eaves sized to reduce heat gain and vertical shading for east and west openings where needed. Glazing on these orientations was minimised unless cross-ventilation or view requirements justified its inclusion. Students selected light external colours and reflective materials to reduce heat absorption and used vegetation strategically to provide shade without obstructing breezes. Their diagrams used colour and layering effectively to communicate how ventilation and shading strategies worked together to maintain thermal comfort.

Good responses addressed many of these principles but provided limited explanation of how or why they were effective. Breezes were sometimes acknowledged but not shown diagrammatically,

or window arrangements did not fully support cross-flow ventilation. Some responses placed the dwelling too centrally on the block, reducing exposure to prevailing winds.

Weaker responses tended to reproduce generic passive design ideas without tailoring them to the hot-humid context or the specifics of the site. Many relied on brief written comments with little visual evidence, included inappropriate strategies such as large areas of poorly shaded glazing or failed to consider airflow patterns. Common issues included inaccurate or missing scale, unclear roof forms, insufficient natural ventilation pathways and drawings that lacked clarity or legibility.

Criterion 4

Section B — Question 3: Universal Design

Question 3 required students to redesign the kitchen, dining and outdoor living areas to achieve universal accessibility for a wheelchair user, while retaining all existing kitchen amenities and ensuring safe, functional circulation. The provided floor plan showed fixed elements including the stair location, existing window positions and a large opening to the outdoor deck, requiring students to work within a clearly defined spatial framework.

Stronger responses demonstrated a clear understanding of universal design principles and applied them directly to the constraints shown on the plan. Students used the full width of the room to achieve generous circulation routes, ensuring a continuous minimum 1500 mm turning circle and accessible pathways around joinery and furniture. Kitchen layouts were effectively reconfigured to allow safe appliance access, with lowered or varied-height benchtops, accessible cooktop and sink positioning, and unobstructed clearances in front of all major appliances. Joinery solutions were well resolved, often incorporating pull-out pantries, drawers over cupboards, side-opening ovens, raised dishwashers or recessed sink cabinets to allow knee clearance. Dining areas were placed to avoid conflicts with kitchen workflow, and the connection to the outdoor deck was strengthened by ensuring smooth threshold transitions and adequate landing space adjacent to the large sliding door.

Students also produced clear joinery elevations or sections showing bench heights, appliance mounting heights, reach ranges and accessible work zones. These drawings effectively supported their annotations and demonstrated understanding of how each decision improved safety, independence and usability for all family members.

Good responses typically addressed the required features but lacked full spatial resolution or adequate justification. Some demonstrated accessible kitchen elements but did not resolve circulation around the dining table, or they provided universally accessible joinery but did not clearly address the connection to the outdoor deck. Elevation sketches were attempted but sometimes incomplete, missing dimensions or critical accessibility heights.

Weaker responses rearranged the room superficially without addressing the fixed site conditions shown on the plan. Common issues included insufficient circulation space, blocked access to appliances, joinery placed too close to window openings or stair voids, dining tables placed in non-functional locations, and minimal or generic annotation that did not demonstrate understanding of universal design. Some responses reproduced standard kitchen layouts without tailoring them to wheelchair access requirements or the specific spatial constraints provided. Drawings were sometimes unclear, not to scale or lacking dimensions, limiting the demonstration of Criterion 4.

Section B – Question 4: Functional Use of Space

Students were required to design a compact room that provided spaces for sleeping, study, storage and relaxation, made best use of natural light, maintained access to the view and allowed clear, safe circulation between the unit and the main house. The question emphasised functional zoning, practical furniture placement and clear communication through a plan drawn to scale, accompanied by additional section and/or elevation sketches showing internal views from a nominated direction.

Stronger responses demonstrated well-organised layouts that clearly achieved the brief, placing furniture to allow comfortable movement within the compact space, avoiding pinch points and maintaining both daylight access and the view. The strongest responses typically located the bed at the far end of the room to preserve privacy, while positioning the study and relaxation zone near the glazed entry where natural light and outlook were greatest. Some students incorporated subtle privacy measures, such as curtains or low nib walls, where these complemented the layout without interrupting daylight or limiting access to the view. These students also provided a clear, well-resolved path connecting the unit to the house, documenting steps or transitions where required. Drawings were to scale, easy to read and neatly presented, with colour used purposefully to clarify furniture placement, pathways and zones and key features. Annotation explained what decisions were made, how the arrangement worked and why it best met the client's needs. The highest-quality responses extended this further by integrating space-efficient joinery such as built-in storage, integrated desks or raised bed platforms, and by supporting their plans with isometric sketches or additional sections that illustrated spatial relationships in three dimensions.

Good responses generally met most functional requirements but had less clarity in their reasoning or communication. Circulation spaces were sometimes tight, zone boundaries unclear, or existing windows underutilised for daylight or view opportunities. While students often included steps or a connection path, they did not always resolve how these elements worked spatially or structurally. Annotations tended to describe features rather than justify decisions.

Weaker responses showed limited understanding of spatial requirements and often included beds, desks or storage in configurations that restricted movement or blocked access. Common issues included inaccurate or missing scale, cramped layouts, blocked entries, poorly resolved stairs or connections to the house, oversized or ineffective joinery, or placement that ignored the view or access to daylight. Some designs positioned full-height internal walls that compromised light and openness. Drawings were sometimes unclear, cluttered or lacked sufficient annotation or supporting sketches.

Criterion 3: Analyse and apply features and principles which will contribute to environmental sustainability within design decisions **Cool Climate**

Element					Rating 'C'	Rating 'B'	Rating 'A'
• **application of key features and principles contributing to environmental sustainability**					• develops design decisions which includes most of the key features and principles that contribute to environmental sustainability and applies, describes and justifies these	• develops design decisions that successfully contribute to environmental sustainability and applies, describes and justifies most of the appropriate features and principles in a detailed and informed manner	• develops design decisions that successfully contribute to environmental sustainability and applies, describes and justifies appropriate features and principles in a detailed and informed manner
• **environmental impacts of design decisions**					• demonstrates knowledge of the main environmental impacts of some housing and design decisions	• demonstrates knowledge of environmental impacts of most housing and design decisions	• demonstrates an accurate and broad knowledge of environmental impacts of housing and design decisions
• **identification, analysis and resolution of competing factors impacting on the environment (This would also consider views too, which may be indicated).**					• identifies competing factors which impact on the environment and address some of these factors when designing.	• identifies and analyses competing factors which impact on the environment and addresses most of these factors when designing.	• identifies, analyses and seeks to resolve competing factors which impact on the environment when designing.
		Drawn	**Annotated**	**Justified**			
General exam evidences	Aims				Aims have been touched on in some manner	All aims have been addressed in an informative manner.	All aims have been addressed in a comprehensive manner.
	Scale				To a recognized scale but not necessarily what was specified. Some small errors permitted.	Accurate and appropriate (as specified in question), small minor scale deficiencies permitted.	Accurate and consistent in all views (as specified in question).
	Plans				Site plan, plan and section (Depending on what views requested) included with some annotation and justification.	Site plan, plan and section included (Depending on what views requested) –drawn correctly and accurately with the majority of elements specified and justified.	Site plan, plan and section included and drawn correctly and accurately (depending on initial views requested) with all key elements in place, but also adding more views to visualize ideas and info further.
	Orientation				Orientation to capture Northerly aspect is essential for 'C' rating.	Orientation to capture Northern solar exposure is essential for 'B' rating. Should include Northern orientation for main outdoor living spaces. Use of wind breaks where appropriate.	Orientation long N-S axis of building to capture maximum solar exposure. Northern orientation for main outdoor shaded living spaces. Placement of appropriate vegetation or structures on Northern side to assist in shading for summer months, and as wind breaks from prevailing winter winds.
	Thermal Mass				Recognition of requirements of building to retain heat – may mention high thermal mass.	Specification and explanation of building material's suitability for climate referring to thermal mass. Demonstrate in Cross-section too.	High thermal mass (Brick, Concrete, Tiles, Reverse Brick, Trombe walls etc.) - must be evident inside the dwelling. Specify Walls, floor and roof. Use of darker colours, Justify how each element of thermal mass actually works, demonstrate in cross-section too.
	Insulation				Insulation may be mentioned but not justified.	Insulation mentioned and reason given – walls and ceiling and floor.	Insulation explained in detail Type and R value - Ceiling, walls and floor necessary. Use of ceiling sisalation. And moisture membrane wrap around studwork to allow the house to breathe but reduce drafts.
	Zoning				No clear annotations but basic drawing provided Student shows basic understanding of zoning principles.	Zoning of outdoor and indoor living space captures maximizes solar gain. Circulation zones may be considered within planning Indoor and outdoor living spaces are adjacent to each other. Living, lounge and kitchen should have Northern zoning unless justified otherwise. Living space has maintained primarily single layer to support cross-ventilation and reduce barriers to air flow (If a single layer design is possible).	Zoning of outdoor and indoor living space captures maximum prevailing breezes and shading. Layout and orientation of the living, sleeping and bathing spaces meet users' thermal comfort needs. Living, lounge and kitchen should have Northern zoning unless justified otherwise. Bathroom central to bedrooms and does not enter directly into kitchen area. Living space has maintained primarily single layer to support cross-ventilation and reduce barriers to air flow.
	Eaves(Shading)				Provides shading solution for building.	Provides a complete solution to summer and winter shading/warming – designed and annotations justifying exclusion of sun, also shows sun angles.	Provides a complete solution to summer and winter shading/warming – designed and annotations justifying exclusion of sun, using cross-sections to show effective eave use and stipulating rule of thumb formula for attaining length (EL = 1/3 window height). Describes and draws specific sun angles, i.e. Hobart Summer 71° Winter 24°(TAS) , in correct position.
	Landscaping				Utilise decks. Landscaping provides some shading but may not evident and does not consider impact on cooling breezes.	Provides deck covered with verandah that still allows solar gain in winter – with functional layout including access. Recognition of planting which provides appropriate shading in summer.	Verandah/pergola on North. Provide shading with deciduous trees, and vines, creepers to filter light and breezes also use of louvres. Low shrubs to channel cooling breezes.

	Ventilation/Winds				Allows for cross ventilation but possibly not justified for cooling summer breezes.	Maintain elevation. Allows for cross ventilation with annotations and justification. Clearly shows direction of cross ventilation on plan.	Cross ventilation recognizes and justifies need for flow through ventilation with justification of any internal walls. Extraction of internal heat is specified Clearly shows direction of ventilation on plan.
	Windows & door placement:				Double glazing windows mentioned. Evidence of majority of 75% glazing situated on Northerly aspect. Indicates use of window coverings.	Similar coverage as for an A rating but annotations and justification may not be as comprehensive eg may not mention specific details such as sliding doors or double hung windows or casement windows. Windows must be dbl glazed. Indicates use of window coverings and pelmets.	Maximises Northerly aspect. Utilise double glazing where possible but particularly on South side of building. Minimise use of windows on southern side. Formula is 75% on North, 15% East and 5-10% on the West- Maximum of 5% on Southern wall. Use of E-low glass also useful, but explain. Put in draft control measures where possible, such as pelmets over windows, door seals and foam insulation around base (Foundation) of house and blockout curtains or honeycomb blinds.

Criterion 3: Analyse and apply features and principles which will contribute to environmental sustainability within design decisions **Tropical Climate**

Element					Rating 'C'	Rating 'B'	Rating 'A'
• **application of key features and principles contributing to environmental sustainability**					• develops design decisions which includes most of the key features and principles that contribute to environmental sustainability and applies, describes and justifies these	• develops design decisions that successfully contribute to environmental sustainability and applies, describes and justifies most of the appropriate features and principles in a detailed and informed manner	• develops design decisions that successfully contribute to environmental sustainability and applies, describes and justifies appropriate features and principles in a detailed and informed manner
• **environmental impacts of design decisions**					• demonstrates knowledge of the main environmental impacts of some housing and design decisions	• demonstrates knowledge of environmental impacts of most housing and design decisions	• demonstrates an accurate and broad knowledge of environmental impacts of housing and design decisions
• **identification, analysis and resolution of competing factors impacting on the environment (Also takes into consideration views if indicated)**					• identifies competing factors which impact on the environment and address some of these factors when designing.	• identifies and analyses competing factors which impact on the environment and addresses most of these factors when designing.	• identifies, analyses and seeks to resolve competing factors which impact on the environment when designing.
		Drawn	**Annotated**	**Justified**			
General exam evidences	Aims				Aims have been touched on in some manner.	All aims have been addressed in an informative manner.	All aims have been addressed in a comprehensive manner.
	Scale				To a recognized scale but not necessarily what was specified. Some small errors permitted.	Accurate and appropriate (as specified in question), small minor scale deficiencies permitted.	Accurate and consistent in all views (as specified in question).
	Plans				Site plan, plan and section (Depending on what views requested) included with some annotation and justification.	Site plan, plan and section included (Depending on what views requested) –drawn correctly and accurately with the majority of elements specified and justified.	Site plan, plan and section included and drawn correctly and accurately (depending on initial views requested) with all key elements in place, but also adding more views to visualize ideas and info further.
	Orientation				Orientation to capture prevailing breezes is essential for 'C' rating. May include orientation towards south for main shaded outdoor living spaces but not necessarily.	Orientation long N-S axis of building and short E-W axis or justified angle to capture the wet season's North Easterly or the dry's South Easterly prevailing breezes (If on East Coast).	Orientation long N-S axis of building and short E-W axis or justified angle to capture the wet season's North Easterly or the dry's South Easterly prevailing breezes (relationship between winds and orientation important). Southern orientation for main outdoor shaded living spaces Sheltering of walls from sun in dry season and rain in wet season with appropriate structures or materials.
	Light Thermal Mass materials				Recognition of requirements of building to cool rapidly – may mention low thermal mass.	Specification and explanation of building material's suitability for climate referring to thermal mass.	Low thermal mass (timber, corrugated iron, plywood) Specify Walls, floor and roof. Light colours in use.
	Insulation				Insulation may be mentioned but not justified.	Insulation mentioned and justified – reflective foil insulation in roof, foil side out.	Type and R value - Walls and floor not necessary if shading of walls possible. Reflective foil ceiling, and E & W sides if unable to be shaded by vegetation. Bulk insulation may be used if dwelling is using air-conditioning – but not required otherwise. Should have moisture wrap around walls though.
	Zoning				No clear annotations but basic drawing provided Student shows basic understanding of zoning principles.	Zoning of outdoor and indoor living space captures maximum prevailing breezes and shading. Circulation zones may be considered within planning Indoor and outdoor living spaces are adjacent to each other. Living space has maintained primarily single layer to support cross-ventilation and reduce barriers to air flow.	Zoning of outdoor and indoor living space captures maximum prevailing breezes and shading. Layout and orientation of the living, sleeping and bathing spaces meet users' thermal comfort needs. Bedroom needs to be in cooler location, bathroom can situation on western wall. Circulation zones can occur on decks to facilitate access to three main spaces for living, sleeping and bathing. Living area single layer to capture prevailing flow through breezes with additional living space on deep shaded deck.
	Eaves(Shading)				Mention sun angles and may show on section Design provides for sheltering of walls from sun in dry season and rain in wet season but annotations and justification not included.	Provides a complete solution to summer and winter shading/warming – designed and annotations justifying exclusion of sun.	Exclude summer and winter sun with sun angles shown on drawings to demonstrate. Sheltering of walls from sun in dry season and rain in wet season with appropriate structures (eg awnings, shutters) or materials (e.g. could include vegetation or screens, louvres. Describes and draws specific sun angles; Summer 90^{o} Winter 45^{o} Year round shading – drawn on section

	Sun angles(Shading)				Utilise decks covered with verandahs and eaves.	Recognises and graphically demonstrates the effect of eaves and solar angles but shows overhang and solar angles. May also include awnings.	Verandah on South but may also include verandah to extend shading over East and Western walls and North too, reducing heat gain on these walls. Shade whole house with evergreen trees, palms and creepers to filter light and breezes. Use of vertical shading on exterior verandas too. Use of awnings too.
	Landscaping				Landscaping provides some shading but may not be fully or necessarily consider impact on cooling breezes.	Provides deck covered with verandah – with functional layout including access. Built on southern to maximise natural shading. Recognition of planting which provides appropriate shading.	Low shrubs to channel cooling breezes. Water feature (evaporative cooling) but avoid too much water near house – potentially high thermal mass.
	Ventilation/Winds				Raised elevation. Allows for cross ventilation but possibly not justified.	Raised elevation. Allows for cross ventilation with annotations and justification. Extraction of internal heat is specified.	Raised elevation maintained for subfloor ventilation. Cross ventilation recognizes and justifies need for flow through ventilation with justification of any internal walls (eg baffles, louvres or screens ultilised). Extraction of internal heat is specified (eg vent or other - fans if active systems permitted). Description of convection system or ventouri effect too to promote air movement. Prevailing from SE in dry and NE in wet.
	Windows & door placement:				Awareness of requirement for large amount of wall and door openings and some evidence in the drawings.	Similar coverage as for an A rating but annotations and justification may not be as comprehensive e.g. may not mention specific details such as bifold doors. Minimise glazing on Western side.	Maximum openings to prevailing breezes Louvres (glass, wood or metal), increase open area. Bi-fold doors / windows. Single glazed glass. Minimise glazing on western side.

Criterion 4: Apply architectural design principles relating to functional use of space **Functional Use of Space**

Element	Rating 'C'	Rating 'B'	Rating 'A'
• **application of key features and principles contributing to functional use of space and user needs**	• develops design solutions that effectively enable functional use of space and relates directly to the range of identified needs of user	• develops design solutions that effectively enable functional use of space and relates to the identified needs of users	• develops design solutions that enable functional use of space and relates to the key identified needs of users
• **Application of ergonomics and circulation**	• – when developing design solutions – identifies and comprehensively justifies all critical design decisions relating to functional use of space considerations	• – when developing design solutions – identifies and justifies critical design decisions relating to functional use of space considerations	• – when developing design solutions – identifies and gives limited justification of design decisions relating to key functional use of space considerations
• **identification, analysis and resolution of competing factors impacting on the use of space**	• evaluates and refines a wide range of designs to appropriately respond to ergonomic, circulation and spatial relationships, including zoning.	• analyses and refines a range of designs to appropriately respond to ergonomic, circulation and spatial relationships, including zoning.	• refines designs to respond to the identified key ergonomic, circulation and spatial relationships, including zoning.

		Drawn	Annotated	Justified			
	Aims				Aims have been touched on in some manner.	All aims have been addressed in an informative manner.	All aims have been addressed in a comprehensive manner.
General exam evidences	Scale				To a recognized scale but not necessarily what was specified. Some small errors permitted.	Accurate and appropriate in all views (as specified in question), small minor scale deficiencies permitted.	Accurate and consistent in all views (as specified in question). All furniture and fittings to scale including external wall thickness.
	Plans				Plan and section included with some annotation and justification.	Plan and section included –drawn correctly and accurately with the majority of elements specified and justified.	Plan and section included and drawn correctly and accurately plan and section included and drawn correctly and accurately (depending on initial views requested) with all key elements in place, but also adding more views to visualize ideas and info further.
	Zoning				No clear annotations but basic drawing provided Student shows basic understanding of zoning principles.	Allows good flow between rooms. Main living areas should be positioned in area receiving most natural light if possible. Important to have bathroom located central to bedrooms. Also don't have bathroom entrance coming straight out into kitchen area. Clearly indicate shared and private zones. Annotated and good justification present.	Allows good flow between rooms. Main living areas should be positioned in area receiving most natural light if possible Important to have bathroom located central to bedrooms. Also don't have bathroom entrance coming straight out into kitchen area. Clearly indicate shared and private zones. Be sure to use space efficiently as some bathrooms can be too big and over utilise valuable space. Avoid to many empty spaces in living areas or entrance areas. Monopolise vacant dead space – i.e. storage. Provide drop down area in kitchen – ideally near an entrance. Utilise innovative storage solutions. Annotated and justified.
	Bathroom				Bathroom appropriately sized, making use good use of space. Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting. Indication of non-slip flooring.	Bathroom appropriately sized, a bath would be too excessive for student accommodation or perhaps bedsit Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting. Indication of non-slip flooring. Appropriate location of door to maximize privacy.	Bathroom appropriately sized, a bath would be too excessive for student accommodation or perhaps bedsit. Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting Appropriate location of door to maximize privacy. Indication of non-slip surfaces and semi-gloss paint would also be good. Dual flush toilet. Low flow shower heads. Annotate and justify – Allow for natural light source too.
	Kitchen				Clearly indicate types of storage options being used and justify. Be sure to clearly indicate/label positions of fridge, sink, oven and stove top.	Utilise and clearly indicate golden triangle (Max 8M perimeter) in kitchen area. In normal domestic kitchens, try to restrict tot one metre between each key work station. Clearly indicate types of storage options being used and justify. Be sure to clearly indicate/label positions of fridge, sink, oven and stove top. Non-slip floor indicated.	Utilise and clearly indicate golden triangle in kitchen area. In normal domestic kitchens, try to restrict to one metre between each key work station. Clearly indicate types of storage options being used and justify. Be sure to clearly indicate/label positions of fridge, sink, oven and stove top. Allow for easy access to kitchen to increase flow and do allow for wheelchair access if possible. (1200mm minimum between lineal bench and island bench). Also include task lighting. Non slip floor indicated.

	Ergonomics – bedroom/study:				Room for bed to be made, and good flow between furniture, doorway and storage area. Annotation and Justification. Plan only.	Room for bed to be made, and good flow between furniture, doorway and storage area. A cross-section would be required to mark this accurately, but it is something that needs to be addressed, particularly in relation to positioning of chairs, computers, lamps etc. Avoid having study chair directly facing window to avoid glare. present. Room for bed to be made, and good flow between furniture, doorway and storage area. Mention flooring type. Placing double or queen size beds against walls should be avoided if space permits, but may be justified not to in tiny home scenario. Annotation and Justification.	Room for bed to be made, and good flow between furniture, doorway and storage area. A cross-section would be required to mark this accurately, but it is something that needs to be addressed, particularly in relation to positioning of chairs, computers, lamps etc. Storage units to be clearly justified also explain in detail, such as shelving, hang space, drawers, wire baskets, etc. Inclusion of chair important too. Avoid having study chair directly facing window to avoid glare. present. Room for bed to be made, and good flow between furniture, doorway and storage area. Include lighting and task lighting and floor covering. Placing double or queen size beds against walls should be avoided if space permits, but may be justified not to in tiny home scenario. Annotation and Justification.
	Windows & door placement:				Awareness of requirement to maximise light particularly through Northern walls, if indicated.	Similar coverage as for an A rating but annotations and justification may not be as comprehensive eg.. may not mention specific details such as awning or windows. Doors should be located not to opening closer to dividing walls and inwards for most areas unless bifold or French Doors.	Important to maximise light particularly through main windows. Utilise East and West walls that are not adjoined to the other buildings for glazing if allowable. Also stipulate type of windows, e.g., awning or sliding or casement, etc. With the main entrance, create a small internal alcove where possible off the main entrance to allow some privacy, but prevent drafts entering directly into living space. Utilise alcove wall as hanging space for jackets, etc. Doors should be located not to opening closer to dividing walls and inwards for most areas unless bifold or French Doors.
	Other Needs				Lighting – general, task and mood lighting must be indicated and justified in each space. Include a laundry or justify why it was not included.	Lighting – general, task and mood lighting may be indicated and justified in each space. Floor covering – tiles for toilet/bathroom/ kitchen (or lino) Carpets in living and bedrooms. Wooden floors also okay for KDL. Include a laundry or justify why it was not included, can be incorporated into bathroom or kitchen. Heating really important. Must be indicated and justified. Utilise wall panel heaters in bedrooms and heat pump in living area. Utilise extra storage space where possible throughout household.	Lighting – general, task and mood lighting maybe indicated and justified in each space. Floor covering – tiles for toilet/bathroom/ kitchen (or lino) Carpets in living and bedrooms. Wooden floors also okay for KDL. Polished concrete okay too. Include a laundry or justify why it was not included, can be incorporated into bathroom or kitchen. Heating/ cooling systems may be indicated and justified. More contemporary heating sources can be indicated too, i.e thermal mass, solar hydronic floor heating. Utilise extra storage space where possible throughout household.

Criterion 4: Apply architectural design principles relating to functional use of space **Universal Design**

Element	Rating 'C'	Rating 'B'	Rating 'A'
• **application of key features and principles contributing to functional use of space and user needs**	• develops design solutions that enable functional use of space and relates to the key identified needs of users	• develops design solutions that effectively enable functional use of space and relates to the identified needs of users	• develops design solutions that effectively enable functional use of space and relates directly to the range of identified needs of user
• **Application of ergonomics and circulation**	• when developing design solutions – identifies and gives limited justification of design decisions relating to key functional use of space considerations	• when developing design solutions – identifies and justifies critical design decisions relating to functional use of space considerations	• when developing design solutions – identifies and comprehensively justifies all critical design decisions relating to functional use of space considerations
• **identification, analysis and resolution of competing factors impacting on the use of space**	• refines designs to respond to the identified key ergonomic, circulation and spatial relationships, including zoning.	• analyses and refines a range of designs to appropriately respond to ergonomic, circulation and spatial relationships, including zoning.	• evaluates and refines a wide range of designs to appropriately respond to ergonomic, circulation and spatial relationships, including zoning.

		Drawn	Annotated	Justified			
General exam evidences	Aims				Aims have been touched on in some manner.	All aims have been addressed in an informative manner.	All aims have been addressed in a comprehensive manner.
	Scale				To a recognized scale but not necessarily what was specified. Some small errors permitted.	Accurate and appropriate in all views (as specified in question), small minor scale deficiencies permitted.	Accurate and consistent in all views (as specified in question). All furniture and fittings to scale including external wall thickness.
	Plans				Plan and section (if required) included with some annotation and justification.	Plan and section (if required) included – drawn correctly and accurately with most elements specified and justified.	Plan and section included and drawn correctly and accurately (depending on initial views requested) with all key elements in place, but also adding more views to visualize ideas and info further.
	Zoning				No clear annotations but basic drawing provided Student shows basic understanding of zoning principles. Allows easy transition between spaces if in a wheelchair.	Allows good flow between rooms. Main living areas should be positioned closer to natural light (windows evident) if possible Important to have bathroom located central to bedrooms. Also don't have bathroom entrance coming straight out into kitchen area. Clearly indicate shared and private zones. Ensuite layout should be utilised for single room dwelling or master bedroom. Allows easy transition between spaces if in a wheelchair Annotated.	Allows good flow between rooms. Main living areas should be positioned closer to natural light (windows evident) if possible. Important to have bathroom located central to bedrooms. Also don't have bathroom entrance coming straight out into kitchen area. Clearly indicate shared and private zones- Utilised ensuite for Wheelchair users if possible. Be sure to use space efficiently as some bathrooms can be too big and over utilise valuable space. Avoid to many empty spaces in living areas or entrance areas. Allows easy transition between spaces if in a wheelchair, clearly showing turning circles where appropriate and no pinch points. Annotated and justified.
	Bathroom				Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting. Indication of non-slip flooring. Hand holds for toilet and shower. Walk in shower	No bath –Walk in shower. Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting. Indication of non-slip flooring. Appropriate location of door to maximize privacy. Hand holds for toilet and shower and heights indicated sing section drawing. Allow full turning circle if possible. Toilet should be positioned to allow appropriate access for wheelchair and handholds evident.	No bath –Walk in shower. Utilise mirror and exhaust fans too plus towel and vanity storage space and appropriate lighting. Indication of non-slip flooring. Appropriate location of door to maximize privacy. Hand holds for toilet. Bench seat and handholds for shower plus all heights mentioned. Shower bay should be hobless and be at minimum of 1100 x 900mm. Allow full turning circle if possible. Toilet should be positioned to allow appropriate access for wheelchair and reinforced handholds evident plus parking/shift space for wheelchair Under-sink access plus appropriate height. Utilise cross-section sketch too. 770mm for bathroom pedestals. Reinforcement mentioned to support hand rails. Low friction flooring possibly with shock resistant rubber underlay underneath.

	Kitchen				1500mm turning circle for wheelchair between benches. Work triangle indicated between major appliances. Lower bench heights. Low friction flooring.	1500mm turning circle for wheelchair between benches. Work triangle indicated between major appliances. Lower kitchen bench heights 750mm for kitchen benches. Use of drawers. Under bench access. Lowered head cupboards if required. Low friction flooring.	1500mm turning circle for wheelchair between lineal and island benches Work triangle indicated between major appliances. Utilise and clearly indicate work triangle in kitchen area. In normal domestic kitchens, try to restrict to one metre between each key work station. Clearly indicate types of storage options (emphasis on drawers) being used and justify. Be sure to clearly indicate/label positions of fridge, sink, oven and stove top. Pull down head cupboards a good innovation too + side hinged oven doors. Lower kitchen bench heights (700-870mm). Under bench access. Use of drawers rather than cupboard doors. Lever or sensor tapware. Low friction flooring possibly with shock resistant rubber underlay underneath.
	Ergonomics – bedroom/study:				Appropriately furnished. Bed, storage easily accessed.	Room for bed to be made from both sides, and good flow between furniture, doorway and storage area. Annotation and Justification. Plan only.	Good access to both sides of bed. Able to access wardrobe or storage from wheelchair. Should allow for turning circle, but not necessary - but should have minimum of 900mm clearance around bed. Appropriate offset from wall or furniture (450mm) for leaf door opening. Pull down hangers in wardrobe. Annotation and Justification.
	Windows & door placement:				Door openings (appropriate sized doors – aim for 870mm to 900mm to allow access for wheelchair. Appropriate window placement.	Similar coverage as for an A rating but annotations and justification may not be as comprehensive, e.g. may not mention specific details such as awning or windows. Awareness of requirement to maximise light particularly through windows Bedroom windows 750mm above floor level - Can see out from in bed; bed height is below sill. (daytime restricted view inwards). Living area windows 450 to 600mm above floor level - Can see out easily from seated position.	Stipulate type of windows which would be easy to open from wheel chair, such as casement or awning or sliding. With the main entrance, create a small internal alcove where possible off the main entrance to allow some privacy, but prevent drafts entering directly into living space. Utilise alcove wall as hanging space for jackets, etc. Awareness of requirement to maximise light particularly through given windows. Utilise smart home technology for opening windows and even doors. Appropriate offset for Bedroom windows 750mm above floor level – Can see out from in bed; bed height is below sill. (daytime restricted view inwards). Living area windows 450 to 600mm above floor level - Can see out easily from seated position.
	Other Needs				Floor surfaces Hard, nonslip. Door handle heights (900mm) Locks (1100mm) and power. Power switch heights (450mm-600mm range). Ramps 1:14 gradient ratio.	Include a laundry or justify why it was not included. Slopes of ramps – Grade of 1:8 or 3 degrees. Floor surfaces Hard, nonslip. Door handle heights (900mm) Locks (1100mm). Power switch heights (450mm-600mm range). Lighting – general, task and mood lighting must be indicated and justified in each space. Ramps 1:14 gradient ratio at a maximum distance of 9 metres.	Lighting – general, task and mood lighting must be indicated and justified in each space. Include a laundry or justify why it was not included. Floor surfaces Hard, nonslip. Also indication of springed floor or underlay to reduce shock for accidental falls. Door handle heights (900mm) Locks (1100mm) and power switch heights (450mm-600mm range). Ramps 1:14 gradient ratio at a maximum distance of 9 metres with a landing of 1500 mm. 1:8 gradient acceptable only for entrance ramps at more that 900mm wide.