

## 3 Siting and landform response

### 3.1 Orientation

Careful placement of your home can help reduce energy costs by ensuring it receives warmth from the sun through winter and benefits from breezes that provide cross ventilation in summer. Good orientation allows you to enjoy living spaces that are naturally well-lit and ventilated. It can provide you with views across the estate whilst also maintaining your neighbours' privacy and promoting a positive and appropriate relationship with public spaces.

Your architect/designer will conduct a study of your site to understand its features, including prevailing breezes, sun paths, significant landscape elements, existing and protected vegetation and more.

#### Objectives

- Support Council's Design and Development Overlay DDO11.
- Maximise benefits from passive solar design and cross ventilation.
- Minimise overlooking and protect the privacy of neighbours.
- Protect significant trees.
- Minimise earthworks and disturbance of the natural vegetation.
- Promote a sympathetic and effective relationship to public spaces.

#### *Detailed Requirement*

**R8** *A north-facing private or semi-private open space, which is directly accessible from a habitable room, must be provided.*

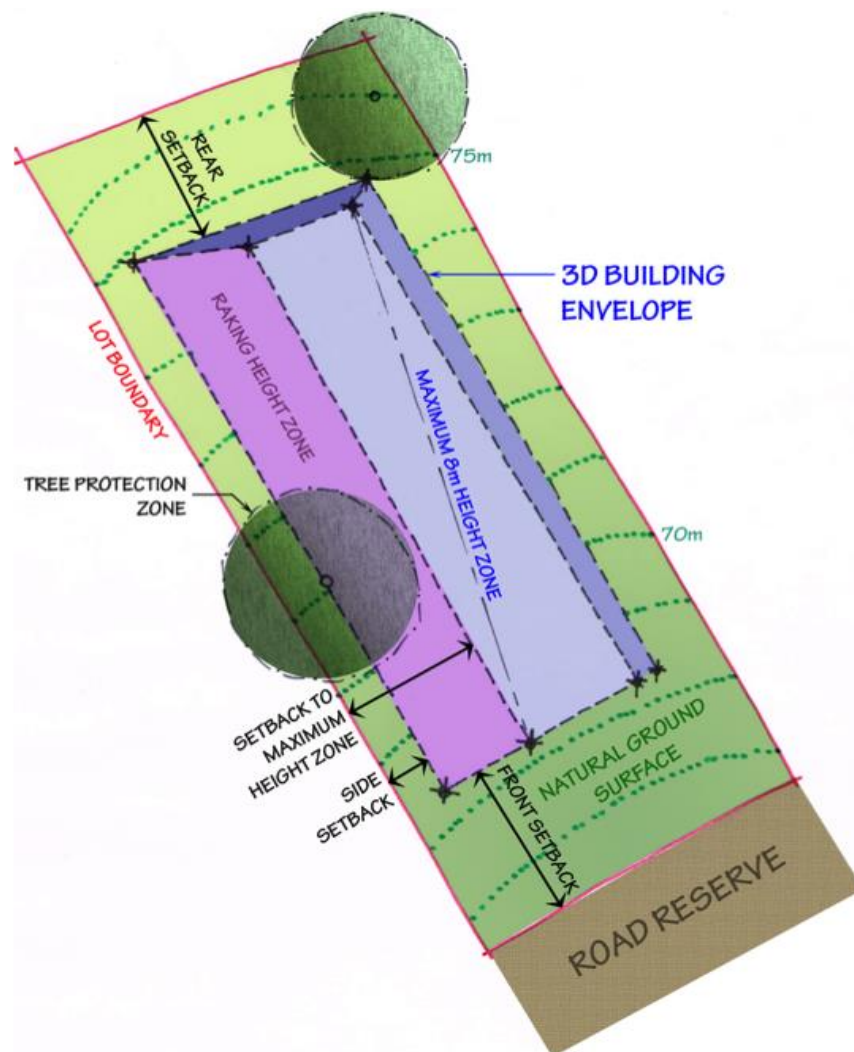
#### Guides

- G1 Orientate and design your home to avoid overshadowing your private open space.
- G2 Orientate your sitting / living areas towards the north. Note that this will play an important part in achieving a 7.5 star energy rating.
- G3 Deal with overlooking at early design stage, rather than relying on retrospective screening, as this is more likely to achieve a high quality outcome. When locating your primary private open space, seek to position it so that you are not overlooking your neighbours' primary private open space, or are in such close proximity to it that you will affect the privacy of both homes.
- G4 If an existing tree is located on your site, take advantage of its shade and shelter and consider its effect on passive solar design. Integrate it with the design of your home and landscape.

## 3.2 3D building envelopes

The Lot Plan for each site includes a three-dimensional (3D) building envelope, which defines the area in which you may place your house, garage and all other structures. The surfaces of the 3D building envelope define the minimum setback from lot boundaries and the maximum heights within which the built form must be contained. Refer to Figures 2 and 3 on pages 16 and 17.

The purpose of the 3D building envelope is to protect the long-term performance and amenity of your home as well as your neighbours'. Each 3D building envelope is site-specific as each homesite has unique characteristics, with different implications for solar access to neighbouring properties. All homes constructed within envelopes will enjoy at least five hours of direct sunlight per day, even in the depths of winter when the sun's path is low in the northern sky.



**Figure 2.** Lot plan showing 3D building envelope in plan view.

### Objectives

- Preserve solar access and prevent unreasonable inter-lot overshadowing of neighbouring homesites, particularly north-facing windows and private open space, rooftop solar water heaters and photovoltaic arrays.
- Foster visual and acoustic privacy between dwellings.
- Encourage an open streetscape aesthetic throughout the Mullum Creek development.

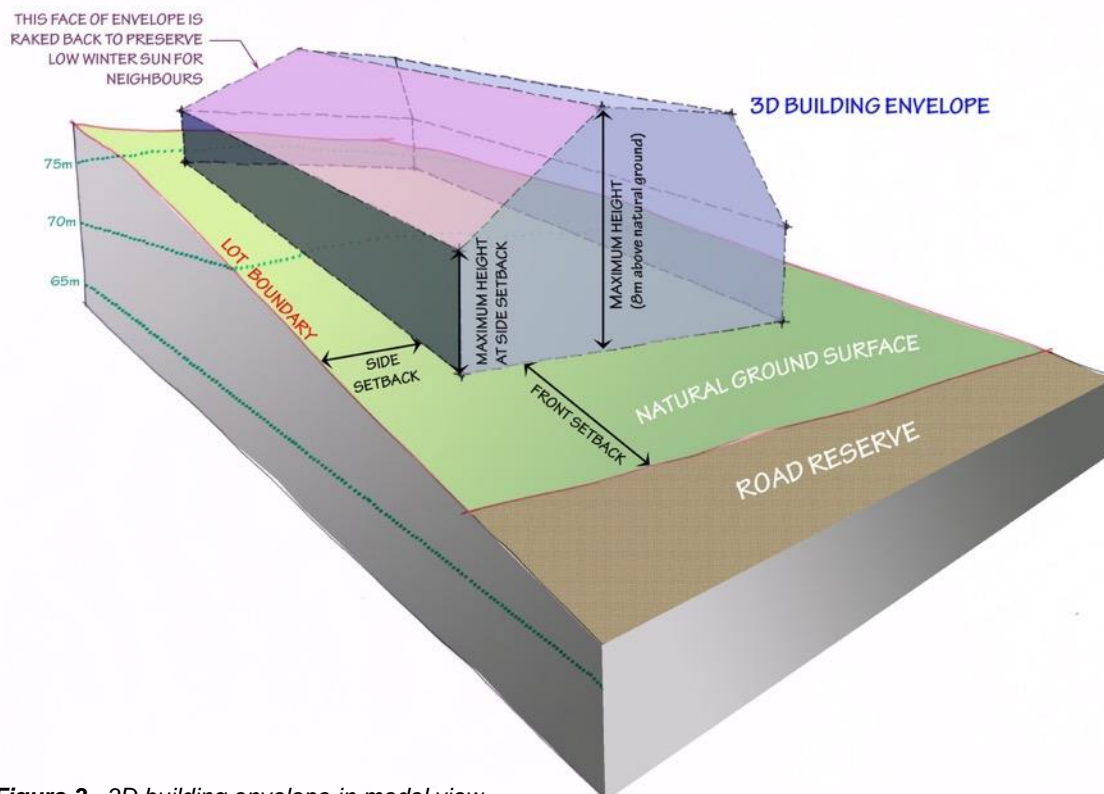
## Detailed Requirements

- R9** All parts of any dwelling, including the roof and balconies, and all roof services including evaporative coolers and photovoltaic panels, must be located inside the 3D building envelope.
- R10** All outbuildings, roofed structures, and semi-enclosed structures positioned on the homesite separate to the main dwelling, must be located inside the 3D building envelope.

## Exceptions

Subject to Council approval, minor encroachments beyond the 3D building envelope will be assessed on merit and at the discretion of the DRC, but only if they are one of the following constructed elements:

- A services enclosure or cubby house, of not more than 4m<sup>2</sup> in floor area or 1.8m in height above natural ground.
- An open deck or terrace of height no greater than 1m above natural ground; balustrades above this 1m limit must not cast significant shadows.
- A chimney, eave, gutter, sunshade, flue or pipe that projects no more than 500mm horizontally beyond the vertical surface of the envelope.
- A water tank located in accordance with Guideline Requirement R39.



**Figure 3.** 3D building envelope in model view.

The surfaces of the prescribed 3D building envelope are set by three parameters:

1. Council's DDO11 setback and height requirements.
2. The protection of each lot's solar access. The 3D building envelopes are shaped to ensure that, for a minimum of 5 hours between 9am and 4pm on May 22 or July 22, no surface of any building envelope will be overshadowed by buildings located within the 3D envelopes on adjacent lots. At the winter solstice (June 22), overshadowing is limited to quite shallow strips around the base of envelopes. The number of hours per day in which surfaces of building envelopes remain clear of shadows increases quite quickly either side of May 22 and July 22.
3. Increased boundary setbacks, to preserve privacy between adjoining residences and private open spaces, and to promote an open landscape aesthetic by generous spacing of dwelling forms.

Your Lot Plan will include your 3D building envelope. The 3D vegetation envelopes also apply to each homesite. If you require clarification in relation to either of these envelopes, contact the DRC. Refer to **Section 7.2** for further information.

### 3.3 Designing for sloping sites

Sloping sites offer many advantages. They offer opportunities for capturing views and breezes, and allow for undercroft storage and car parking. High-quality articulation can naturally result from a design that cascades down a hillside, creating an interesting building comprised of several harmoniously integrated forms.

However, sloping sites can also present challenges. Building placement and cut and fill must be done in a way that is sensitive and minimally disruptive to the natural landform. Bulky buildings must be avoided. Homes on sloping sites at Mullum Creek will require careful and creative architectural design and engineering.



**Figure 4.** *Building on a slope.*





**Figure 5.** A good example of how to build on sloping ground.

## Objectives

- Minimise disruption to the natural landform, soil profile, ground water and surface water.
- Minimise visual bulk.

## Guides

- G5 Consider stepping floor plates down the slope, to reduce the building's mass and allow your home's interior a more direct engagement with the natural ground level and outdoor spaces.
- G6 There is a range of architectural techniques for building on steep sites. Perching over the slope with a raised structure may help avoid excessive earthworks.
- G7 You can reduce earthworks by reducing the building footprint or site coverage, and by careful planning that works with rather than against the site contours.



**Figure 6.** Example of a raised suspended floor.

## 3.4 Site excavation and fill

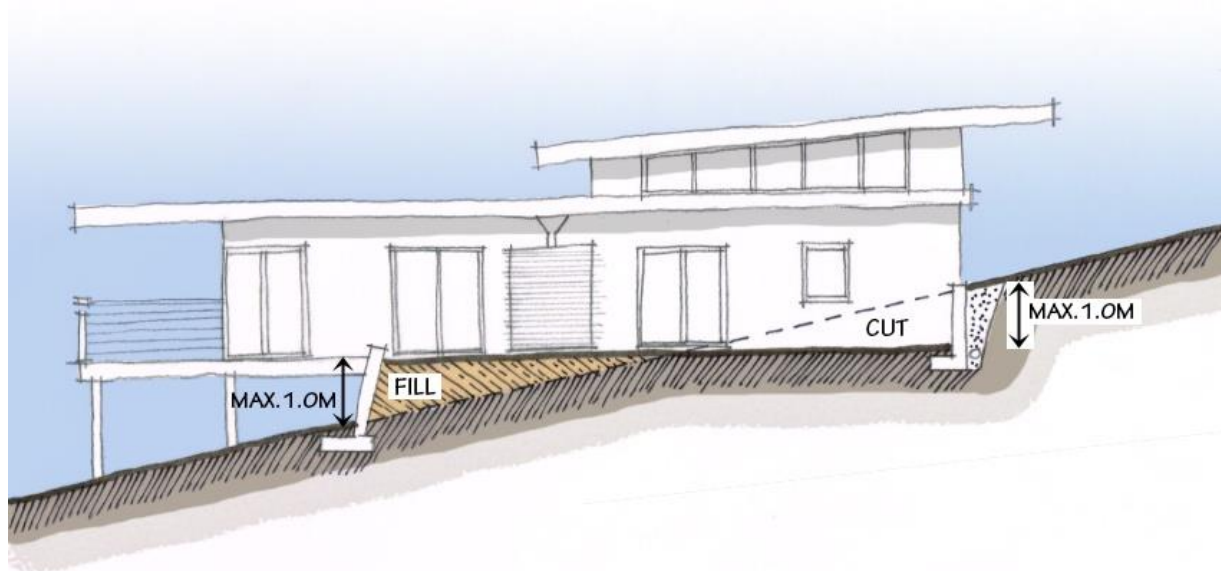
Site excavation and fill should be minimised, but may be required on steep homesites. Refer to **Section 3.3** for further information on designing to minimise disturbance of the topography.

### Objectives

- Support Council's Design and Development Overlay DDO11.
- Minimise impacts on landform, hydrology and natural vegetation.
- Minimise the need to remove or import soil to the site.
- Minimise the ecological impact of construction.
- Minimise impacts on neighbouring properties' amenity.

### Detailed Requirements

- R11** *Excavation or fill must not exceed 1.0m in height, measured from the natural ground level to the finished level, such as of a floor slab, car parking space, crossover, turning point or landscaped terrace. The DRC may allow a variation to this Requirement, at its discretion, where it can be shown that the proposed cut and fill minimally impacts on the pre-existing land form, or more effectively advances the Mullum Creek vision and design objectives.*
- R12** *There must be no change to existing landform by way of cut, fill, batters or retaining walls within 1.5m of side or rear boundaries of the homesite.*



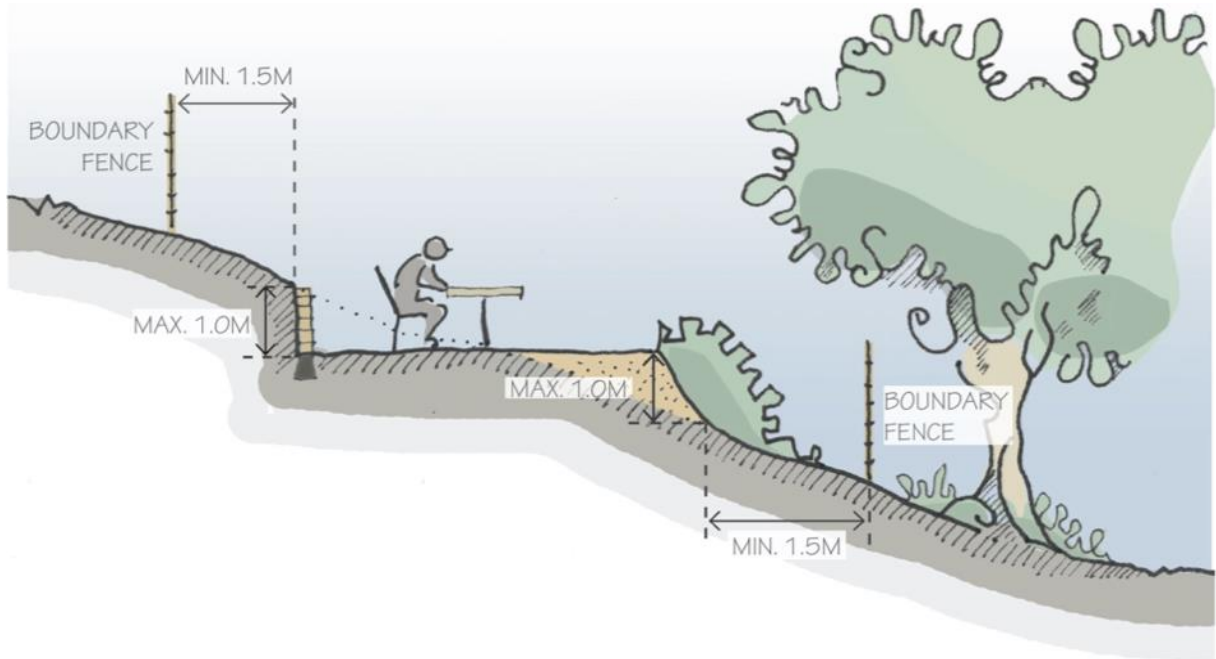
**Figure 7.** Cut and fill to maximum 1m height is measured from the natural ground level to the finished floor level.

### Guide

- G8** Be mindful of the implications that the position of buildings on your lot have on the need to alter the natural topography when constructing your driveway.

### Additional information

Council's DDO11 requires that cut and fill be limited to 1.0m. Should the DRC grant a variation to Requirement R11 or R12, allowing a greater amount of cut or fill, this does not imply Council approval, which must be sought independently.



**Figure 8.** Example of cut and fill with batter to side boundaries.

## 3.5 Retaining walls and batters

Retaining walls and batters can have a significant impact on the landscape, streetscape and neighbouring property. With careful design, negative impacts can be minimised.

This section deals with retaining walls and batters that form part of the constructed works or provide vehicular and pedestrian access to the home. These retaining walls and batters are structural and must be designed by an engineer to avoid failure. They are separate to those that you might build in your garden for landscaping purposes. Separate Requirements for those retaining walls and batters relating to your garden design are set out in **Section 7.7** of these Guidelines.

### Objectives

- Support Council's Design and Development Overlay DDO11.
- Minimise impacts on neighbouring properties and the environment, and maintain a safe environment by reducing risk of failure and soil erosion.
- Minimise impacts on the streetscape and the landform of the site.



## Detailed Requirement

- R13** *Where a retaining wall or batter is provided to support a building or driveway access, it must not exceed 1.0m in height. The DRC may allow a variation to this Requirement at its discretion where it can be shown that the proposed cut and fill impacts on the pre-existing land form, or more effectively advances the Mullum Creek vision and design objectives.*

## Guides

- G9** Avoid large benched areas to minimise impact on the existing topography and landscape.
- G10** Integrate benched areas with the natural landform by using landscaped batters in preference to expansive retaining walls.



**Figure 9.** Examples of suitable retaining walls.

## 3.6 Car parking and crossovers

Driveways and car parking may have a significant impact on neighbours and the streetscape. With careful design, negative impacts can be minimised.

### Objectives

- Support Council's Design and Development Overlay DDO11.
- Minimise impacts on the landform and natural vegetation.
- Avoid car parking and driveways becoming dominant features in the streetscape.

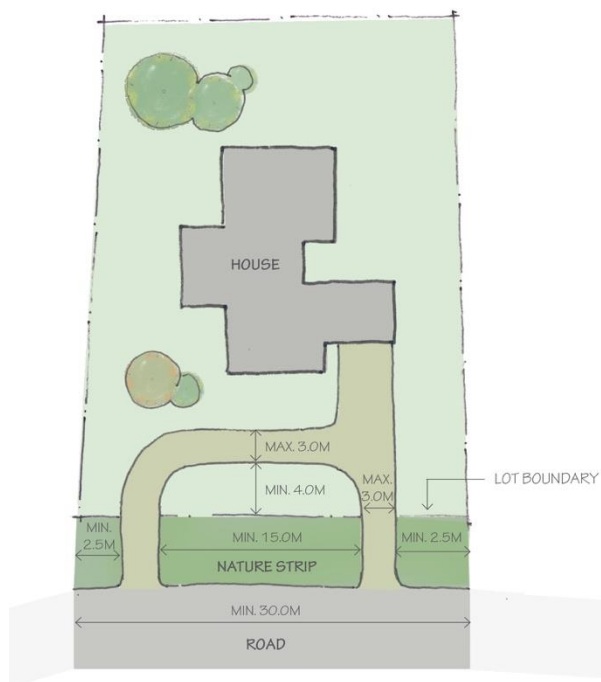
### Additional information

One crossover per lot is provided by Mullum Creek. If the location of the crossover does not suit your proposed driveway and garage location, please seek advice from the DRC early in your design process regarding the feasibility of any proposed relocation. It is the responsibility of the homeowner to negotiate Council approval and to cover any costs incurred with the relocation. DRC Step 1 preliminary design review can only proceed where there is prior Council approval for a change in crossover location.





**Figure 10.** On-site turning point.



**Figure 11.** Dual access driveways.

### Detailed Requirements

- R14** Benching required for external car parking within the front setback must satisfy Requirements R11 and R12.
- R15** A turning point located inside a homesite must be set back a minimum of 2.5m from any side boundary, and 4.0m from the front boundary, as shown in Figure 10.
- R16** All driveways must be located minimum 2.5m from any side boundary, must not exceed 3m in width at the front boundary line, and must align with the crossover.
- R17** Each homesite must have no more than one crossover, unless the homesite has a frontage of 30m or more, in which case a dual access drive-through driveway may be constructed.

#### A dual access driveway must:

- a) be located min. 2.5m from the adjacent side boundary.
- b) at its centre across the site frontage be located min. 4.0m from the front boundary.
- c) not exceed 3.0m in width.
- d) have its access points spaced min. 15.0m apart.

(see Figure 11)

### Guides

- G11** When providing a car parking or turning space in front of a garage, level only the area you require for vehicular access.
- G12** Sensitively integrate driveways into the slope.
- G13** External car parking areas should not dominate the front setback.
- G14** Large car parking areas in the front setback are strongly discouraged.
- G15** Use driveway and hardstand treatments that promote water infiltration.

### 3.7 Site coverage

By reducing the scale of our homes and aspiring to quality over quantity we can substantially reduce our environmental footprint.

The site coverage is the percentage of your site that is covered by buildings. When calculating the site coverage, include all roofed buildings on the site, such as the garden shed, and add any semi-enclosed areas such as verandahs or carports. If an upper level floor area projects beyond the ground floor area, that part of the upper level is also added to the site coverage. Eaves, fascias and gutters (which together do not exceed a total width of 600mm), and unroofed patios, terraces, decks and pergolas are not included in the site coverage calculation.

#### Objectives

- Support Council's Design and Development Overlay DDO11.
- Minimise the amount of resources used to construct dwellings and associated developments.
- Minimise impacts on natural landform, soil profile, ground water and surface water.
- Minimise the amount of impermeable surface on lots.
- Maintain large areas on lots for landscaping, horticulture and infiltration of water.
- Minimise the visual impact of built form on the landscape, and obstruction of views from lots.
- Maintain an open appearance within the estate.

#### Detailed Requirement

**R18**     *The total building coverage area must not exceed the maximum site coverage percentage noted on the homesite's Lot Plan.*

### 3.8 Land subject to inundation and overland flows

Parts of a few homesites at Mullum Creek may be subject to rising waters from the Mullum Mullum Creek, or from overland flows in the case of a 1 in 100 year rainfall or flooding event. These areas may have extra authority regulations governing building requirements. Consult your Lot Plan, Melbourne Water and the Manningham Planning Scheme to confirm current information.