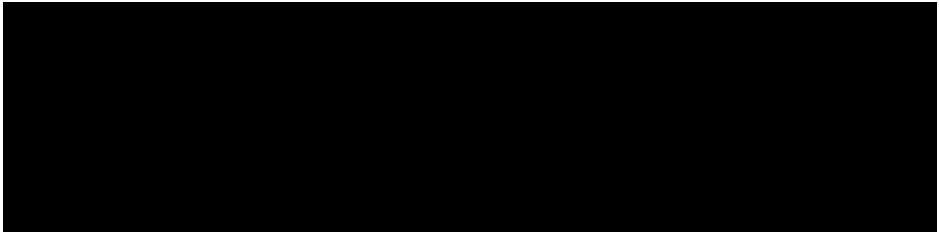


REVIEW OF BETTER APARTMENTS DRAFT DESIGN STANDARDS



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CONTENTS

Executive Summary.....	1
Category 1: Apartment Design Standards to be retained with minor amendments.....	3
Category 2: Apartment Design Standards to be modified.....	4
Category 3: Apartment Design Standards to be removed from the document.....	15
Affordability: Broad Hypothetical Cost Comparisons.....	20
Larger Apartment Case Study.....	22
Innovation.....	24
About [REDACTED].....	27
Contact Us.....	28



EXECUTIVE SUMMARY

are involved in the design of a diverse portfolio of approximately 5000 apartments across the eastern seaboard annually.

We have studios in Melbourne, Sydney and Brisbane and are familiar not only with a great range of apartment typologies but also the different legislative regimes for apartment design across Australia.

So far as we can interpret them we agree with the majority of the stated objectives in the document. There is a need to ensure a minimum standard for apartments in Victoria and the fundamental objective of the Design Standards, namely to improve the liveability of apartments, is one that we ascribe to.

Our review has focused on an objective and design led assessment of whether the draft standards will effectively deliver the stated objectives in a balanced manner that maintains other stated aims such as apartment affordability and a lasting legacy of good housing in Victoria. We are also conscious of the impact the design standards will have on broader urban design outcomes and the development of Melbourne as a higher density, more sustainable city of the future. In reviewing the standards we have had regard to:

- Design outcome – resulting apartment and building layouts
- Ability to provide suitable alternate solutions
- Affordability
- Understanding / reasoning / or logic behind standards
- Impact on urban design / the future built fabric of Melbourne

Whilst supportive of the initiative we question the suitability of a number of the design standards. Several of the standards as presented will either fail to achieve what they set out to do or lack scope for a performance based assessment of potential alternate outcomes.

The absence of a performance based approach in assessing apartment quality is a serious issue and should be addressed in the adopted standards. Having extensive, first-hand, experience across most of Melbourne's planning municipalities we are firmly of the opinion that the majority of councils and councillors will use the guidelines as a default mandatory requirement. It will be difficult to have alternate solutions considered, despite any merit that they might offer, and the opportunity for innovation and progressive design will be stifled. In a state recognised for the quality of its design community this shackling of the industry would be a serious mistake.

We have broadly classified the standards into three groups, namely those which should be adopted with some minor amendments, those that require to be modified to a greater extent and those which should simply not be included in an apartment design guideline.

As a final but important finding we believe that the standards should only apply to 2 bedroom apartments of less than 85m² internal area and 1 bed apartments of less than 55m². We have tested the standards against some larger 2 bed and 3 bed apartment plans, an increasing component of developments as the apartment market in Melbourne matures. Whilst undoubtedly delivering excellent amenity for future residents these larger apartments struggle to comply with the metrics in the draft document and it would seem self-defeating to discriminate against larger apartment typologies that add necessary diversity to the market and are responding to a growing owner occupier demographic.



CATEGORY 1: APARTMENT DESIGN STANDARDS TO BE RETAINED WITH MINOR AMENDMENTS

Whilst not necessarily ideally drafted the standards that we believe should be adopted, give or take, as they stand are those relating to:

- Building Setbacks
- Light Wells
- Room Depth
- Windows
- Storage
- Noise Impacts
- Energy Efficiency
- Solar Access to Communal Space
- Natural Ventilation
- Private Open Space
- Communal Open Space
- Landscaping
- Accessibility
- Building Entry and Internal Circulation
- Waste
- Water Management

Light Wells: In principle we feel that the proposed standards are reasonable. What the standard does do though is highlight the inconsistencies that are more troubling when discussing standards relating to daylight. When analysed the results show that the daylight conditions for each of the three specified scenarios are quite different – i.e. it does not appear as if a performance criteria was used to generate the specific standard

Storage: Storage is an important component of liveability and as drafted the standard is reasonable and offers scope for designers to accommodate the spatial requirements in a number of ways that will benefit future residents

Noise Impacts: Ideally this should be part of the BCA and we are seeking further clarification from acoustic engineers that the requirements are reasonable. That said we understand the difficulty in making changes to the BCA and suggest that this item is one that be conditioned in planning permits

Energy Efficiency: We note that the way in which it is drafted appears ambiguous and open to subjective interpretation

Solar Access to Communal Space: The standard is reasonable but fails to adequately account for adjacent site conditions being a potential influence. There needs to be recognition of this in the wording

Private Open Space: Space provisions are reasonable but the standard needs to account for taller buildings where individual terraces are not a preferred outcome. In this regard we think the standard should be limited to buildings of 35m height or less

Communal Open Space: Whilst working for apartments buildings above 30 apartments we have some reservations about the provision applying to small scale apartment developments

Accessibility: Whilst the objective is ambitious the objective is desirable and the impact on apartment planning and affordability should not be too great

Building Entry and Internal Circulation: The expectations are reasonable and desirable

Waste: The expectations are reasonable and desirable

Water Management: The expectations are reasonable and desirable



CATEGORY 2: APARTMENT DESIGN STANDARDS TO BE MODIFIED

There are a number of standards where again we agree with the base objective but are troubled by the methods suggested to achieve the outcome. Essentially these relate to natural light and natural ventilation. We agree that both natural daylight and ventilation are important components of apartment liveability but the methodology outlined to meet the objectives needs to allow for performance based assessment.

- Building Setbacks
- Light Wells
- Room Depth
- Windows
- Storage
- Noise Impacts
- Energy Efficiency
- Solar Access to Communal Space
- Natural Ventilation
- Private Open Space
- Communal Open Space
- Landscaping
- Accessibility
- Building Entry and Internal Circulation
- Waste
- Water Management

ROOM DEPTH:

Objective: to ensure that each apartment is able to receive an adequate amount of daylight, including south facing single aspect apartments.

What the Design Standard requires:

- A habitable room should not exceed a room depth to ceiling height ratio of 2:1 for a single south facing aspect dwelling or a room depth to ceiling ratio of 2.5:1 for all other dwellings.
- The depth of a habitable room with an open plan layout that included the living, dining and kitchen areas may be increased to 8 metres where the following requirements are met:
- The kitchen area is located furthest from the window
- The ceiling height is 2.7m
- The dwelling is not a single aspect south facing dwelling. (The ceiling height in the kitchen can be reduced)

Shortcomings in the Standard:

- The standard adopts a deemed to satisfy approach without reference to the multitude of factors which can effect daylighting. The lack of logic in the standard is perhaps no better illustrated than by the complete omission of any discussion regarding window sizes or glass colour, design components which have a great influence over daylight levels in an apartment
- The standard as drafted places severe restrictions on how an apartment can be planned. For example, in order to accommodate a dining table and living space in front of an island bench a dimension of 6.5 / 7m is necessary. Adding 2.5 depth for a kitchen requires a room depth of a minimum of 9.0m. The example apartment included in the document does not allow space for a dining table which, from many hours spent in multiple sales suites, we know is a prerequisite of the vast majority of apartment purchasers. Whilst we might like to think the kitchen bench can also serve as the dining space this is a construct of the designers and not a view shared by apartment owners

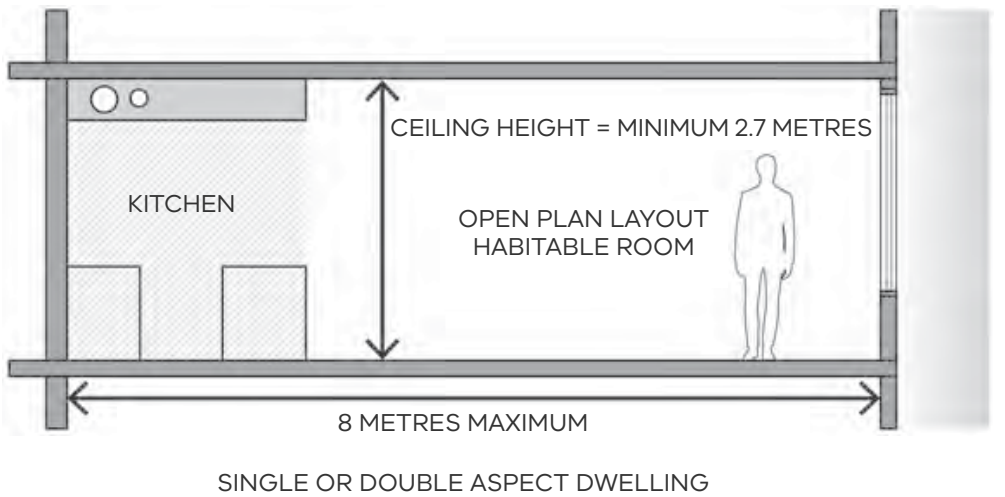
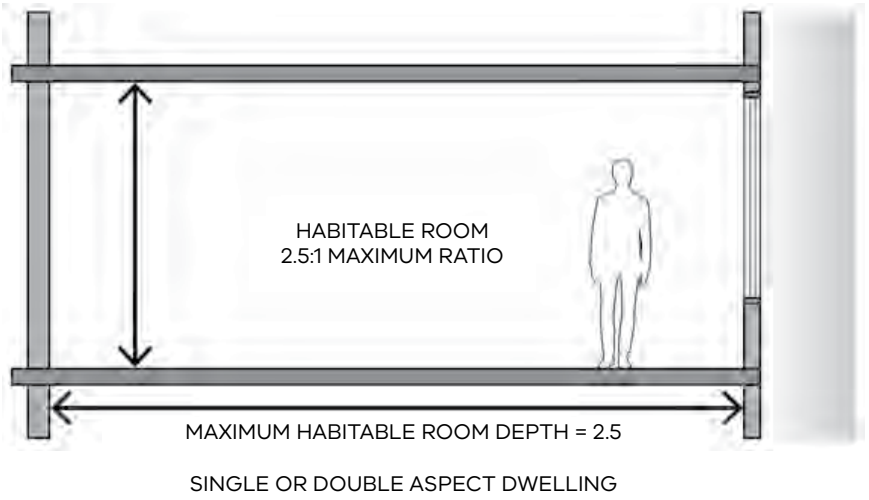
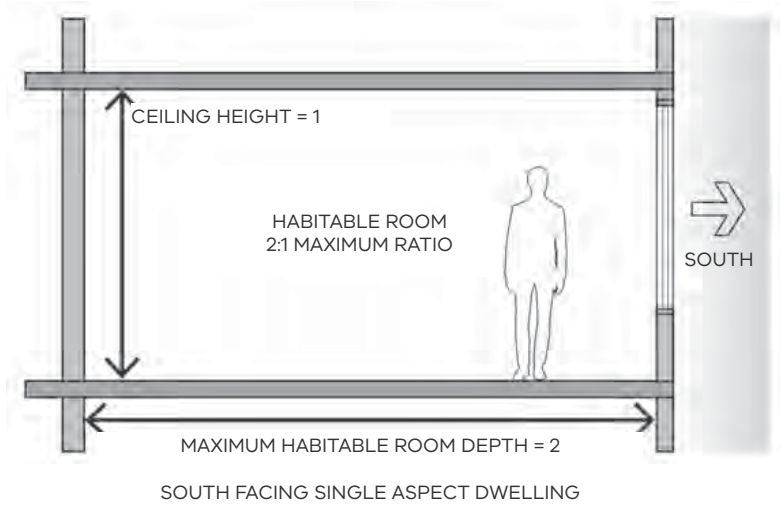


Figure 1 – Room depth to height ratios for single or double aspect apartments (not south facing). Diagram from better Apartment Draft Design Standards

ROOM DEPTH CONT.:

- Similarly, the apartment below, which unarguably provides excellent amenity and would be a good model for a south facing single aspect apartment dimensionally requires a depth of approx. 6.5m and would be precluded by the current standard for a south facing single aspect apartment
- The restrictions on apartment planning as currently defined will have inevitable impacts on apartment affordability

Proposed Changes to the Standard:

- As well as the deemed to satisfy option the standard should offer an alternate, performance based, method for achieving the objective. We recommend that defined, understood and measurable metrics for daylight be ascribed to habitable rooms. These metrics should be carefully considered and realistic and be provided by a specialist consultant. (We note for example that achieving the daylighting standard as defined in BESS, Built Environment Sustainability Scorecard, is extremely challenging). In making these recommendations we have made reference to leading industry experts at ARUP and Aurecon
- Distinction should be made for different daylight provision standards according to the use categories of a particular habitable space. For example, it is widely recognised by existing best practice daylight standards that the daylight levels in a bedroom need not be the same as in a living room. Similarly, kitchens are task orientated environments and people will invariably use lights



Figure 2 – Living, Dining and Kitchen Area - Ergonomic Plan

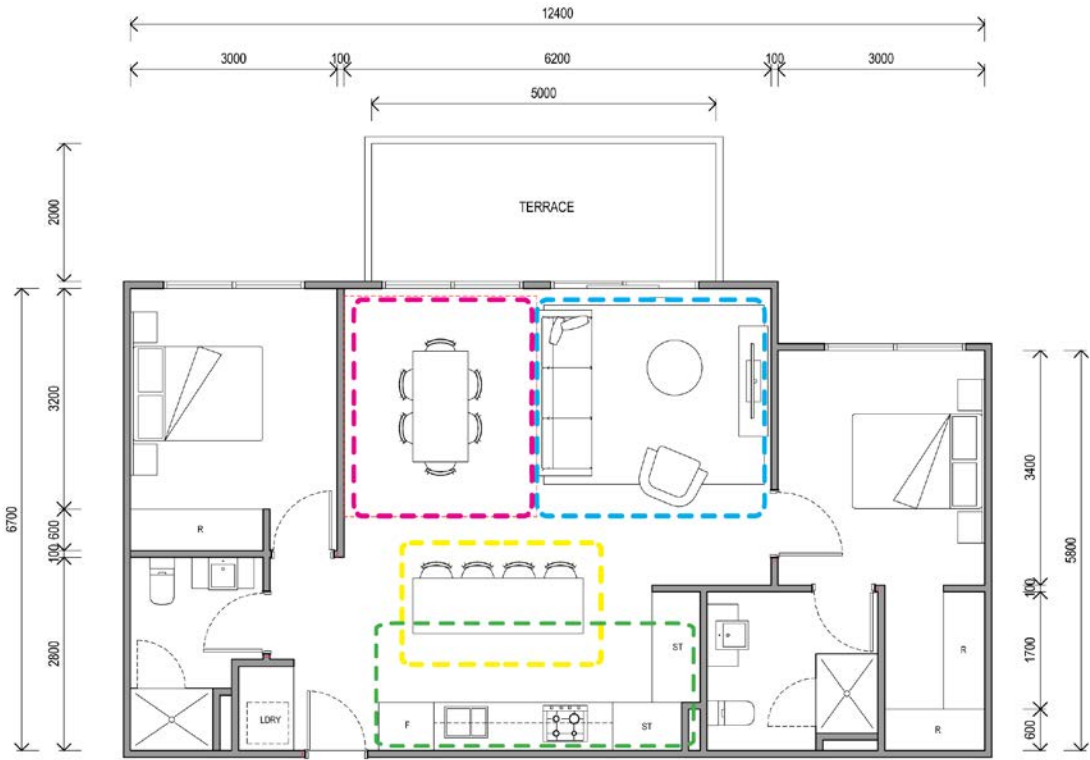


Figure 3 – 12.4m x 6.7m 2 bed Apartment Plan

WINDOWS:

Objective: The standard seeks to ensure that all habitable rooms have direct access to daylight by requiring a window to be directly visible from any point in the room.

What the Design Standard requires:

- A habitable room should have a window in an external wall of the building that is visible from any point in the room.

Note: habitable rooms that rely on daylight from a snorkel bedroom (access to light from an adjacent room) will not meet the standard

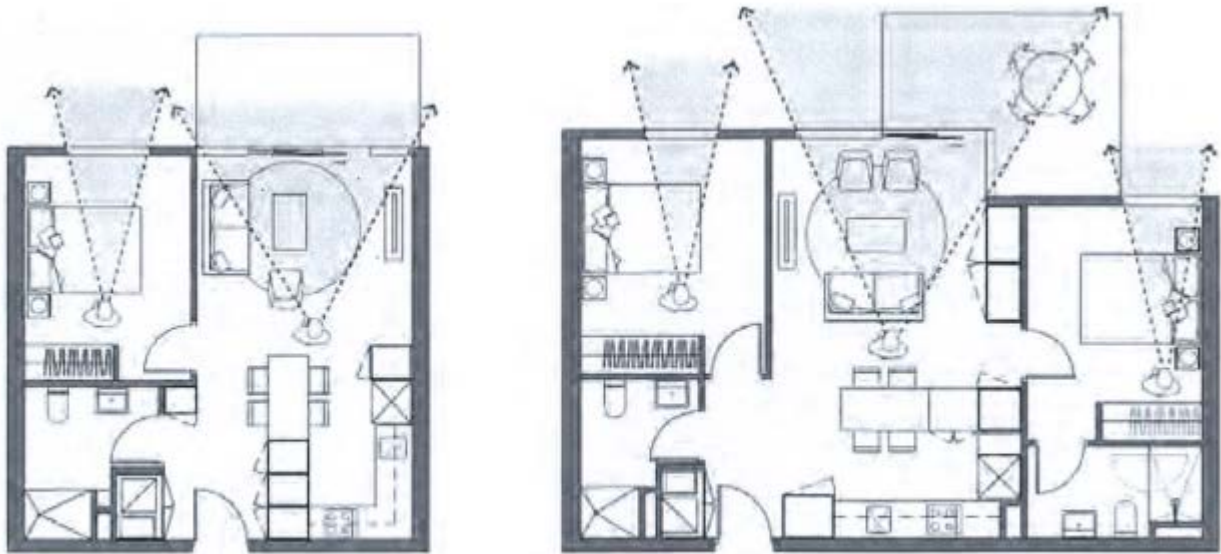
Definition of snorkel bedroom: A bedroom in an apartment where the bedroom is connected to a window in the exterior wall of the building via an adjoining space that is used to access daylight

Shortcomings in the Standard:

- The standard is poorly drafted and confusing in intent
- That a window should be visible from any point in a bedroom or study is unnecessary and an overtly simplistic control. We suggest that having the window visible from 85% of the room is a far more reasonable and practical standard that will not adversely affect resident's amenity
- If the intent is that all bedrooms are to be located on the perimeter of the building, then the effect on apartment affordability will be considerable

Proposed Changes to the Standard:

- Access to daylight in a bedroom or study must be via a space of not less than 1.2m wide and a total depth to width ratio of no greater than 1.5:1 where the depth is measured from the external face of the building



Main living areas and bedrooms have an external window that provides direct daylight access.

Figure 4 – Window location. Diagram from better Apartment Draft Design Standards

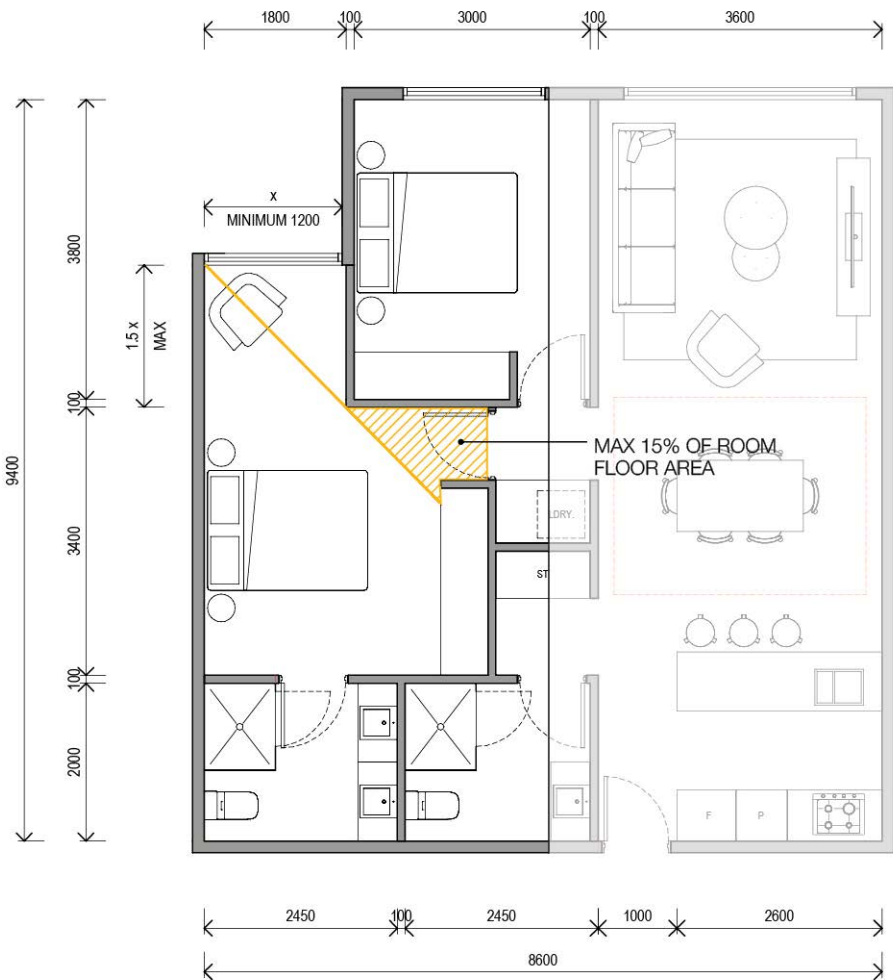


Figure 5 – Proposed bedroom window design parameters

NATURAL VENTILATION:

Objective: The standard seeks to ensure that a significant proportion of apartments in a new development have adequate natural ventilation.

What the Design Standard requires:

- At least 60% of dwellings with a finished floor level less than 35 metres height should be naturally cross ventilated. The length of a breeze path through the dwelling should be a maximum of 15m

Shortcomings in the Standard:

- The 15m breeze path has not been justified and is very restrictive in planning an apartment. For instance, this requirement makes cross ventilating some perfectly reasonable three-bedroom apartment impossible. The breeze path as defined in the NSW apartment design guidelines is 18m so why are we changing this?
- Air moves in response to a pressure differential. It is not particularly concerned if the distance is 15m or 20m
- A performance based standard needs to be added to the standard

Proposed Changes to the Standard:

- Recommendation that the standard be changed such that at least 50% of dwellings with a finished floor level less than 35 metres height should be naturally cross ventilated. The length of a breeze path through the dwelling should be a maximum of 18m

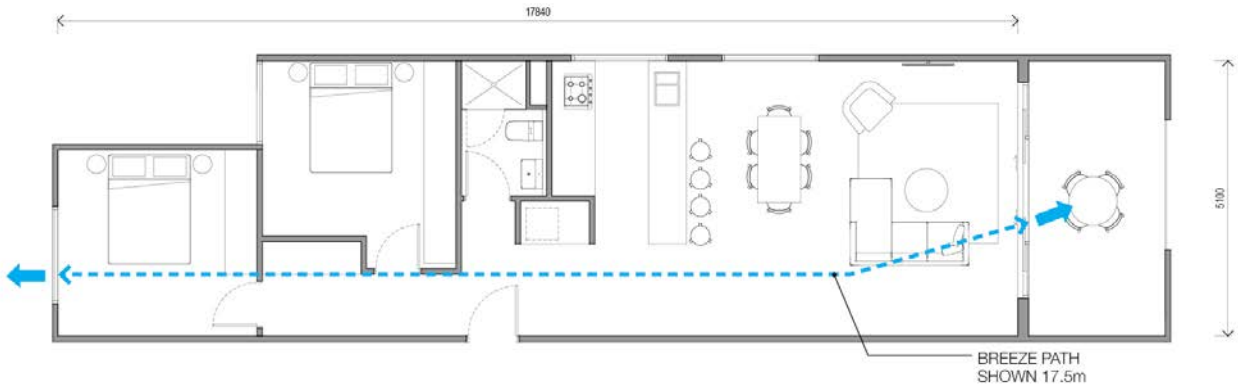


Figure 6 – Typical apartment typology from NSW showing need for breeze path longer than 15m

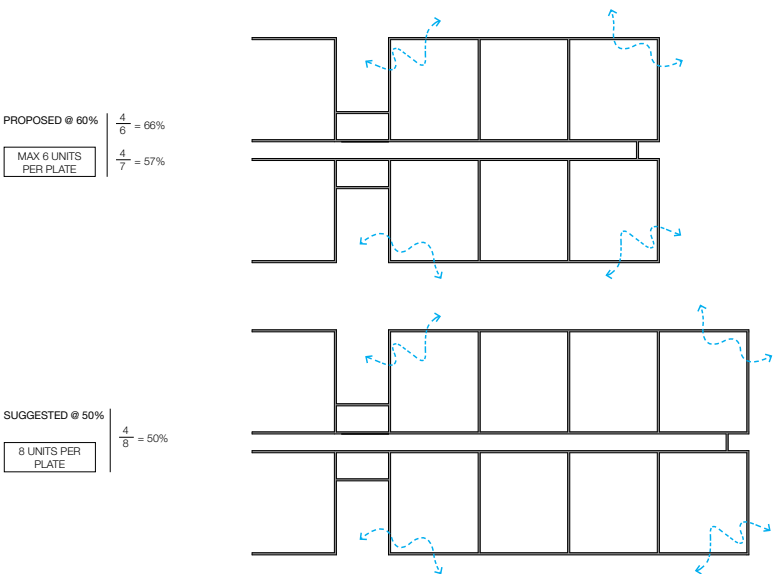
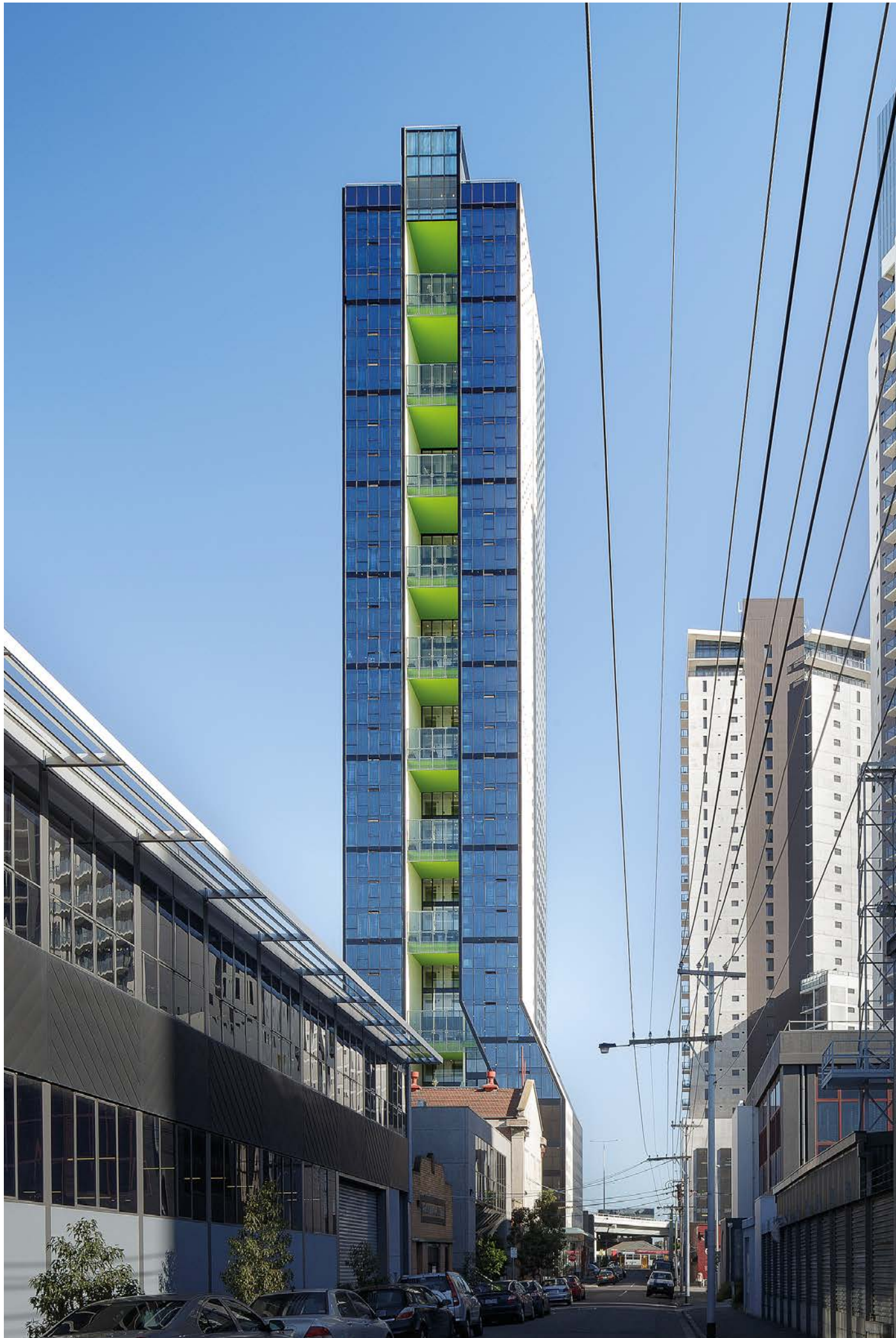


Figure 7 – Floor Plan Diagrams



CATEGORY 3: APARTMENT DESIGN STANDARDS TO BE REMOVED FROM THE DOCUMENT

There are two of standards which we simply think have no place in the document. Both standards as drafted will have a severe and inappropriate impact on the ability for Melbourne to evolve into a more sustainable, higher density city. They are standards that should not be unilaterally applied to every site in Victoria. They are contrary to best practice urban design principles that dictate that sites should be considered specific to their context. Further limiting the availability of potential development sites, particularly in our middle suburbs will have a catastrophic effect on apartment affordability precisely where Melbourne needs to increase its density. The land cost for sites that can be developed will rapidly escalate and the scarcity of apartments will only compound the affordability issue.

Setbacks

- Light Wells
- Room Depth
- Windows
- Storage
- Noise Impacts
- Energy Efficiency
- Solar Access to Communal Space
- Natural Ventilation
- Private Open Space
- Communal Open Space

Landscaping

- Accessibility
- Building Entry and Internal Circulation
- Waste
- Water Management

BUILDING SETBACKS

Objective: The standard seeks to ensure that new apartment buildings are setback an appropriate distance from side and rear boundaries to receive an adequate amount of daylight and privacy

What the Design Standard requires:

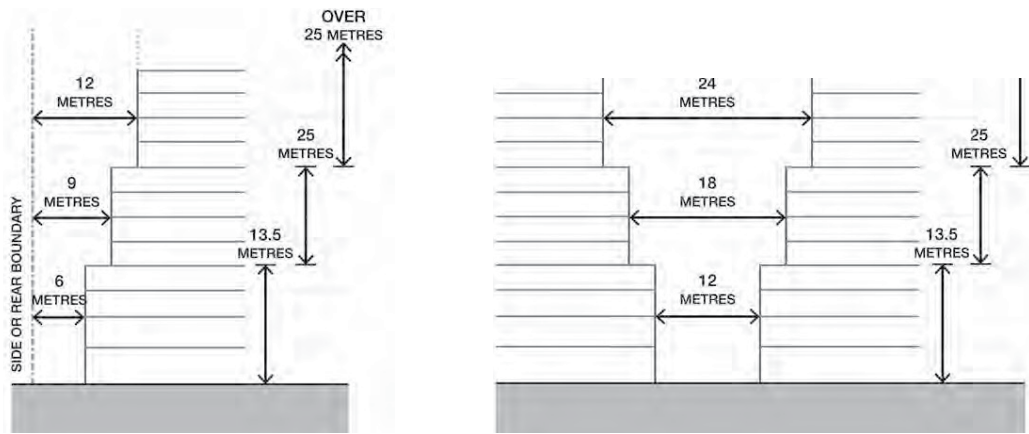


Figure 7 – Setback diagram from Draft Design Standard

Shortcomings in the Standard:

- The standard will adversely affect the capacity for higher density housing in areas not currently the subject of comprehensive development controls. The standard is contradictory to Melbourne's imperative to develop as a higher density more sustainable city of the future
- Setback should be context specific and not mandated by an apartment design guideline
- The heights chosen seem arbitrary and there is no science or reasoning given. The length or depth of a site is not even considered when this will be a significant factor in planning a site
- The setbacks are often contradictory to existing planning controls leading to confusion and uncertainty
- This standard is simply contrary to good urban design which should demand specific responses

Proposed Changes to the Standard:

- Remove from the document

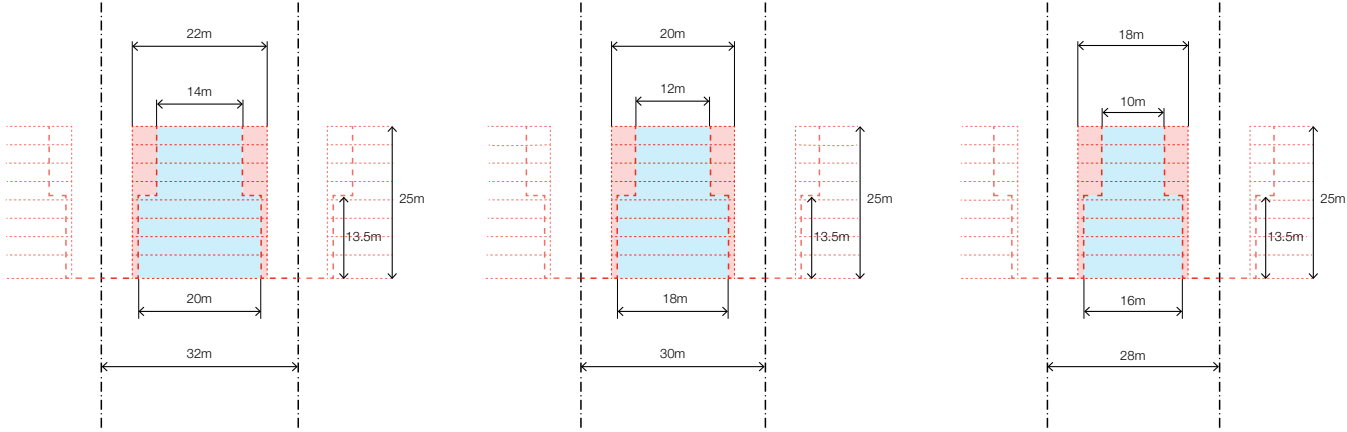


Figure 8 – Setback Impact Diagrams

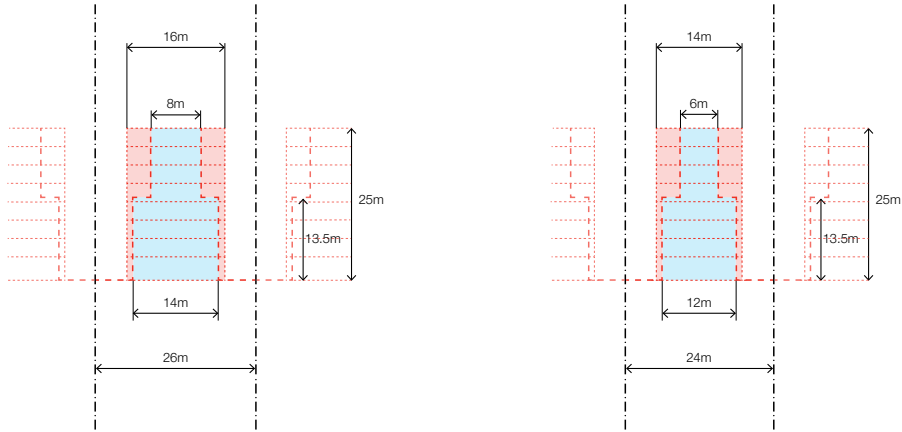


Figure 9 – Setback Impact Diagrams

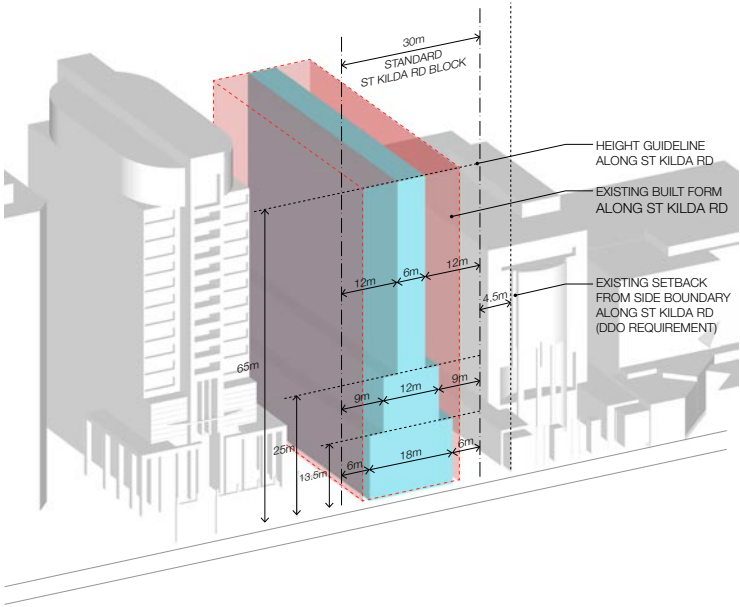


Figure 10 – Setback Diagrams: Typical St Kilda Road Site

LANDSCAPE

Objective: The standard seeks to ensure that new development is responsive to its landscape context, retains significant vegetation, maintains habitat and provides for canopy trees.

What the Design Standard requires:

- Protect any predominant landscape features of the neighbourhood
- Take into account the soil type and drainage patterns of the site and integrate planting and water management to reduce urban heat island effect
- Allow for intended vegetation growth and structural protection of the building
- In locations of habitat importance, maintain existing habitat and provide new habitat for plants and animals
- Provide a safe, attractive and functional environment for residents
- Maximise opportunities for deep soil planting of canopy trees
- Consider alternative landscaping opportunities such as green walls and roof top gardens to reduce heat absorption and improve storm water management

Shortcomings in the Standard:

- A poorly drafted standard that is far too open to subjective interpretation
- A one size fits all solution to percentage of site area to be landscaped makes no sense in an urban context
- The controls will often be contradictory to existing planning controls

Proposed Changes to the Standard:

- Remove from the document

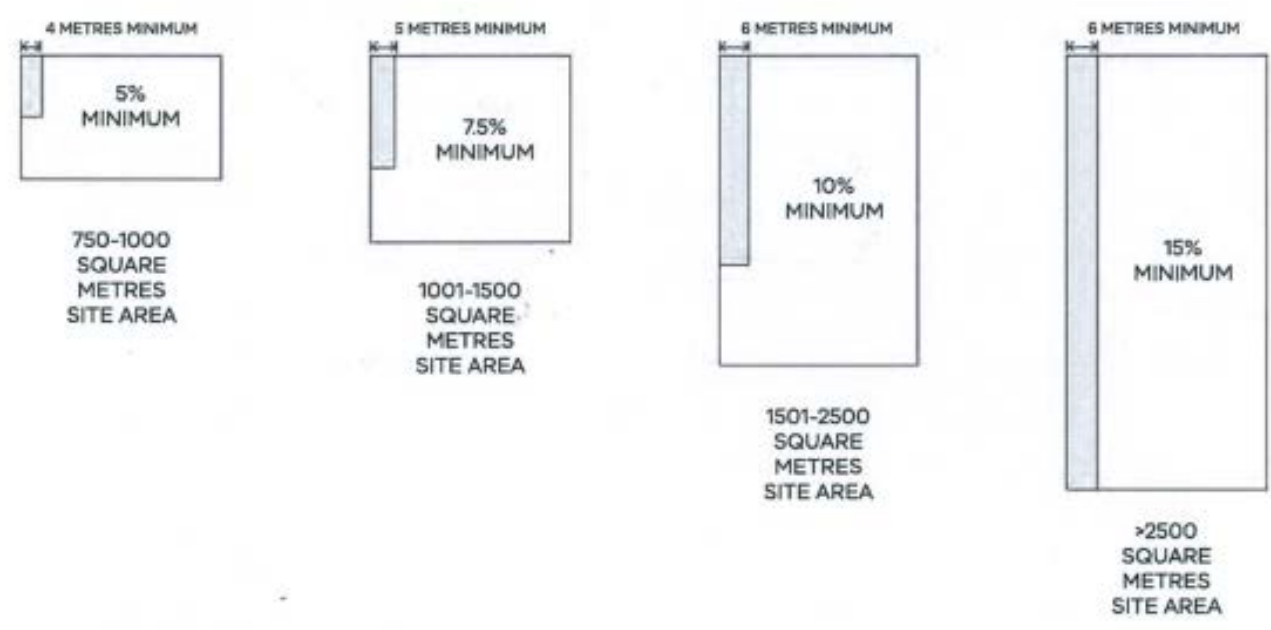
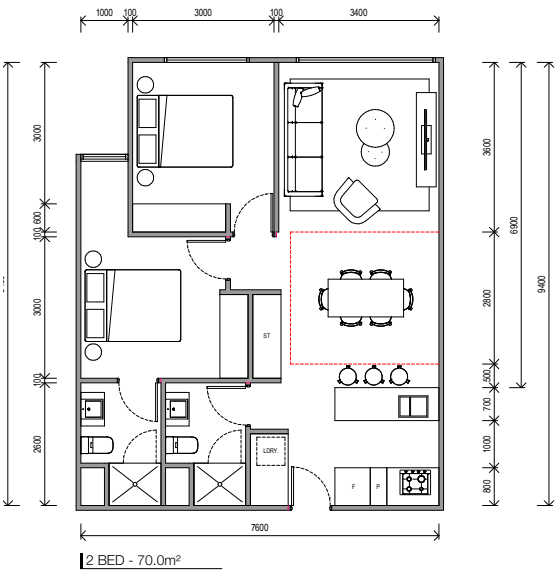


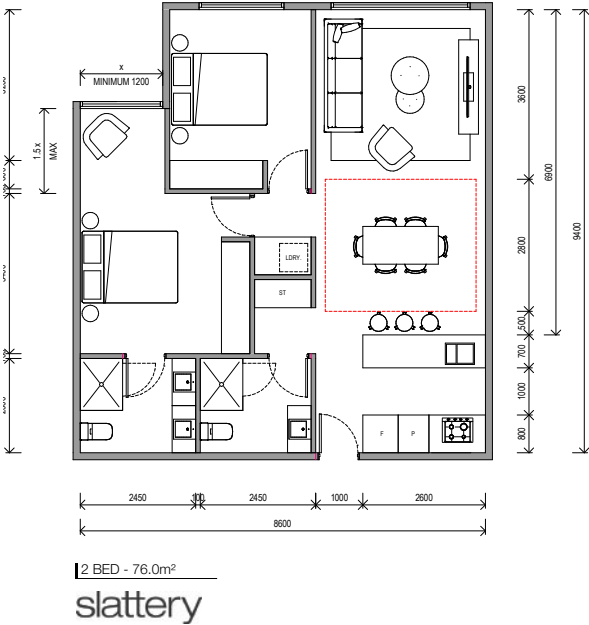
Figure 11 – Deep Soil Areas. Diagram from Draft Design Standards

AFFORDABILITY: BROAD HYPOTHETICAL COST COMPARISONS



BASE CASE COMPARISON

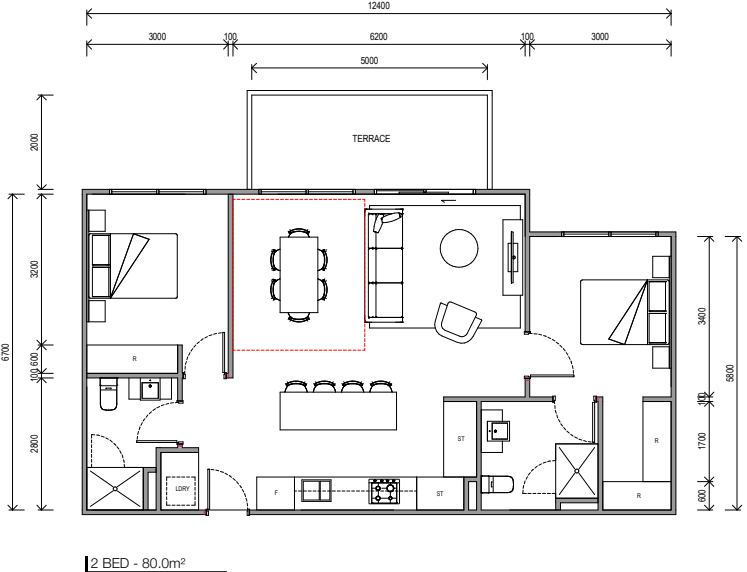
- CURRENT GUIDELINE
- + SIMILAR ACCOMMODATION
 - + STANDARD SADDLE BACK ARRANGEMENT
 - + 3m FLOOR / FLOOR HEIGHT
 - + NO ACCESSIBILITY ALLOWANCE



PARTIAL ADHERENCE TO PROPOSED STANDARDS

- + ACCESSIBILITY ALLOWANCE
- + IMPROVED BEDROOM DAYLIGHT AND ASPECT
- + 50% CROSS VENTILATION
- + CEILING HEIGHT 2.7m

+ \$16 000



FULL INTERNAL COMPLIANCE TO PROPOSED STANDARDS

- + ROOM DEPTH REARRANGEMENT
- + BEDROOM WINDOW COMPLIANCE

+ \$12 000

ADD INCLUSIONS EXTERNAL TO APARTMENT INTERIOR

- + STORAGE
- + EXTRA BALCONY
- + COMMUNAL SPACE

+ \$8 000

SUBTOTAL

\$20 000

TOTAL OF ALL IMPACTS

\$36 000

EXCLUDING SITE YIELD IMPACT

LARGER APARTMENT CASE STUDY



Impetus to introduce the Better Apartments Draft Design Standards has come from a justifiable concern over the amenity of a portion of the recently delivered apartment stock in Melbourne. There is however a growing maturity in Melbourne's apartment market and more owner occupiers are choosing apartment living, particularly in a 5 to 20km radius from the city. In response to this emerging market apartments are being designed that are larger than those which have been the focus of the debate surrounding apartment amenity. They inherently tend to offer excellent amenity but their larger size means that some configurations would not conform with some of the standards as drafted in the draft document, in particular those relating to room depth. We believe that if above 85m2 in area there should be scope to vary some of the metrics in response to purchaser's desire to have more floor area.

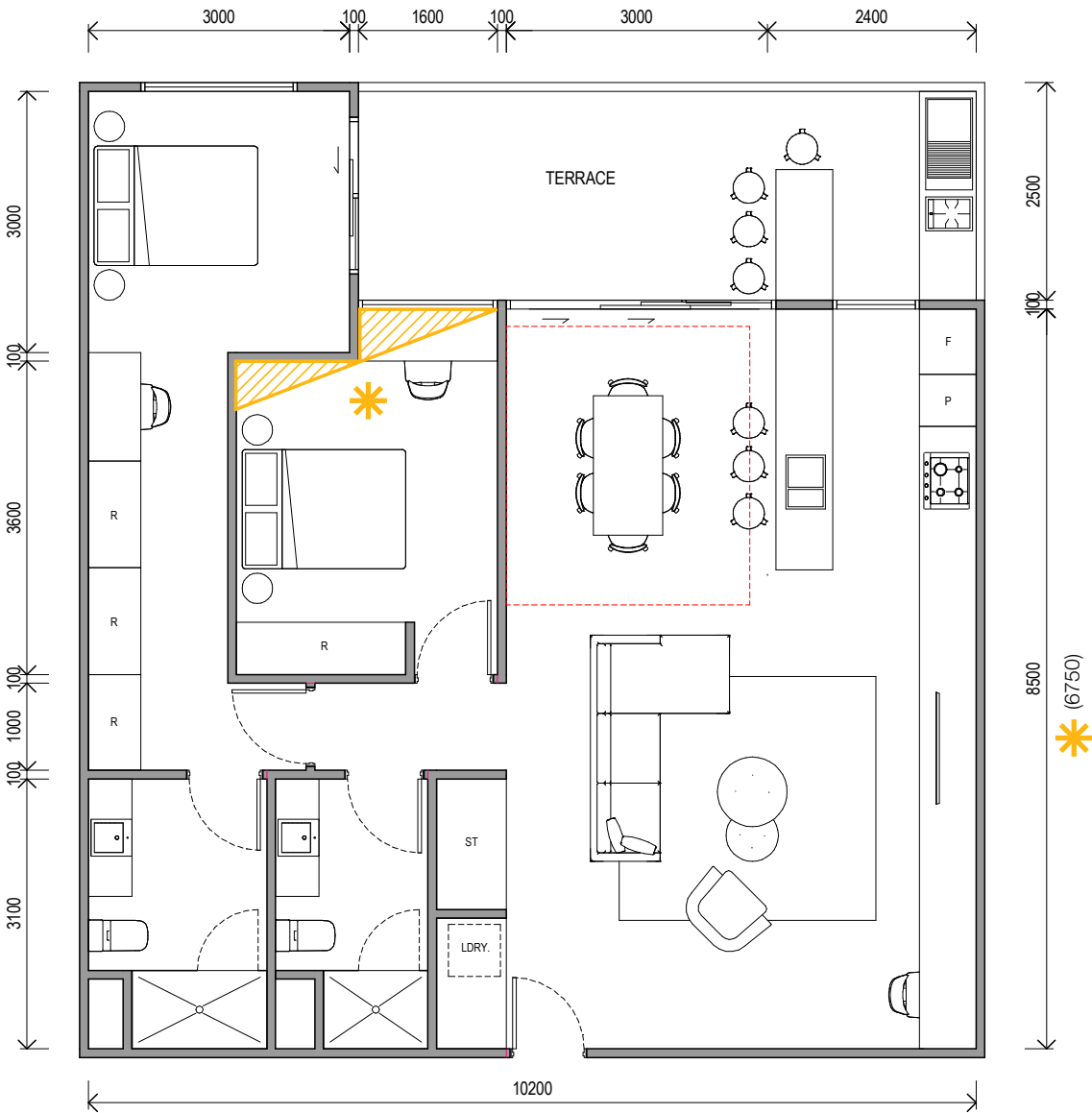


Figure 12 – Example of larger 2 bedroom apartments which would not comply with the Draft Standards

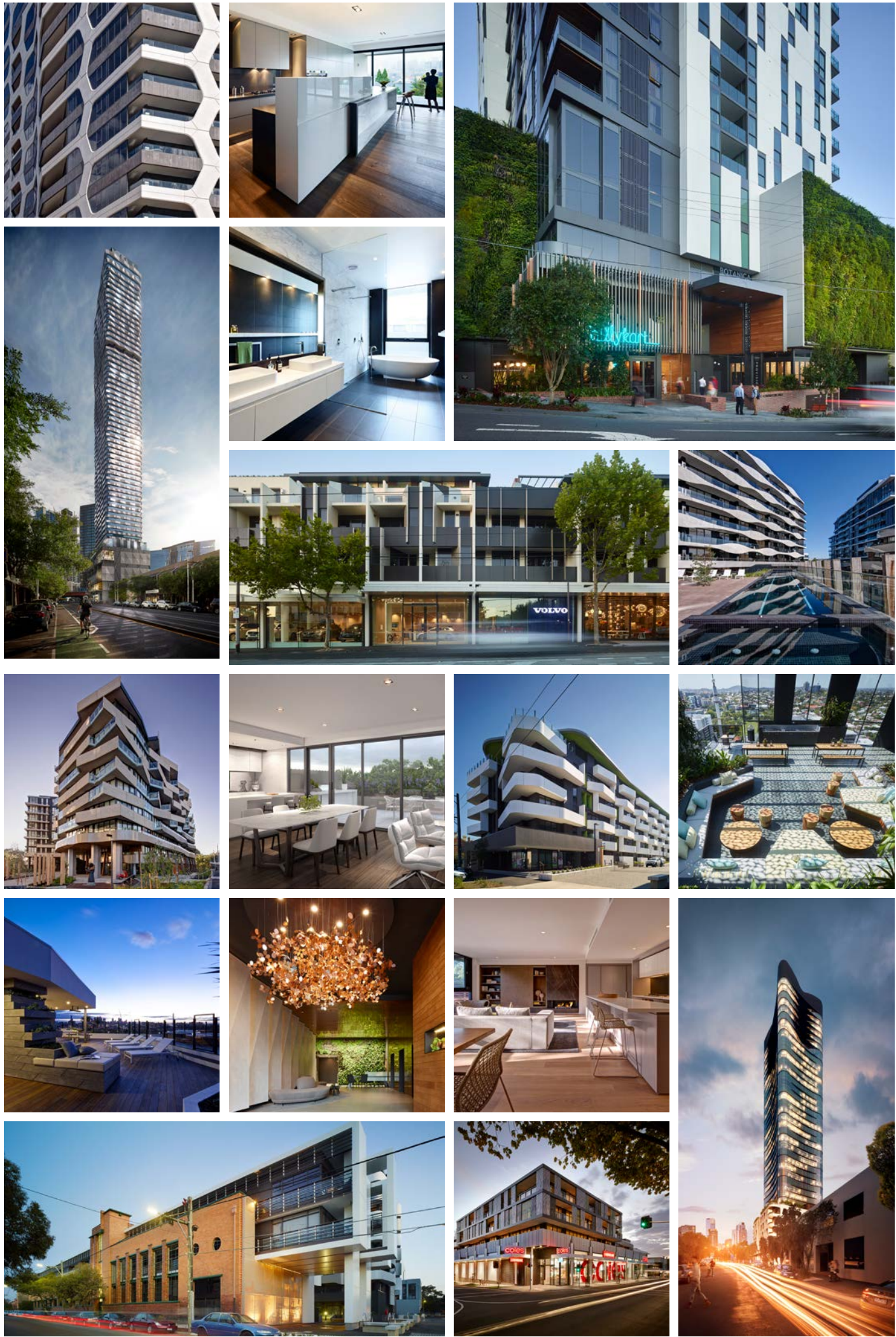
INNOVATION



There needs to be scope for innovation and experimentation. By way of example the illustrated apartment breaks many of the design standards yet has been acclaimed for its design quality and successfully delivered to its very satisfied owners. It is a small, 43m2, studio apartment with bespoke movable joinery that allows the internal organisation of the apartment to be very easily reconfigured. More expensive than alternative offerings the limited number of apartments configured as the shown example offered potential purchasers a choice that was quickly adopted. This is one example of doubtless many solutions that Victoria's design community can offer to a maturing city. Simply put why would we stop opportunities like this for progressive and intelligent thought?



Figure 13



RotheLowman is a leading Australian architecture and interior design firm that specialises in the design of major mixed-use, commercial, residential, hospitality and retail projects.

With offices in Melbourne, Sydney and Brisbane, RotheLowman employs many of Australia's best architects, interior designers and master planners to work on projects throughout Australia and Asia.

RotheLowman designs buildings that support the lifestyle of its inhabitants; they are striking, functional, sustainable and make lasting contributions to communities.

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