

Policy Number:	LPP 1
Policy Type:	Local Planning Policy
Policy Name:	Cut & Fill and Retaining Walls
Policy Owner:	Chief Executive Officer

AUTHORITY: Shire of Nannup Local Planning Scheme No.4

POLICY BASIS

This is a local planning policy prepared under the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations) and the *Shire of Nannup Local Planning Scheme No. 4* (LPS4).

BACKGROUND

The natural topography of the Shire of Nannup provides a number of challenges to land owners and developers, in particular finding level building sites in some areas. To create these level sites, cut and fill techniques are often used along with the development of retaining walls.

This is more easily addressed at the subdivision stage where the systematic development of retaining walls can be addressed for the whole of the land. More problematic is where individual landowners seek to establish retaining walls and the impacts unregulated designs and finishes will have on immediate neighbours and the locality as a whole.

It is becoming increasingly apparent that the management of these forms of development has not been sufficient.

This policy has been formulated to provide a set of guiding principles for landowners, developers and the local government in respect to where 'cut and fill' of residential land in the local government is sought and specifically, where retaining walls and the like are sought.

OBJECTIVES

The principal objectives of this Policy are:

1. To preserve the natural topography of the Scheme Area by restricting the level of cut and fill development specifically on steep slopes which may be more suitable to other construction techniques (i.e. pole homes, stump system, retaining walls.)
2. To ensure that at subdivision stage, an assessment is undertaken as to the likely need for cut and fill and/or the development of retaining walls based on the slope of the land, lot size and vegetation cover prior to clearance of Western Australian Planning Commission (WAPC) subdivision conditions.
3. To ensure that where individual landowners seek to undertake cut and fill and/or the development of retaining walls on boundaries, the assessment provided in this Local Planning Policy is undertaken.

DEFINITIONS

“Terrace” – for the purpose of this policy a “terrace” is a series of flat platforms (or steps) on the side of a hill, rising one above the other. The base of the terrace is taken to be the bottom of the lowest step with the top being the highest point of the highest step.

“Topsoil” - for the purpose of this policy “topsoil” is taken to be the soil zone containing decomposed organic matter and seed source, generally not to exceed 150mm in depth.

“Unprotected Embankment” – for the purpose of this policy an “unprotected embankment” is taken to be the face area of a section of fill that is not subject to retaining or other forms of stabilisation.

Other definitions as set out in the Scheme or in the R Codes.

APPLICATION OF THIS POLICY

The Policy applies throughout the district. The Policy has a particular focus on residential areas where cut and fill are proposed and which will result in the construction of retaining walls. The Policy also provides guidance to the local government’s decision-making where development requires the local government’s discretion under the ‘design principles’ of the *Residential Design Codes of Western Australia* (R Codes).

LINKS TO LOCAL PLANNING SCHEME AND OTHER DOCUMENTS

This Policy should be read in conjunction with all Shire of Nannup policies and the *Shire of Nannup Local Planning Scheme No.4* (as amended).

The R Codes outline ‘deemed-to-comply’ provisions. Where there is an inconsistency between this Policy and the ‘deemed-to-comply’ provisions of the R Codes, then the R Codes prevail to the extent of such inconsistency.

For land subject to the R Codes, the development is exempt from the need to obtain development approval where:

- a. development complies with ‘deemed-to-comply’ provisions of the R Codes or any variations to the R Codes permitted by the Scheme; and
- b. the site is not on the Heritage List; and
- c. the site is outside of the Special Control Areas SCA3 Flood Prone Land, SCA6 Heritage Area and SCA7 Landscape Values Area as shown on the Scheme maps.

POLICY PROVISIONS

1. General

In assessing a proposal the local government shall consider the following:

1. Where the local government suspects that unstable soil and site conditions occur, or the slope is greater than 1:5, the local government will require a geotechnical report and a structural engineer’s report to determine building construction requirements.
2. No land over 1:4 slope prior to grading shall be developed using cut & fill construction techniques, except at the specific discretion of the local government and where it can be shown that a minimum amount of development is in the spirit and not incompatible with the objectives of this policy.
3. The specific policy requirements that apply to all land within Local Planning Scheme No.4 as set out below:
 - a. Access tracks are to be located in such a manner as to minimise the required earthworks.
 - b. All exposed earthworks will be required to be landscaped in accordance with an approved landscaping plan.
 - c. Topsoil is to be stripped separately and stockpiled on site, to be respread during landscaping.

- d. Water discharge from the site during development is to be controlled by the use of ripping, contour banks or grade banks and sumps to attenuate turbid and/or nutrient rich water leaving the site.
 - e. Where a residence is to be constructed partially on cut and partially on fill, the excavated material is to be placed outside the building area to form batters and embankments and the platform is to be filled with sand. Consolidated in even lifts, not exceeding 600mm, to produce a density which will resist seven blows per 300mm of standard 16mm diameter penetrometer. As an alternative, pile and beam foundations into natural uncut ground in the fill area are acceptable.
4. Subject to site conditions and context, the local government will have regard to this Policy in providing its comments and recommendations to the WAPC on subdivision applications. It is highlighted that the WAPC is the final decision maker in relation to subdivision.

2. Retaining wall requirements

Unless otherwise provided for within this policy, retaining walls will be required where cut or fill is equal to, or in excess, of 0.9 metres between the street boundary and the street setback, or where or on a side or rear property boundary.

While noting the above, a Development Application is required for any retaining wall higher than 0.9 metres within Special Control Area 2 – Nannup Townsite Character Area.

1. A retaining wall is not to exceed 3.0 metres in height (measured from the base of the wall). The retaining wall and site works should address Table 4 of the R Codes or alternatively the applicant to address the design principle P7.3 of the R Codes.
2. Where it is proposed to terrace a portion of a lot the policy provisions set out above apply in so far that where a step is in excess of 1.0 metre retaining may be required and the top level of the terrace is not to exceed 3.0 metres from the base of the terrace.
3. Where an unprotected embankment is proposed no retaining will be required where it is in accordance with the Australian Building Codes Board (ABCB) Housing Provisions Standard Part 3 – Earthworks (note Attachment 1). Such embankments are to be landscaped in accordance with an approved landscaping plan.
4. Land owners and developers should note their health and safety responsibilities with regards to retaining walls during construction and on completion. Provision for safety fencing should be in accordance with the Building Code of Australia (BCA) Volume 2 Part H5P2 Fall prevention barriers.

Retaining within the confines of the property

To conserve streetscape amenity, the local government will control retaining within the front setback of sites. Retaining within 3.0 metres of the street frontage(s) is to be no higher than 2.0 metres, with a maximum change in the height of the natural ground level being limited to 1.0 metre.

Retaining within 3.0 metres of a neighbouring property boundary is to be no higher than 3.0 metres.

Beyond 3.0 metres of the property boundaries (other than in the front setback), retaining is to be no higher than 3.0 metres, with a maximum change in the height of the natural ground level being limited to 1.0 metre.

Where retaining is undertaken for the purpose of constructing a building, the external walls of the building should be designed as retaining walls and contain the soil created by the cutting and filling.

Minor retaining within the lot is acceptable to provide for garden areas, open spaces and to

accommodate vehicle movements provided it is structurally sound and stormwater is appropriately controlled.

Fill

Filling above the natural ground level can result in visually prominent development and can create overlooking and/or overshadowing. In accordance with the R Codes, overlooking and overshadowing are valid planning considerations. The loss of views is however not a valid planning consideration if the subdivision/development complies with the R Codes or LPS4.

The importation of fill to increase the building pad level shall generally be limited to no more than 0.3 metres above the average building pad level of the site. Sites where subsurface rock or clay occurs, which requires the importation of more than 0.3 metres of fill, may be required to be substantiated by a professional engineer's report that demonstrates such a presence.

A Development Application is required for all retaining walls and filling within Special Control Areas SCA3 Flood Prone Land. LPS4 and Local Planning Policy 8 provide further requirements.

Subdivision

At the subdivision stage, unless justified and agreed to by the local government, a subdivider is to:

- identify, through a slope analysis, all slopes of 1:10 and greater;
- note the maximum extent of filling to be undertaken on individual lots is not to exceed 1.0 metre in height;
- construct retaining walls, up to a total maximum height of 3.0 metres along a property boundary or on other parts of the lot, to create a site capable and suitable for building construction including appropriate vehicle access between the lot and the public road;
- ensure that where the proposed retaining wall is to be constructed on the outer boundary of the subdivision area, and it abuts an existing developed land parcel, the subdivider shall consult with the adjoining landowner/s to ensure the amenity of the neighbour's property is not compromised;
- resolve stormwater management to ensure neighbouring properties are not impacted as a result of site works and construction; and
- confirm retaining wall construction and colours.

The local government will generally require subdividers to install retaining walls, prior to the creation of new titles, for proposed lots less than 1,000m² unless appropriately justified by the proponent. The local government may require retaining walls to be installed prior to the creation of new titles for lots 1,000m² and larger where site conditions are steep, there are issues associated with building construction, stormwater management or vehicular access, where a coordinated approach is required or to ensure that the lot is capable of accommodating proposed development.

The local government generally prefers that lots created through the subdivision process below 1,000m² are gently sloping. The local government will however support the following:

- for lots below 500m²: a 0.5 metre (500mm) longitudinal slope and a 0.3 metre (300mm) crossfall; and
- for lots between 500m² – 999m²: a 1.0 metre longitudinal slope and a 0.5 metre crossfall.

Where the subdivision process has changed the natural ground levels, the relevant levels to be taken at the development/building stage are those established at the subdivision stage.

ADMINISTRATION

1. Matters to be Addressed Prior to Formally Lodging the Application

Proponents are encouraged to discuss proposals that seek to vary Policy requirements with the Shire administration early on in the planning process and prior to the formal lodgement of any Development Application.

2. Application Details

Subdivision and Development

1. Where as part of the overall subdivision and development of land, any permanent excavation with a slope steeper than the angle of repose or natural slope of the soil shall have retaining walls of masonry or other materials approved by the local government of sufficient strength and stability to retain the embankment together with any surcharged loads.
2. Design of the retaining structure is to be by a practising Civil or Structural Engineer with certified engineering drawings to be submitted to the local government for approval.
3. Information to be supplied with the engineering assessment will include but not be limited to the following:
 - a site plan showing the main topographical features of the site including slope;
 - contours, sub-catchments, flow paths and drainage lines;
 - flood risk;
 - surface water and groundwater;
 - vegetation;
 - dams and water courses;
 - rock outcrops;
 - soil type,
 - fences
 - buildings;
 - level of top of sand pad/fill;
 - finish floor level;
 - cut and fill section showing sub soil drainage and cut off drains;
 - cut and fill section (of greatest cut and fill) showing method of retention;
 - landscaping plan (if required);
 - design and construction details of any retaining walls (if required) which shall be prepared by a suitably qualified structural engineer; and
 - other details required elsewhere within this Local Planning Policy.
4. The local government will determine the type and colour of materials to be used forming the retaining wall. In considering the type and colour of materials, the local government may require the subdivider to undertake a visual assessment to the requirements of the local government. In addition, any brick or block work undertaken will be required to have a 'clean' finish to the adjoining lot.

Individual Lots

1. Where any permanent excavation with a slope steeper than the angle of repose or natural slope of the soil shall have retaining walls of masonry or other materials approved by the local government of sufficient strength and stability to retain the embankment together with any surcharged loads.
2. Design of the retaining structure by a practising Civil or Structural Engineer will be required and shall be submitted to the local government for approval prior approval of a Building Permit.
3. Information to be supplied with the engineering assessment will include but not be limited to the following:

- contours of site;
 - level of top of sand pad/fill;
 - finish floor level;
 - cut and fill section showing sub soil drainage and cut off drains;
 - cut and fill section (of greatest cut and fill) showing method of retention;
 - drainage, site run-off (minor and major events);
 - flood risk;
 - surface water and groundwater;
 - landscaping plan (if required);
 - design and construction details of any retaining walls (if required) which shall be prepared by a suitably qualified structural engineer;
 - provisions of the Residential Design Codes; and
 - other details required elsewhere within this Local Planning Policy.
4. Where a retaining wall in the Residential zone is proposed on a boundary, a Licensed Surveyor must be employed by the landowner to set out the boundaries prior to the commencement of any works. In this regard, the requirement for a Licensed Surveyor will be included as a condition of the Building Permit.
 5. The local government will determine the type and colour of materials to be used forming the retaining wall. Generally, the type of retaining wall structure will be of 'earth' tones. The local government will consider oxide-tinted concrete blocks in areas that are not visible from the street.

In relation to the development of land forming the 'Askino/Moonlight Ridge' subdivision, retaining walls will be in accordance with the endorsed Subdivision Guide Plan as included in Attachment 2 and ensure that the buildings are in 'earthy tones' and not limestone in colour.

In addition, any brick or block work undertaken will be required to have a 'clean' finish to the adjoining lot.

6. As part of the assessment process, consultation is usually required. The local government may require applicants to supply written support from adjoining landowners specifically implicated by the proposed retaining wall. Where written comments are not able to be obtained by the applicant, staff will provide written advice to adjoining landowners and community groups (at the applicant's cost) of the proposed construction and invite them to submit comments to the local government.
7. If an adjoining landowner or community group does not respond within the time provided (generally 14 days), the local government will consider the application on the basis that the landowner has not exercised their opportunity to comment.
8. Where objections are received the submission(s) will be reviewed and considered in light of the applications relevance against the Local Planning Scheme No.4, the R Codes and the provisions of this Policy.

Related Policies	
Related Procedures/Documents	Decision process for stormwater management in Western Australia (DWER 2017) Stormwater management manual of Western Australia (DWER 2023)
Delegated Level	Chief Executive Officer or their Delegated Officer
Adopted	OM 22 April 2010
Reviewed	OM 27 June 2024

Attachment 1 – Extracts from ABCB Housing Provisions Part 3.2

Table 3.2.1: Un-retained embankment slope ratios

Soil class (see 4.2.2 for material description)	Site cut (excavation) (maximum embankment slope ratio, angle of site cut H:L ^{Note 1})	Compacted fill (maximum embankment slope ratio, angle of batter H:L ^{Note 1})
Stable rock (Class A)	8:1	3:3
Sand (Class A)	1:2	1:2
Firm clay (Class M-E)	1:1	1:2
Soft clay (Class M-E)	2:3	Not suitable

Table Notes

- (1) See Figures 3.2.1a and 3.2.1b for some examples of un-retained embankment slopes.
- (2) Retaining walls must be installed in accordance with H1D3(2) where—
 - (a) the embankment slope is steeper than described in this Table; or
 - (b) the soil type is not described in this Table.

Figure 3.2.1b: Site cut and fill using un-retained embankments — Fill commencing at the allotment boundary or affecting an adjoining property

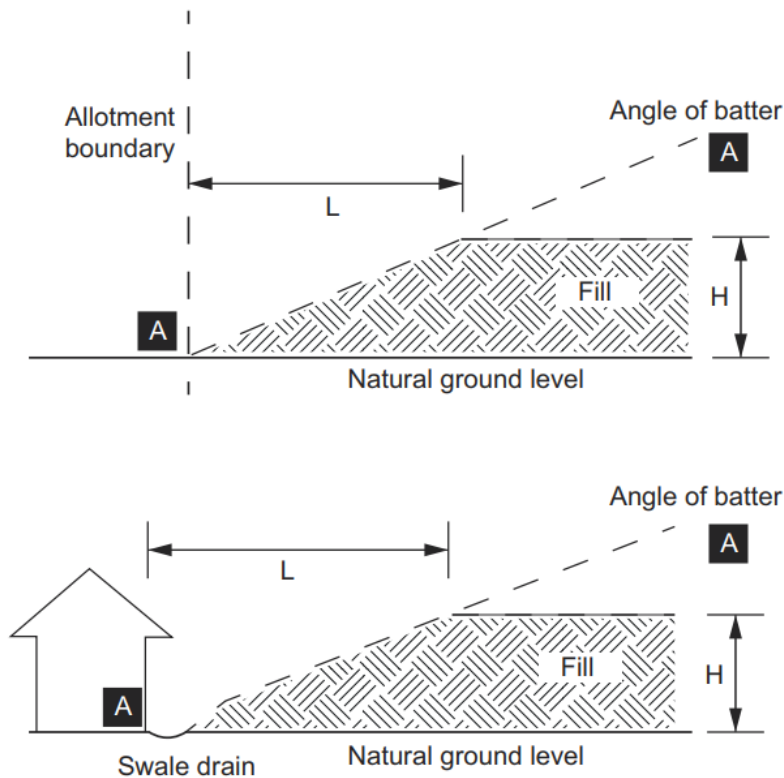
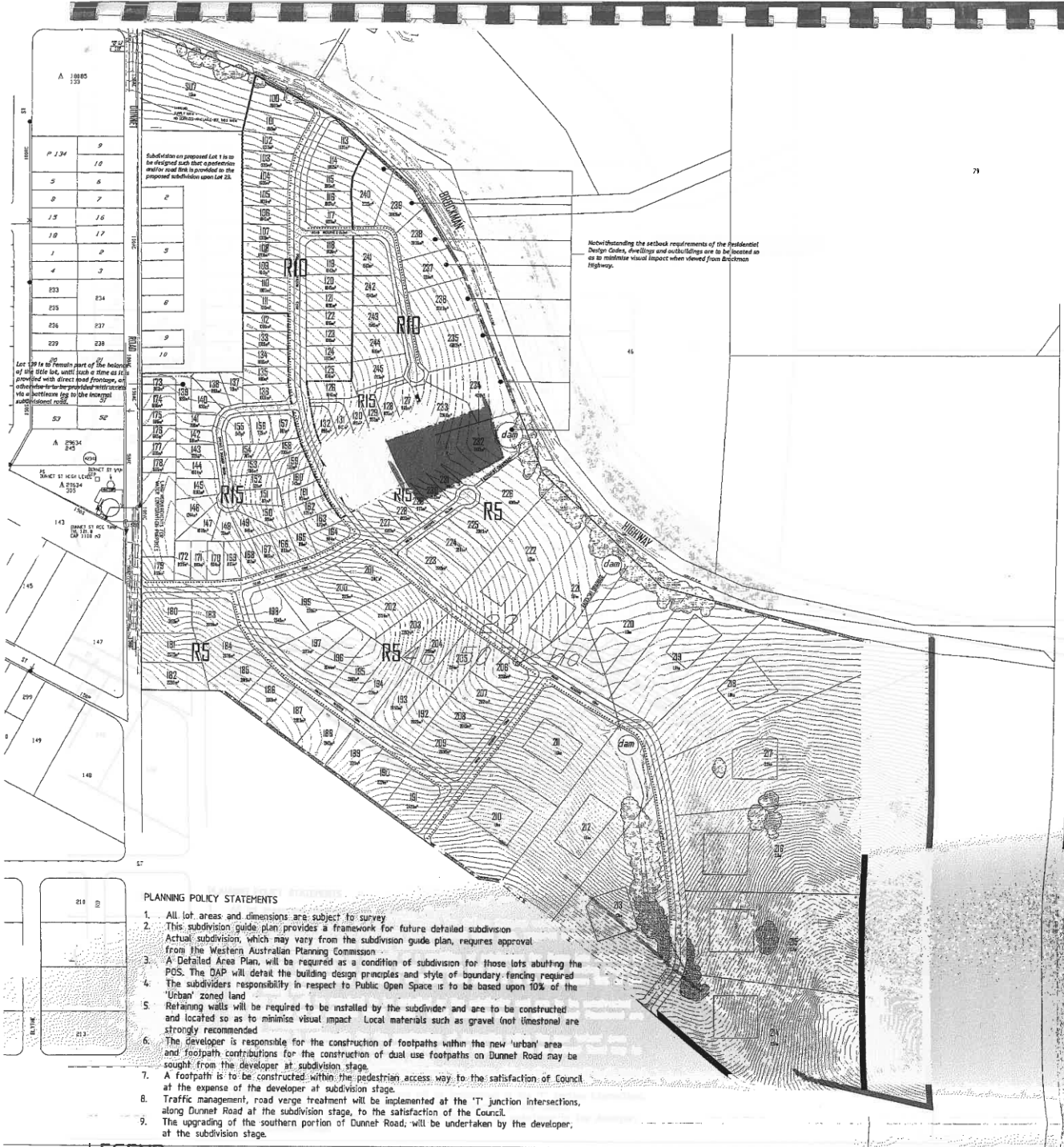


Figure Notes

- (1) The angle for line A-A is defined as the maximum embankment slope ratio H:L in Table 3.2.1 and is taken from the bottom of the footing and identifies the area suitable for fill.
- (2) Consideration must be given for drainage of *surface water*, particularly where fill affects an adjoining property.

Attachment 2 – Subdivision Guide Plan Askino/Moonlight Ridge



LEGEND

- subject property
- vegetation buffer 3m [consisting of shrubs and trees]
- remnant vegetation
- revegetation - avenue of trees
- strategic fire break [6m wide]
- residential density code
- building envelope
- footpath
- Stage 1 - WAPC Approval (May 01, 2006)

Source: cadastre information plotted from Water Corporation data, contour information plotted from Landgate data.

SUBDIVISION GUIDE PLAN
LOT 23 BROCKMAN HIGHWAY
NANNUP

SCALE: 1:4000
 DATE: July 2006
 PLAN NO: P0486-01 [SGP]
 Rev. 5

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