LOCAL PLANNING SCHEME NO. 3

FORRESTFIELD/HIGH WYCOMBE INDUSTRIAL AREA DESIGN GUIDELINES

Reviewed June 2019

Local Planning Policy 27– Forrestfield / High Wycombe Industrial Area Design Guidelines

Local Planning Policy and Management Procedure	Relevant Delegation Development Services

Adopted	27/08/2019

Contents

Contents

FORRESTFIELD / HIGH WYCOMBE INDUSTRIAL AREA DESIGN GUIDELINES

1.0. INTRODUCTION

1.1 Background

The Design Guidelines Area formerly known as Forrestfield/High Wycombe Industrial Area has been identified under the WA State Government's key strategic planning documents "Perth and Peel @ 3.5 million" and in the Economic and Employment Land Strategy: non-heavy industrial (2012).

Some of the land within the Design Guidelines Area has previously been the subject of rural residential-type development. The City acknowledges that the progressive development of the area for industrial land use activities may lead to some amenity implications for residents who wish to remain on their properties in the short-term. However, the City shall endeavour to minimise any potential problems through the development application assessment process.

It is apparent that industrial areas in many parts of the Perth metropolitan area have often reflected inadequate attention to building design, site layouts, appropriate land uses and site landscaping. This has resulted in industrial areas with rudimentary shed structures, often with offices, storage sheds and areas designed and arranged in a seemingly haphazard manner, with poor vehicle accessibility and parking arrangements, minimal landscaping, signage clutter, unsightly perimeter fencing and visually unattractive streetscapes. The City of Kalamunda is committed to ensuring this will not be the case in the new Forrestfield/High Wycombe Industrial Area.

Compliance with this Design Guidelines shall also ensure that new development is more efficient and sustainable in the use of energy, water and resources.

Irrespective of these Design Guidelines, all designs and building works shall at all times conform to all relevant Australian Standards and Building Codes.

1.2 Vision/Statement of Intent

The City of Kalamunda is firm in its resolve to oversee the development of a high standard, attractive, functional and sustainable industrial area, which will attract a range of businesses eager to locate within the area, offering ease of access to both customers and suppliers.

In addition to the usual industrial uses, the City will encourage land uses that take advantage of the lands strategic location in respect to major transport infrastructure, including Perth Airport, Roe Highway and Tonkin Highway. On this basis, logistics and other transport based industries are preferred land uses to take advantage of the lands locational attributes.

The Design Guidelines aim to complement the attractiveness of the industrial area's geographic and strategic location, and to encourage design features, construction quality and landscaping of a high standard which will ensure the Forrestfield/High Wycombe Industrial Area is a sought-after location for business relocation, and a prestigious industrial address.

The City of Kalamunda will insist upon a high standard of presentation and quality for new development in order to maintain the value of existing and future business investment throughout the Design Guidelines Area.

These Design Guidelines contain development application submission requirements, and detailed requirements for landscape plans.

1.3 Design Guidelines Area

These Design Guidelines apply to all development of land zoned "Industrial Development" and "Special Use" located within the area generally bounded by Roe Highway, Berkshire Road, Milner Road, and Sultana Road West, as indicated in red in Figure 1 below. The areas of zoned land are illustrated in Figure 2 over the page.

FIGURE 1 – Design Guidelines Area

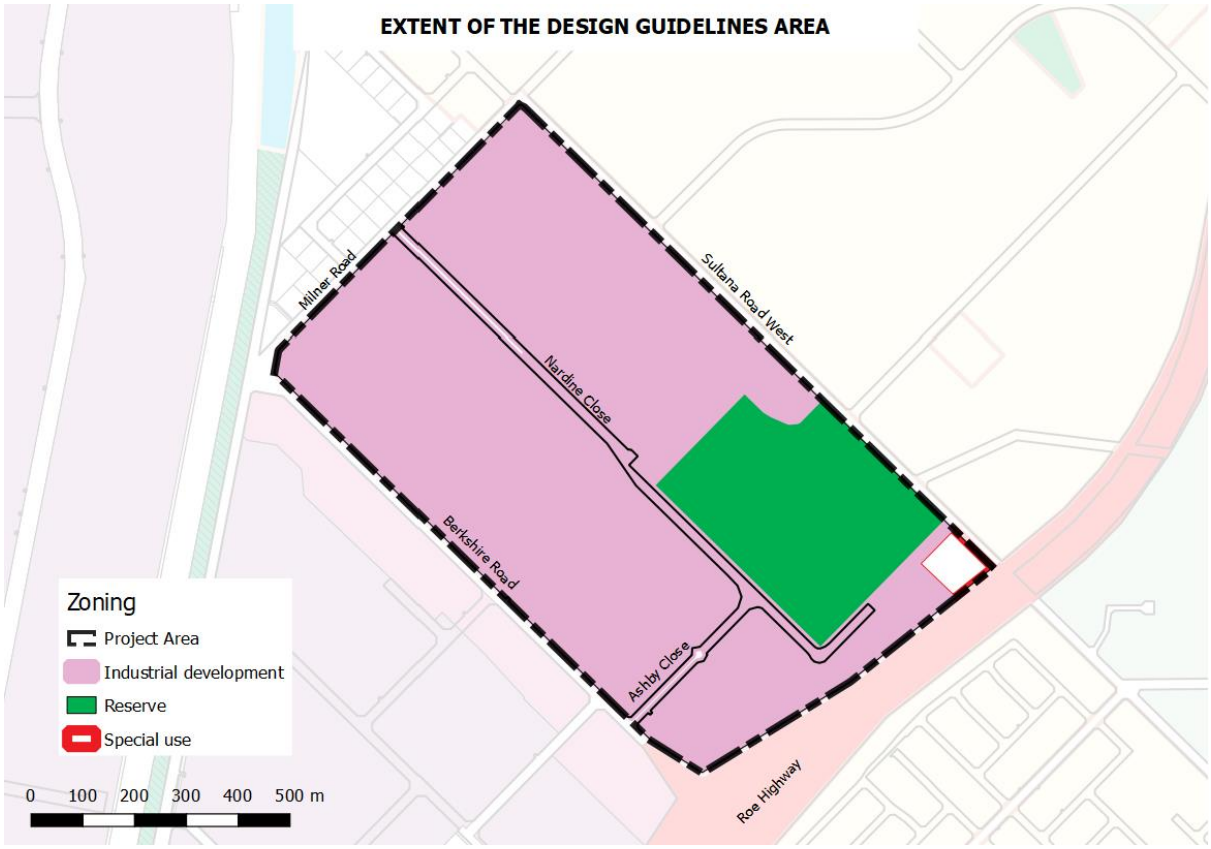


FIGURE 2 – Zoning Map

1.4 Design Guidelines Purpose

The Forrestfield/High Wycombe Industrial Area Design Guidelines provide clear and readily understandable criteria aimed at ensuring a consistently high standard of development is achieved throughout the Design Guidelines Area.

The Design Guidelines will also provide assistance to City of Kalamunda staff in assessing proposed developments.

The Design Guidelines contains principles, guidelines and some mandatory requirements relating to:

- Land use;
- Site development;
- Built form (including signage);
- Environmental management;
- Landscaping; and
- Site amenity.

1.5 Design Guidelines Objectives

- Facilitate a pleasant working environment, attractive streetscapes, and contribute to the protection of value in business investment within the area;
- To encourage attractive developments that are well designed, with functional and efficient buildings and site layouts;
- To encourage industries that are environmentally compatible with surrounding zones and activities;
- To encourage the development of high quality, attractive and sustainable landscaped areas and streetscapes;
- To encourage greater sustainability through energy and water-efficient building design and site development.
- To encourage water conservation through sustainable stormwater management, water-wise landscaping and water efficient reticulation in accordance with the Water Sensitive Urban Design principles.
- To minimise the impact of new industrial development on the environment and amenity of neighbouring residential properties;
- To minimise the impact of new industrial development on identified sensitive areas such as native bushland and waterways;
- To minimise unsightly and poorly planned and maintained developments;
- To encourage the value of existing and future business investment by insisting upon quality development throughout the Policy Area; and
- To encourage improved residential/light industrial interface for Lot 50 Sultana Road West.

1.6 Application of these Design Guidelines

The Design Guidelines act as a Local Planning Policy and has been prepared under and in accordance with Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015* (the Regulations). The Design Guidelines document is adopted under clause 6.4 of Local Planning Scheme No. 3. It is to be used in conjunction with the City's Local Planning Scheme No. 3, and other relevant planning policies and guidelines.

It shall also be used in conjunction with the City's adopted environmental health and engineering regulations, policies and practices.

2.0. SITE DEVELOPMENT

2.1 Building Orientation

The primary building entrance and façade shall front onto the primary street.

Wherever possible, buildings should be orientated and designed to be energy-efficient, and to conserve non-renewable energy.

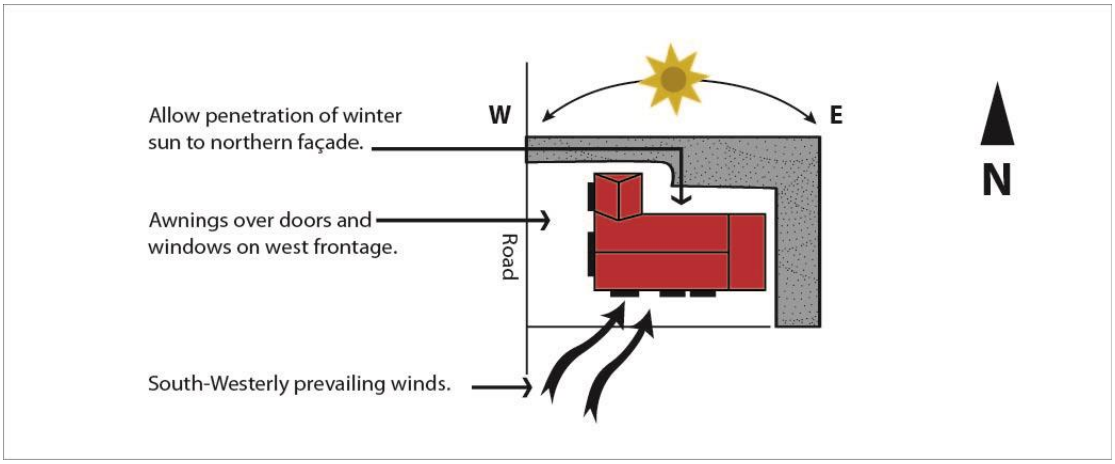


FIGURE 3 – Passive Solar Design Principles Applied to Building Orientation & Design

Passive solar design principles can include the following:

- Building orientation and wall openings should maximise exposure to the north and south;
- Building orientation and wall openings should maximise cross ventilation, especially cooling summer breezes from the south-west and south;
- The amount of walling and wall openings facing east and west should be minimised; or if this is not possible/practical, ensure adequate shading of the walls and wall openings; and
- Appropriate landscaping (trees, wall creepers, etc.) should be provided to create shade in summer, and to allow the penetration of winter sun.

2.2 Site Coverage

Site coverage requirements within the Forrestfield/High Wycombe Industrial Area are outlined in the City of Kalamunda Local Planning Scheme No. 3.

2.3 Plot Ratio

Plot ratio requirements within the Forrestfield/High Wycombe Industrial Area is outlined in the City of Kalamunda Local Planning Scheme No. 3.

2.4 Building Layout & Setbacks

The following minimum building setbacks shall apply to land within subject area "on Figure 1 and zoned "Industrial Development" and "Special Use":

	SETBACKS				SITE REQUIREMENTS		
Zones	Front	Minor Street	Side	Rear	Site Coverage	Plot Ratio	Landscaping Strip (Road Frontage)
Industrial Development	20m[1]	10m[2]	At the discretion of Council[3]	At the discretion of Council[3]	60 %	0.5	6m 8m along properties with frontage onto Sultana Road West

[1] Berkshire Road, Milner Road and Sultana Road West

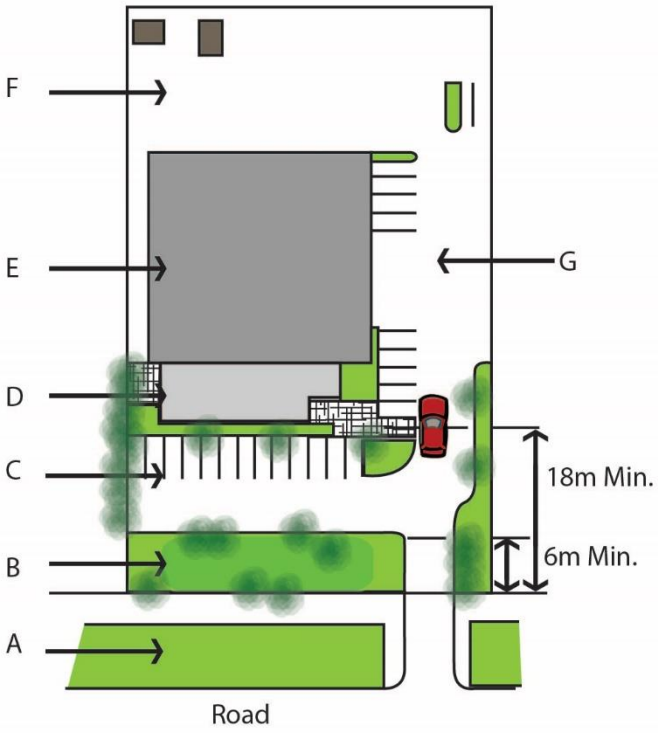
[2] All other roads (Nardine Close, Ashby Close and Bonser Road)

[3] Proponents of new developments are encouraged to set back buildings a minimum of 3m from both the side and rear boundaries to assist with natural light penetration and natural cross-flow ventilation.

The land between the street alignment and the front of a building may only be used for access, the daily parking of vehicles or landscaping.

The setback area between the main building and any road must not be used for storage purposes, for loading or unloading vehicles, or for the parking of haulage or service vehicles, or for repairing and/or maintaining vehicles or items.

The primary entrance of the main office/administration should be visible from the street and have a clear and safe pedestrian path leading to it from the visitors' parking area.



A	Road Verge
B	Landscaped strip (6m min. depth)
C	Visitor, Staff and Client parking
D	Office/Administion
E	Industrial Unit
F	Service yard, Storage
G	Service and Haulage vehicles

FIGURE 4 – Model Site layout

2.5 Vehicle Parking, Access & Circulation

Number of Car Parking Bays Required:

The provision of car parking bays for staff and visitors is outlined within Local Planning Scheme No. 3.

Vehicle Access:

- All vehicle access must be contained on site.
- All vehicles must be able to exit the site in a forward direction.

- The number of access points to a site shall be limited to 1 access point per 40m lot frontage. The Council may limit the number of access points where it considers a traffic hazard for road users. Access points should be designed to provide safe ingress/egress for vehicles and pedestrians.
- Vehicle access for Lot 50 Sultana Road West shall be permitted via Sultana Road West for residential purposes only, all other land uses shall be from Road 2a unless otherwise approved by Council.

Design of Vehicle Parking Areas and Accessways:

Accessways and parking areas must be planned and designed to achieve the following outcomes:

- Vehicle parking and circulation should be clearly marked and laid out and easily understandable by all users;
- Large expanses of parking are discouraged in favour of smaller modules broken up with vegetation and shade tree planting;
- Service and haulage vehicle parking areas are to be separated from visitor and staff parking areas, screened from the street, and located at the rear or sides of the buildings and behind the front building line;
- Within the service and haulage vehicle parking areas, large vehicle parking bays are to be located separate from small vehicle parking bays;
- Areas for loading bays, vehicle manoeuvring and outdoor storage are to be located separate from visitor and staff parking areas;

- External loading bays shall not be visible from primary street frontages, shall have access that is safe and convenient, shall be located at the side or rear of properties, and shall be screened from public streets by walls, landscaped earth mounds or dense planting;
- Clear paths are to be provided for pedestrian movement separate from areas of frequent vehicular movement;
- Parking areas for staff, clients and visitors are to be located adjacent to office/reception areas of buildings, with clear sight lines to entrances;
- Parking areas for staff, clients and visitors are to be provided with suitable species of canopy tree at a ratio of 1 tree per 4 car bays, spaced evenly throughout the parking area(s);
- Car parking areas are not to be used for temporary storage of goods, for servicing or for loading;

- Parking areas should be designed to channel rain water into areas set aside for planted vegetation;
- Parking for persons with disabilities is to be designed in accordance with the appropriate Australian and ACROD standards.
- Parking areas and access driveways must be paved or sealed with asphalt.

2.6 Pedestrians & Cyclists

In order to encourage staff members to travel to work by means other than the private car, new developments should provide end-of-trip facilities for pedestrians and cyclists. These could include secure bicycle storage, lockers and showers.

2.7 External Service & Storage Areas

- No open storage of goods, unserviceable vehicles or machinery shall be carried out within the front setback area (forward of the building line).
- All open storage areas shall be screened from the street and adjoining properties by landscaping, fencing and/or other means acceptable to the City of Kalamunda. Any screen fencing should use materials and colours that complement the main building design and, where possible, made to integrate with the building structure.
- Rubbish bin storage areas shall be screened from all road fronts. The dimensions and location of rubbish bin storage areas will be at the discretion of Council.
- All plant and equipment storage areas are to be adequately screened from public view from all road frontages.
- The preferred location for all external plant, service yards and bulk storage areas is at the rear of the lot.
- The storage of goods, materials, supplies or equipment is not permitted on road reserves, driveways, car parking areas, landscaped areas or public spaces.

2.8 Loading & Service Areas

- Loading bays and service dock areas shall be located at the rear or sides of buildings, and away from the main building entrance, or relatively visible areas.
- Where possible, service and loading areas should be enclosed within the building.
- Any external loading and service areas should be appropriately screened to minimise views from a public road and adjoining buildings.

- Loading areas should be designed to accommodate vehicular manoeuvring on site and should not prohibit on-site vehicular circulation or cause traffic queues.

2.9 External Lighting

- Lighting must be adequate to ensure a safe and secure environment.
- All external lighting shall be utilised in a manner which is consistent with the use for which it was designed (e.g., flood or spotlights, bollard lights, sensor lights, etc.)
- Beacons, search lights, blinking lights, flashing or changing intensity lights will not be permitted.
- Lighting should be directed away from adjacent buildings and any public roads.
- Security lighting should be confined to entrances and pedestrian areas and should not project onto any public road.
- All car parking areas, pedestrian routes and entrances shall be well lit. Parking area lighting should have a greater height than pedestrian area lighting, and be focussed downwards. Bollard lighting and pavement inset lighting is encouraged for pedestrian pathways.

2.10 Boundary Fencing

The intent of boundary fencing for individual premises within the Forrestfield/High Wycombe Industrial Area is to provide security for businesses without compromising the visual quality and overall character of the streetscapes.

- Fences and gates shall be integrated with site planning and the design of the building(s). Fencing shall generally be visually permeable and unobtrusive.
- Forward of the front setback line, the minimum fencing standard is an 1800mm high metal tubing framed vertical pale and horizontal rail fence with powdercoat finish. Black is the preferred colour, as it tends to "disappear" into its surrounds. The fence must be predominantly "open" in appearance.

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- Behind the front setback line, the minimum standard for side and rear boundary fencing is black PVC galvanised link mesh fencing (barbed wire on top is permitted). Palisade and welded mesh fencing may also be acceptable. No link mesh fencing is permitted forward of the front setback line.
- All fences should be durable and resistant to weather conditions and vandalism.
- Sliding front gates are preferred. Where swinging gates are being installed on boundary fencing, these shall open inwards away from the street.
- Electrified fencing will only be permitted if considered suitable and necessary by the City of Kalamunda.
- The style, dimensions, materials and colours of all fencing shall be provided as an integral part of the Development Application.
- Any fencing forward of the street setback line at Lot 50 Sultana Road West shall be a maximum height of 1.8m above natural ground level and materials shall be consistent with P-DEV 57 Street Fencing and Walls Residential Zoned Land requirements and Table 2 to the satisfaction of the City of Kalamunda.

3.0. BUILT FORM GUIDELINES

3.1 Building Design, Character & Detailing

Buildings should demonstrate excellence in design, detailing and construction, and incorporate best practice environmental sustainability.

A diversity of building designs will be encouraged. Buildings should have a modern industrial appearance, and the use of innovative, functional and attractive designs and building materials will generally be supported.

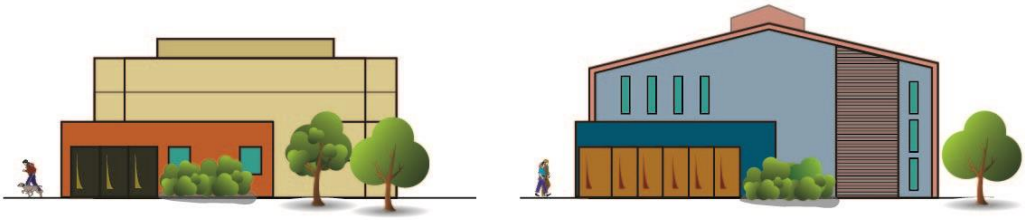
Buildings should be of a contemporary style, with office areas having a more "human" scale and located near the street frontage.

The office/administration building should be located near the street frontage, and be of a more "human" scale than its associated warehouse or factory unit.

Buildings must be designed to address the street, and significant emphasis must be placed on providing an attractive and interesting front elevation. The main entrance to the building must be clearly visible from the street and be obvious to the arriving visitor. It should be at or near the front of the main building.

- The front elevation must display the corporate image, and have an inviting entrance, preferably with some weather protection such as an awning, canopy or veranda.
- A moderate to high level of articulation of building frontages is strongly encouraged. A high standard of architectural and building design is required.

- Building elevations on corner lots must address both street frontages. The side elevation should not be "forgotten" when the building is being designed and detailed.
- Rooftop structures such as plant and machinery should be located, as far as practical, in a position where it will be least visible from ground level.
- Monolithic buildings should be avoided. The mass of large buildings should be broken into groups of clusters or sub-parts where possible to reduce perceived scale.



- Large unrelieved expanses of blank wall or roof on one plane with uniform finishes must be avoided where they can be viewed from a street. This includes large expanses of mirrored glass.
- Where more than one building is planned for a site, they should be sited and designed to form an integrated "whole" and present a visually harmonious image.
- Building design should be as flexible and innovative as possible to facilitate the changing needs of occupiers and their processes.
- Any buildings within 30m of the front boundary for Lot 50 Sultana Road West shall be commensurate with a residential scale. The maximum wall height in this area shall be 6m and the façade shall incorporate glazing and clearly definable entry points to the satisfaction of the City of Kalamunda.

3.2 Materials, Finishes & Colours

Sustainability

Building materials should be chosen which maximise durability, minimise maintenance, ensures good performance having due regard to the climate, maximises energy efficiency, promotes recycling, and maximises the use of renewable resources.

Design

New buildings should be designed with facades divided up into contrasting smaller areas or panels through the inclusion of different materials, the use of colour and various forms.

- A moderate to high level of articulation to provide visual interest and to "break up" building frontages is strongly encouraged. This can be achieved through one or more of the following treatments:
    - incorporating "in and out" walls;
    - including a high ratio of glass to solid wall;
    - using multiple façade materials (2-3 different appropriate materials on each street facade);
    - including bright colours on buildings as a "splash" feature or as a trim (i.e., as a limited special effect); and
    - using interesting roof shapes & roof angles (silhouettes).

- Different materials such as concrete panels, profiled metal sheet cladding and fibre cement cladding can be used for larger areas, with face brickwork, stone panels and weatherboard panels as features, either separately or in combination.
- In addition, other feature elements can be used to achieve good, attractive design. For example, louvred vents and screens, projecting sun screens over windows, and exposed steel columns and bracings
- Consideration should also be given to dividing the façade(s) into top, middle and bottom sections using different materials and/or graded colours.
- Projecting sun screens over windows and overhanging roofs can also create interesting shadows on façades.

Building colours should generally be sympathetic and complementary with the natural environment (soils and vegetation), as well as the site landscaping. Generally, the use of dark colours should be reserved for the base of buildings, with lighter colours used for the upper levels.

Strong primary colours should be used sparingly to highlight building features or trim, and to add interest and relief to building façades.

Large areas of one material should be treated with muted colours and tones, avoiding strong hues.

	
Large areas of one material can be visually "broken up" and made to look more attractive and interesting by the judicious use of colour.	In this example, the visual impact of the large side wall with roller doors has been reduced by the use of two different but complementary colours.

Where a development is comprised of multiple buildings, or multiple tenancies within one building, the thoughtful use of complementary colours, materials, finishes and detailing can allow each business unit to be easily distinguishable and identifiable.

3.3 Plant & Equipment

All plant and equipment should be screened from public areas, or located at the rear of premises.

The exception to this may be where ductwork, stacks, tanks or flues that are necessary for the building to function are designed and treated as feature elements.

- Consider using plant and equipment as design features;
- Conceal unsightly plant such as air conditioning units;
- Use passive sustainable elements (such as water tanks and ventilation louvres) as design features and express these through the use of colour or by highlighting external structural elements.

3.4 Outbuildings & Other Structures

Where there are numerous separate buildings on the site, the design and location of each should be considered at the time of initial site planning. This will ensure that all buildings on the site will present as one integrated development.

This initial planning should extend to include possible future expansion of buildings, additional buildings and staging of development. The use of building forms, materials and colours should be complementary and consistent.

3.5 Signage

High quality, integrated signage is an important design element. Development proponents must provide an overall signage strategy, including proposed business advertising, information signage and directional signage, as an integral part of the development application process. An unnecessary proliferation of signs shall be avoided. The below provisions shall be read in conjunction with P-DEV 42 – Signage on Private Property.

Advertising Signs

Advertising signs attached to buildings shall be designed to be an integral part of the building – i.e., recessed into the façade, fascia or awnings, and co-ordinated in scale, colour and style. Signs can be incorporated as three-dimensional elements to add quality to the overall design effect.

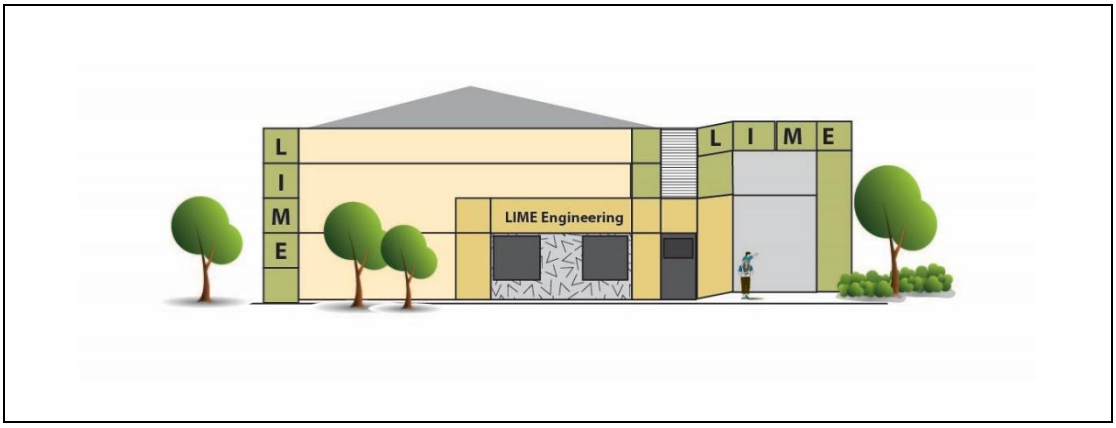


Figure 6 – Appropriate Locations for Corporate Signage

- All advertising signs shall be designed to be an integral part of the building fabric, and shall be of a standard equal to, and consistent with, the building design and detail;
- All signs located throughout the lot shall be of a consistent design character to maintain the amenity of the area;
- Only one free-standing identification sign or composite advertising sign is permitted per lot;
- Where multiple occupancy is proposed, the composite sign may have only one panel per occupancy; and
- Each premise will clearly display their street number.

Advertising signage information shall be limited to:

- The name, business logo, address, telephone number, email address and website associated with the premises;
- The name of the business or businesses contained within the premises; and
- The type of services, activities or products available within the premises.

Some signs and sign types will not be permitted. These are:

- Roof-mounted signs or signs which project above the ridge height of the building;
- Moving, flashing, pulsating, intermittent or sound-emitting signs;
- Changeable message signs;
- Sequined or glittering signs;
- Unrelated or "third party" signs;
- Signs attached to fences;
- Billboards;
- Any portable advertising sign located on the road reserve;
- Tower and monolith signs; and
- The excessive application of modern standardised corporate advertising.

Directional and Information Signs

Directional signage should assist visitors to the site, and include entry and exit signs, parking controls, and signs clearly indicating delivery and reception areas.

Directional signage should ideally be part of an overall signage "family" of complementary fonts, colours and other related imagery.

4.0. ENVIRONMENTAL MANAGEMENT

Among other things, the City of Kalamunda will be encouraging site and building design based on environmentally sustainable principles including correct solar aspect, appropriate materials and finishes, natural ventilation, water conservation and reuse, embodied energy and energy efficient operations, and the "greening" of sites and streetscapes.

4.1 Landscaping

Intent:

The City of Kalamunda is determined to oversee the development of the Forrestfield/High Wycombe Industrial Area as a high quality, attractive, sustainable and functional "estate". An integral part of this "vision" will be the development of a high standard of landscaping – principally tree and shrub planting, as well as the protection of existing high quality natural vegetation.

Considering the large scale of most industrial buildings, larger-scale trees should form a significant proportion of plantings. These can be complemented by mass plantings of water-wise low shrubs, herbs, ground covers and strappy leaf plants between the trees. The use of plants which have colourful flowers and leaves is particularly encouraged.

Car parking areas must be well planted with shade trees at a ratio of 1 tree for every 4 bays to visually reduce the apparent size of the hard paving, to reduce the amount of radiated heat and the "heat island" effect which can occur during summer, and to provide welcome shade for parked cars.

The City has responsibility for the development and ongoing maintenance of landscaping in public areas: i.e., road reserves, parks and nature reserves, however Developer Contributions cover for the first two years from the point of development.

The City will undertake the landscaping of these public areas in partnership with private land owners, who will be responsible for the landscaping of their own properties. The establishment and ongoing maintenance of landscaped areas on private land will be an integral part of the site planning and development approval process.

Landscape Purpose:

Private landholdings will be landscaped in a manner which achieves the following objectives:

- to provide an attractive setting, "front yard" and entry for developments;
- to provide attractive streetscapes which complement street tree planting and other landscape measures undertaken by the City within the road reserves;
- to screen unsightly on-site activities or areas;
- to provide shade over paved areas, especially car parking areas;
- to provide plants that are hardy and drought-tolerant, which provide habitat and food for local fauna, and require minimal herbicides and pesticides; and
- to provide a high level of amenity for workers and visitors by providing summer shade, winter sun, and wind breaks.

Landscape Requirements:

- With the exception of all lots abutting the south side of Sultana Road West east of Milner Road, where an 8m landscaping Buffer is required, the first 6m (minimum) of each street frontage of every lot within the Industrial Development Zone shall be set aside, developed and maintained as landscaped (planted) space. The landscaping of this space shall contribute positively to the character of the streetscape.
- Landscaping behind fences should not form a dense screen, except where it is required to screen outdoor storage areas or plant and equipment.
- Perimeter fences may be placed behind landscaping strips, however the landscaping outside the lot boundary should generally require only low maintenance (street trees, mulch) and should not easily trap wind-blown refuse.

- Wheel stops at the front ends of car parking bays must be used to prevent cars damaging trees.
- All landscape designs should be practical and easily maintained.
- All applications for Approval to Commence Development by the City of Kalamunda to include a detailed landscape plan as documented in Appendix 2 of this Design Guidelines.
- Narrow landscaped strips (i.e., less than 2m in width excluding kerbs and other barriers) are ineffective and should be avoided.

- Plantings should generally allow views into and across industrial sites rather than seeking to screen them entirely from view. However, landscaping shall be used, perhaps in conjunction with screen fencing, to hide outdoor storage areas.
- Indigenous and "water-wise" plant species are strongly preferred. Large areas of grass should be avoided.
- Significant tree planting should be a feature of every landscape plan. Trees shall be planted within the landscape strip of every street frontage at the minimum rate of one tree for every 6 metres of total lot frontage. These should preferably be planted at staggered intervals in two rows.
- The use of mature/advanced plants to create an immediate visual impact and to enhance the amenity of the area is preferred.
- The landscape design for each site shall be undertaken by a qualified landscape professional. All landscaping and planting shall be undertaken by a qualified contractor.

- Proponents of new developments must make every endeavour to retain any existing large, healthy, mature trees on site, and accommodate their retention and ongoing protection in any site and landscape plan if possible and practical.

Landscape Requirements for Lots Zoned Industrial Development Abutting the South Side of Sultana Road West and Located East of Milner Road:

These lots are planned to be developed for industrial purposes as part of Stage 1, and well before lots on the north side of Sultana Road West in Stage 3 are developed. The lots on the north side of Sultana Road West are currently being used for rural residential-type development. For this reason, an additional level of visual protection from new industrial development for existing residents is warranted.

Therefore, for lots abutting the south side of Sultana Road West and located east of Milner Road, the first 8m (minimum) of the Sultana Road West frontage of every lot shall be set aside, developed and maintained as landscaped (planted) space. The landscaping of this space shall act as a landscaped buffer and provide adequate visual screening from the road of the buildings and activities on the lot and contribute positively to the character of the streetscape.

Apart from this requirement, all other landscaping requirements listed in the previous section shall apply to lots zoned Industrial Development abutting the south side of Sultana Road West and located east of Milner Road.

4.2 Landscape Reticulation

To ensure plantings are successful, landscaped areas shall be irrigated with an appropriate reticulated watering system. Land owners should:

- Install a low flow trickle irrigation system;
- Install a programmable water controller/timer system; and
- Direct rainwater runoff from buildings and hardstand areas to the landscaped areas.

Irrigation should take place at night or early morning to reduce evaporation losses.

It is also recommended that land owners install external rainwater tanks to irrigate planted areas (and/or provide water for internal domestic use such as toilet flushing).

4.3 Rainwater/Stormwater Disposal & Harvesting

Pervious surfaces should be used wherever possible.

All impervious surfaces must be adequately served with appropriate stormwater inlets and on-site pervious drainage swales to ensure all stormwater is handled within the site boundary or treated appropriately prior to legal discharge.

Stormwater is not to be discharged to adjoining properties.

Parking areas should be designed to channel some stormwater into areas set aside for planted vegetation. Water-sensitive urban design measures should be incorporated into site design, including:

- Using grassed swales instead of conventional kerbing and channel drainage;
- Using filter strips such as a maintained grass or vegetated strip; and
- Using stormwater infiltration measures at the end of swales or open drains.

Stormwater runoff from roofs should be sent to rainwater tanks that are plumbed in to irrigate landscaped areas, or for showering and toilet flushing.

Surface grading of all sites must be designed to eliminate ponding or back-up of water.

4.4 Waste Management

Waste storage and disposal facilities should be integrated with the site and building design.

Waste and refuse should be stored in a purpose-built facility and screened from any adjacent street and staff amenity/recreation areas. Where possible these areas should be contained within the building. Wind-proof cages should be used to prevent scattering of waste.

All inadvertent discharge from equipment and vehicle cleaning, servicing etc., (not captured by the wastewater system) must be cleaned and filtered prior to entry into the stormwater system.

Recycling storage facilities should be provided

4.5 Natural Light & Ventilation

To complement the solar passive site layout and building orientation guidelines described in Section 4.0, the following building design initiatives are aimed at conserving non-renewable energy and improving employee comfort by assisting the penetration into buildings of natural light and ventilation.

Natural Light:

Roof lights have the ability to introduce UV filtered sunlight into the centre of a building. Translucent roof light material is recommended.

Clerestory windows can introduce natural light (preferably diffused southern light) into the centre of a building, thereby reducing the need for artificial lighting.

Ventilation:

Side wall ventilation openings can be used to encourage cross-ventilation through a building. Clerestory windows provide an outlet for rising warm air within a building, and also allow cross-ventilation.

Small wind-powered ventilation turbines located on a roof increase a building's air circulation by aiding the extraction of hot air from a building, which then allows cooler air to enter at a lower level. Large roof vents can also assist this process.

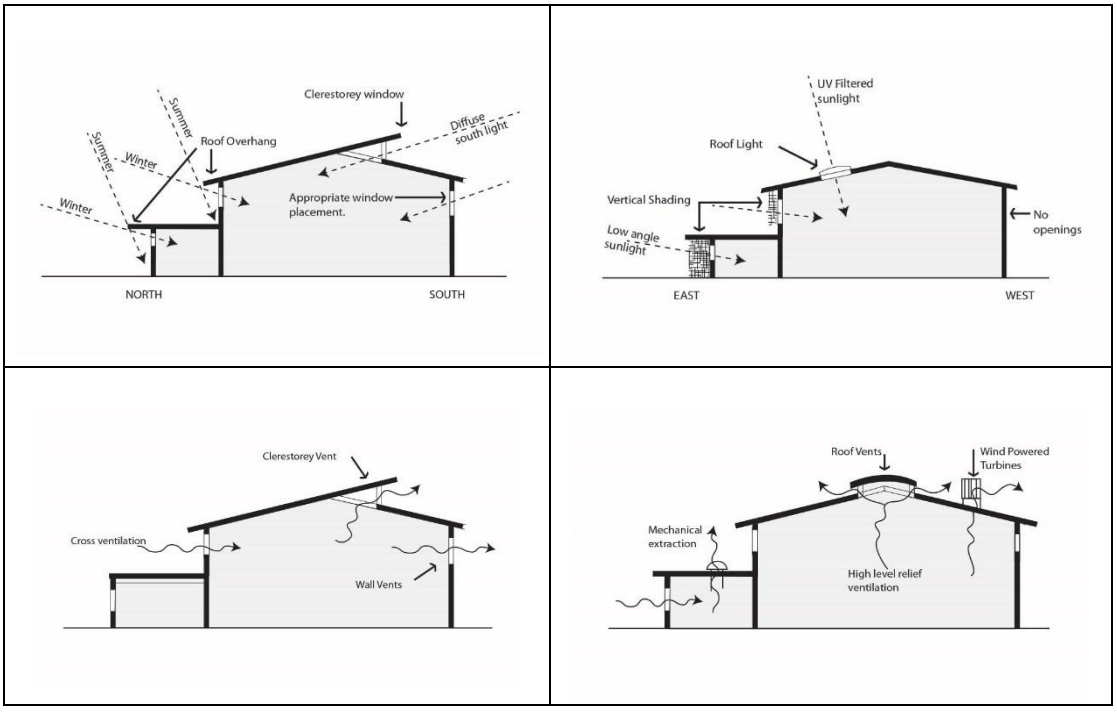


FIGURE 7 – Provision of Cross Ventilation & Natural Lighting

4.6 External Lighting of Buildings & Spaces

- No glare or light spill from a property should adversely affect adjoining properties or passing motorists. Baffled or directional lighting should be used to minimise this eventuality.
- Energy-efficient lighting systems are recommended for external areas.
- Lights controlled by timer controls or motion sensors are also recommended to save energy.

4.7 Internal Lighting of Buildings

It is recommended that:

- energy efficient light fittings be used; and
- lights controlled by timers, photosensitive cells or motion sensors be used where possible and appropriate.

4.8 Water Use & Storage

The following recommendations are consistent with the Building Code of Australia 5 Star Plus energy and water efficiency measures:

- install solar or 5 star gas (or heat pump) hot water systems;
- install water efficient showerheads;
- install water efficient tap fittings in all kitchen sinks and bathroom basins; and
- fit water efficient dual flush toilets, and/or waterless urinals.

It is also recommended that land owners install external rainwater tanks to irrigate planted areas (and/or provide water for internal domestic use such as toilet flushing). The recycling of grey water will be encouraged.

5.0. SITE AMENITY

5.1 Landscape Maintenance

Conditions of consent or planning approval will require ongoing maintenance of the following items:

- All accidental damage or vandalism should be repaired promptly.
- Preventative maintenance should be undertaken as part of a regularly scheduled process to maintain the appearance, efficiency and safety of the site. A site maintenance manual and schedule should be prepared, updated and used on a recurring basis.
- All dead plants, branches, weeds and leaf litter should be removed on a regular basis. All dead plants should be replaced promptly (subject to prevailing weather conditions).
- Irrigation systems should be checked regularly for leaks and damage.

5.2 Building Maintenance

All buildings, car parks, signage and paved areas are to be maintained to a high level of presentation.

- All painted surfaces are to be kept in good repair with regular scheduled repainting as required.
- Preventative maintenance should be undertaken as part of a regularly scheduled process. A building maintenance manual and schedule should be prepared, updated and used on a recurring basis.
- Safety and health must be protected at all times. All accidental damage or vandalism should be repaired promptly.

5.3 CPTED & Safer Design

Site layout and design should conform to the principles of "Safer Design", or "Crime Prevention through Environmental Design" (CPTED) principles. These include the provision of:

- clear sightlines;
- pedestrian safety, good connections and access;
- active and passive surveillance of the public realm from private property;
- “neck to knee” clearance zones in landscaped car parks for better surveillance;
- “open” planting adjacent to public thoroughfares;
- good lighting of car parks and pedestrian routes;
- visually permeable fencing along open space edges to sites;
- clear direction signage;
- vandal-proof fittings on furniture, lights and other items; and
- robust materials.

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APPENDIX 1 – Development Application Requirements

1	Completed Schedule 6 Form signed by the property owner.
2	Prerequisite planning fee.
3	Copy of Certificate of Title.
4	Detailed written statement in support of proposal, including but not limited to: ▪ Type of use/development. ▪ Hours of normal and peak operation, and number of employees. ▪ Compliance with the Town Planning Scheme, these Design Guidelines, and any other applicable Detailed Area Plans, Structure Plans, Outline Development Plans and other applicable City of Kalamunda policies. ▪ Justification for any proposed variations. ▪ Distance of all structures from nearest boundaries. ▪ Existing and proposed building envelope (if applicable)
5	Site plan (4 copies) of a scale of no less than 1:500 showing: ▪ Lot number(s), land area, boundaries, dimensions of the site and a north point (preferably to the top of the page). ▪ Location of existing buildings and landscaping to be retained. ▪ Existing ground features including watercourses. ▪ Location of proposed buildings and landscaping. ▪ Details of effluent disposal systems. ▪ Gully and manhole locations, pipe sizes, subsoil drainage requirements, falls to paved areas, falls to landscaped areas, proposed connection of City system and soak wells. ▪ Existing and proposed contours and floor levels, embankments and retaining walls. ▪ Location and type of any easements. ▪ Details of roads, accessways, crossovers, visitor and staff car parking, commercial vehicle parking and manoeuvring, location of loading/unloading areas, fencing location and type, and any proposed verge treatments. ▪ Details of any open space and staff amenity areas. ▪ Schedule of materials, colours and finishes. ▪ Location and details of any cut and fill, and method of retaining. ▪ Location and type of bin storage areas and recycling facilities. ▪ Statement regarding all energy efficiency measures proposed, and how it is planned to minimise water use.
6	Floor plans (4 copies) of a scale of no less than 1:500 showing: ▪ Internal dimensions. ▪ The uses to take place in each part of the building(s) ▪ Public & staff facilities clearly marked. ▪ All entrances and fire exits.
7	Elevations (4 copies) of a scale of no less than 1:500 showing external dimensions, fixtures & lighting details.
8	Coloured streetscape elevation(s) (4 copies) for all developments exceeding $1M.
9	Signage strategy. (Advertising, information and directional)
10	Landscape plan. (See Appendix 1)
11	Landscape reticulation plan. (See Appendix 1)

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APPENDIX 2 – Landscape Plan & Reticulation Plan Requirements

Landscaping has the potential to improve the visual amenity and environmental sustainability of all urban areas, including light industrial areas. Landscaping should not only complement the appearance of a proposed development but also that of surrounding land uses. Consequently, the City of Kalamunda requires that detailed landscape and reticulation plans accompany all new industrial development applications.

Landscape Plans

A landscape plan must include the following information:

- A site plan with a scale of not less than 1:200 illustrating all the areas proposed to be landscaped.
- A legend of plants showing botanical names of the proposed vegetation types.
- Quantity of plants, their spacing, and landscape vegetation.
- Pot sizes of plants at the time of planting.
- Identification of existing vegetation types, their botanical names and their intended use.
- Details of ground treatment such as paving, grass, etc.
- Details indicating how water harvesting of impervious surfaces will be undertaken and used to irrigate landscaped beds.
- Approximate location of neighbouring buildings to fence lines.
- Location of any existing, and proposed, fences.

Landscaping is required to be installed in accordance with an approved landscape plan.

Landscaping on Council Verges

- All landscape plans must clearly show any proposed treatments or landscaping proposed to take place within the Council verge: e.g., grass and paving.
- Any existing trees located on the Council verge must be shown.
- No street trees shall be removed unless written approval is obtained from the Manager Parks.

Shade Tree Requirements for Car Parking Areas

The City requires proponents to plant a minimum of one shade tree for every 4 car bays provided on the lot, to Council's satisfaction.

Reticulation Plans

A reticulation plan will accompany the landscape plan. It shall detail:

- Scheme and bore water requirements.
- The approved bore licence from the Department of Environment and Conservation.
- Any other proposed sources of water (e.g., rainwater tanks).
- Locations of compensating basins and sumps.
- Methods of reticulation (such as trickle or fixed systems).
- Indicate the method of operation (automatic/manual).
- The watering schedule.

Planning of Indigenous Species

Indigenous and "water-wise" plant species are strongly preferred. Indigenous plants are adapted to the local climate and provide habitat and food for local fauna. Large areas of grass or lawn should be avoided.

The City encourages all proponents of new developments to use indigenous vegetation species when preparing landscape plans.

Please contact the City's Planning Services for enquiries.

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