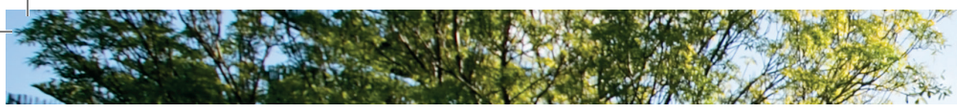


YOUR LEAFY CITY

City of Joondalup

Dear

LEAFY CITY PROGRAM – TREE PLANTING IN MULLALOO

Since May 2017, the City has been implementing its Leafy City Program which aims to plant trees in suburban areas to create cooler, inviting green urban spaces. To date, over 4,500 trees have been planted in the suburbs of Beldon, Craigie, Heathridge, Padbury, Kinross, Currambine, Woodvale, Greenwood, Kingsley, Kallaroo, Warwick and the southern border of Mullaloo.

During this next stage of the Leafy City Program, almost 2,000 trees will be planted in suburbs of Duncraig, Edgewater and Mullaloo. These suburbs have been identified as having a low level of canopy coverage and the planting of street trees will improve street amenity and comfort for pedestrians as well as reducing the urban heat island effect generated by hardstand surfaces. All verges in these areas have been assessed to ensure that services and sightlines are not impacted by the proposed tree and that adequate verge area is available to accommodate the tree.

The City is pleased to advise that your property is within an area selected to receive a free street tree this year as part of the ongoing implementation of this program.

The approximate tree location and species proposed for the verge adjacent to your property is available to be viewed via the City's Website on-line mapping tool.

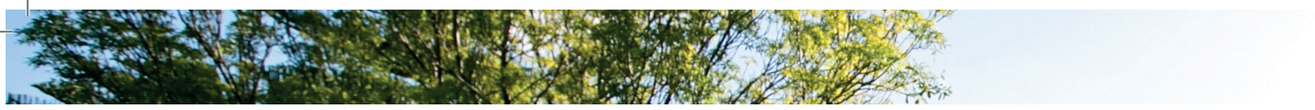
http://maps.joondalup.wa.gov.au/intramaps96/

Should you wish for the City to consider moving your tree within the tree planting zone, please contact us via the City's website by no later than Friday 7 April for hardstand verge surfaces and Friday 16 June for all other verge treatments and one of our team members will contact you to discuss further.

Appropriate tree planting locations have been identified based on:

- Underground service locations,
- Traffic sightlines,
- Tree offsets to the footpath/property boundary/kerb,
- Pedestrian thoroughfare, and
- The overall alignment of trees to be planted in your street.

While some flexibility exists with the tree placement, any proposed variation to the identified tree planting location will need to be in line with the above considerations.



A preferred tree species has been identified for all roads to create a consistent effect. Please refer to Table 1 below for the proposed tree species and locations in Mullaloo.

STREET NAME	PROPOSED TREES
Dampier Avenue	Mugga Ironbark (*Eucalyptus sideroxylon*)
Karalundie Way	Coral Gum (*Eucalyptus torquata*) – Under Powerlines Tuckeroo (*Cupaniopsis anacardioides*)
Koorana Road	Jacaranda (*Jacaranda mimosifolia*)
Korella Street	Crepe Myrtle (*Lagerstroemia indica "Sioux"*) – Under Powerlines Chinese Elm (*Ulmus parvifolia*)
Meridian Drive	Yellow Bloodwood (*Corymbia eximia*)
Scaphella Avenue	Broad-leaved / Red Flowering Paperbark (*Melaleuca viridiflora*)
West View Boulevard	Liquidamber (*Liquidambar styraciflua*)

Prior to planting City Officers will be visiting your property to assess and mark the proposed tree planting location. If the verge adjoining your property has an existing hardstand surface treatment (paving, synthetic turf, concrete, etc), the City will be required to remove a 2m x 2m area of the hardstand material to form a tree planting area.

As part of this process, existing trees may be identified for removal if they are considered structurally unsound or classed as a weed (e.g. Wattles and Cotton Palms). Some pruning of shrubs and groundcovers may also be required to accommodate an area for planting.

There are many benefits to increasing the urban canopy with street trees. Some include:

- Reducing ambient air temperature by countering the adverse impacts of the urban heat island effect.
- Improving visual street amenity.
- Providing habitats for wildlife.
- Creating safer, cooler walking environments.
- Reducing cooling energy consumption costs.
- Saving water through reduced evaporation rates.
- Cleaning air by absorbing polluting gases.
- Improving mental health and wellbeing of residents.

Tree planting will commence from July 2023 and run through to August 2023 and preparation works on properties with hardstand verge surfaces will commence in late April 2023. Further notifications and information that may impact your adjoining verge will be disseminated closer to the commencement of planting.

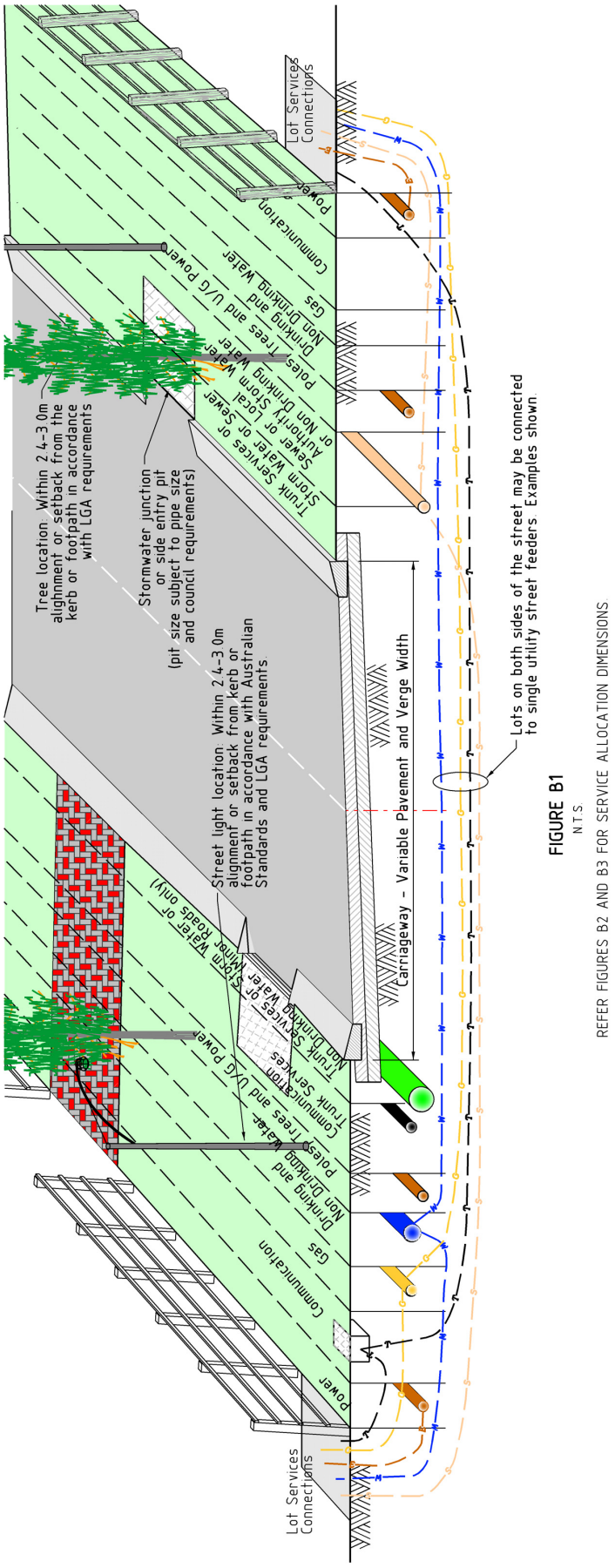
To find out more about the Leafy City Program, the benefits of planting trees or obtain images of tree species selected, please visit the City's website **joondalup.wa.gov.au** or scan the QR Code below:

Yours sincerely,

NICO CLAASSEN
Director Infrastructure Services

ILLUSTRATION OF TYPICAL ROADWAY UTILITY SERVICES ARRANGEMENTS

FIGURE B1



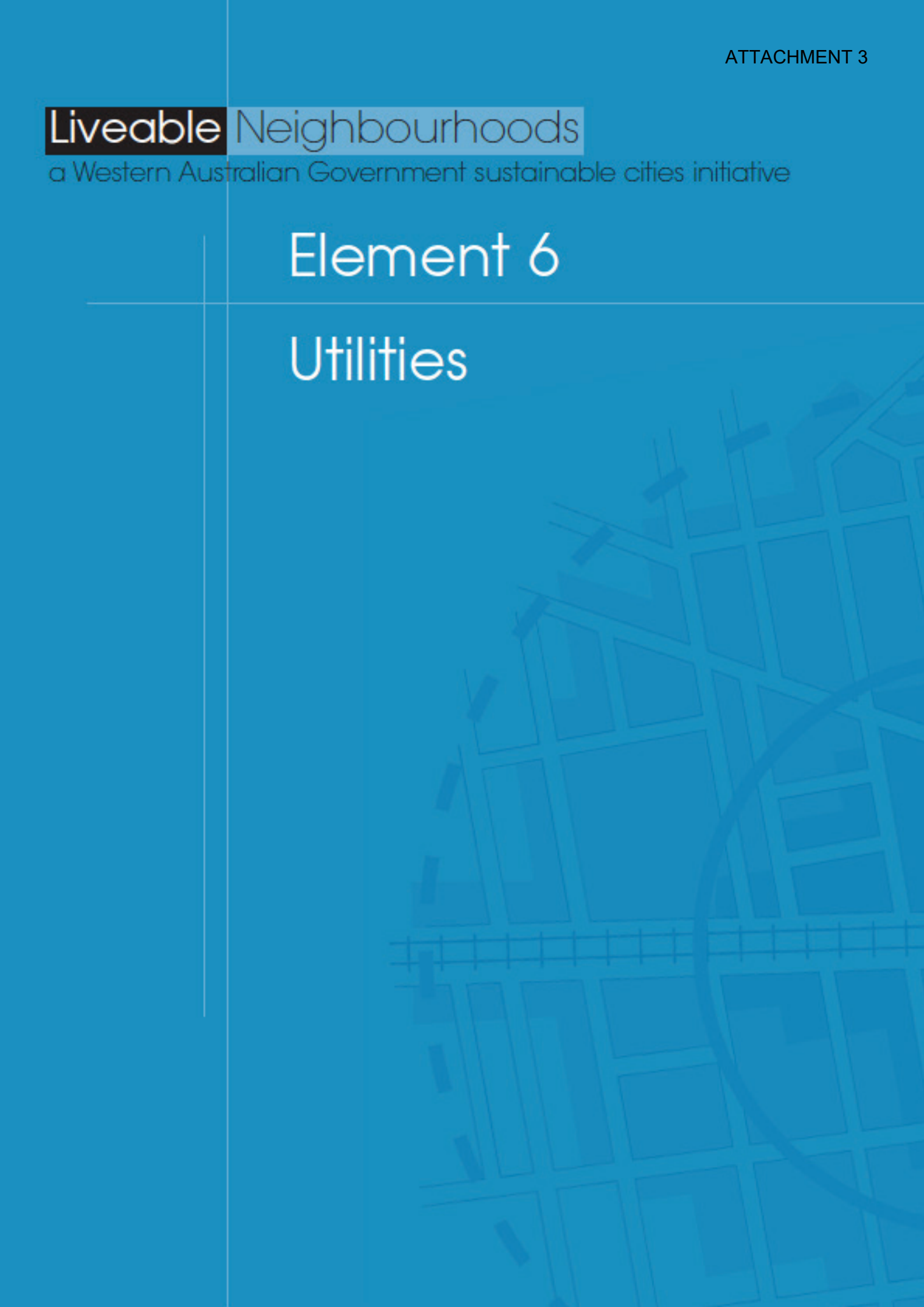
ATTACHMENT 3

Liveable Neighbourhoods

a Western Australian Government sustainable cities initiative

Element 6

Utilities



Introduction

This element covers contemporary subdivision servicing requirements and emphasises the need to predetermine, through design, the most appropriate way in which to provide utility services in a sustainable and land-efficient manner.

General principles and background to objectives and requirements

Utility services

This element requires that each new lot be provided with a standard of utility services appropriate for its intended use. The required level of services for a subdivision needs to account for the proposed use and lot size, land and servicing capability and the provisions of the town planning scheme, Government Sewerage Policy and any other relevant published policy.

Reductions in street widths

It is recognised that in addition to the transportation function of streets for vehicles and pedestrians, road reservations are also important for the distribution and protection of public utilities. Reductions in street widths are encouraged under this policy, provided that the essential requirements of the road pavement width, street trees, parking, footpaths, bike lanes and services can all be accommodated. Therefore, reductions may best be achieved through the design process and by careful placement of trunk services and some services underneath footpaths, road pavements and in rear laneways.

Reticulated sewerage

It is recognised that the provision of reticulated sewerage to development has numerous environmental and public health benefits. This policy stipulates mandatory sewer requirements, where sewerage is available, and circumstances where on-site effluent disposal systems may be accepted in accordance with Water Corporation and Health Department requirements.

Underground power

This element also recognises that considerable advantages are to be gained from underground power reticulation in residential subdivision. Benefits include improved aesthetics, a safer and more reliable power supply, greater flexibility in road design and potentially lower maintenance costs. Requirements for the mandatory provision of underground power and the circumstances where exceptions can be made to these requirements form part of this policy in accordance with the service provider's requirements.

Provision of street trees and street lighting

This element also recognises that the street is the main vehicle for promoting walkable communities, and as such needs to provide an environment that is conducive to pedestrians. As such, street trees in road reserves are an essential part of the urban environment, and to ensure the requirement for such space is not reduced to make way for servicing, street widening requirements or future servicing upgrades.

Current street lighting standards need to be reviewed to ensure adequate lighting of footpaths occurs on all streets.

Utility alignments and common trenching

The utility alignments and cross-sections included in this policy reflect minor variations to the current Utility Providers Code of Practice released by the Public Utility Services Committee in order to ensure all facilities are included in a minimum 4.1 m verge width, and the overall objectives of safety and lower traffic speeds are not compromised by increased verge widths. Where trunk services are provided, widened verges may be required.

De-regulation of some service providers has made it difficult to achieve common trenching. The WAPC strongly supports a more coordinated and efficient approach to infrastructure planning, by adopting measures such as common trenching.

Wastewater re-use

This element recognises the opportunity to reduce the potable water demands through wastewater re-use in the form of a second pipe system in the future. As such, the provision of a service alignment for the second pipe has been identified in cross-sections included in this element.

Services in rear laneways

This element acknowledges the requirement to maximise community safety and security in rear laneways and as such, the provision of metered services in rear laneways must occur in a manner that does not compromise this safety. Metered services will not be permitted where indented easements are required in the lot, unless safety and surveillance in the laneway can be adequately addressed.

Servicing authorities should be consulted at an early stage in the planning design process so that servicing requirements can be accommodated in the detailed road layout and subdivision design.

Objectives

O1 To provide new urban lots with adequate services including sewerage, water, fire fighting equipment and services, electricity, gas, street lighting and communication services in a timely, cost-effective, coordinated, efficient and aesthetically appropriate manner that supports sustainable development practices.

O2 To maximise the efficient location of utilities while providing sufficient space to accommodate large canopy street trees in all road reservations, except rear laneways.

O3 To accommodate a sewerage system that is adequate for the maintenance of public health and the disposal of effluent to maximise environmental protection.

O4 To accommodate the delivery of an adequate, reliable, safe, efficient and potable supply of water.

O5 To increase the potential for wastewater recycling in accordance with the objectives of the State Water Strategy.

O6 To provide public lighting in streets and public spaces for the safety of pedestrians, cyclists and vehicles.

O7 To accommodate services that will reduce the affect on public amenity, provide flexibility in road design and minimise maintenance costs.

O8 To encourage suitable provision of utilities in rear laneways.

Requirements

Application requirements

R1 Structure plans should where necessary be accompanied by a servicing report that identifies and documents the following matters:

- existing main/trunk services (including easements) and their proximity to the subject land;
- major sewerage and water supply infrastructure requirements, including proposed and existing sites for sewage treatment plants, pump stations, sewer mains, water towers, production bores and any associated buffers;
- major power requirements, including proposed and existing high tension transmission lines, substations and gas pipelines;
- cross-sections through typical streets demonstrating that road reserve widths can adequately accommodate essential services, street trees, footpaths, shared paths, on-street parking, road pavement widths and on-street cycling;
- an outline of the capability of and requirements for adequately servicing the subject land; and
- details relating to the objectives and management envisaged for any shared development contributions arrangement for the provision of headworks and other infrastructure, where the structure plan covers an area held in multiple ownership.

Lifecycle impacts

R2 The design and provision of public utilities, including sewerage, water, electricity, gas, street lighting and communication services should be cost effective over the lifecycle and should seek to minimise adverse environmental impact in the short and long term.

R3 The selection of materials and technologies used in the construction of service networks should be determined by suitability, durability, ease of maintenance and cost effectiveness, whole of lifecycle costing, energy savings and reduction in greenhouse gas emissions over the lifecycle of infrastructures.

Service alignments

R4 Services in streets should be provided in accordance with the service alignments identified in **figure 64 and figure 65**, which is also subject to approval by the utility service providers.

R5 In specific cases, wider shared paths and the provision of trunk services may be required, and the verge width will need to be widened accordingly.

R6 Where a shared path is not required to be provided in a street, the street tree may be located closer to the property boundary, as identified in **figure 64**.

R7 Where the common trenching of services can be achieved, the width of road verges can be narrowed by reducing by the width of the utilities corridor shown in **figure 64**.

Existing service easement

R8 Before lodging an application for subdivision for land affected by an existing public utility easement, the subdivider should negotiate with the service provider to either surrender of the existing easements; or relocation and/or realignment and protection of the utility so as to minimise affect on the delivery of an efficient and sustainable urban form.

Service locations

R9 Street verges must be of sufficient width to contain all of the anticipated services, including provision for street lighting, adequate space for large canopy street trees of an appropriate species and, where appropriate, embayed car parking, landscaping and footpaths.

R10 Rear laneways should be used to accommodate drainage and sewer services to individual lots. Laneways should not include the placement of trunk services or metered services, where the meter imposes an easement on the lot which will result in a recessed metering facility and compromised community safety, except where:

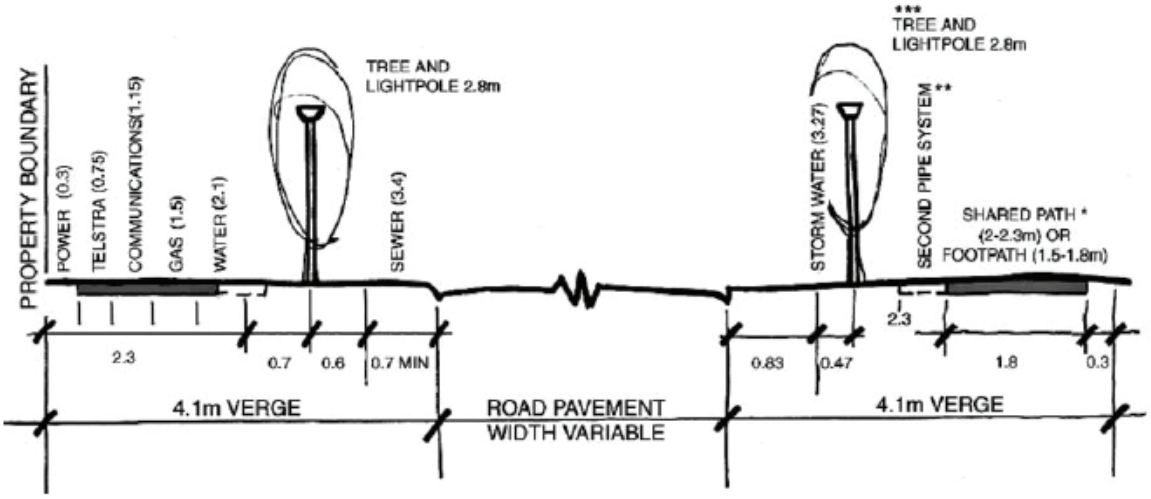
- zero setbacks to development require alternative arrangements;
- topography constrains the provision of services in primary streets; and

- development fronts public open space with laneway access only and services cannot be located in the public open space and/or under footpaths.

R11 Where metered services are required to be provided in the laneway, the following community safety issues should be addressed:

- easements associated with metered services should be located so as to minimise the affect on the lot and located so as to not compromise laneway security, surveillance and safety;
- measures to maintain the visual amenity of the laneway; and
- laneway lighting located to maximise passive surveillance and increase community safety adjacent an easement.

R12 Sewer mains may be positioned under the road pavement where maintenance is likely to be very infrequent, provided that maintenance can be carried out in a manner that will not present a public hazard or significant inconvenience during maintenance periods.

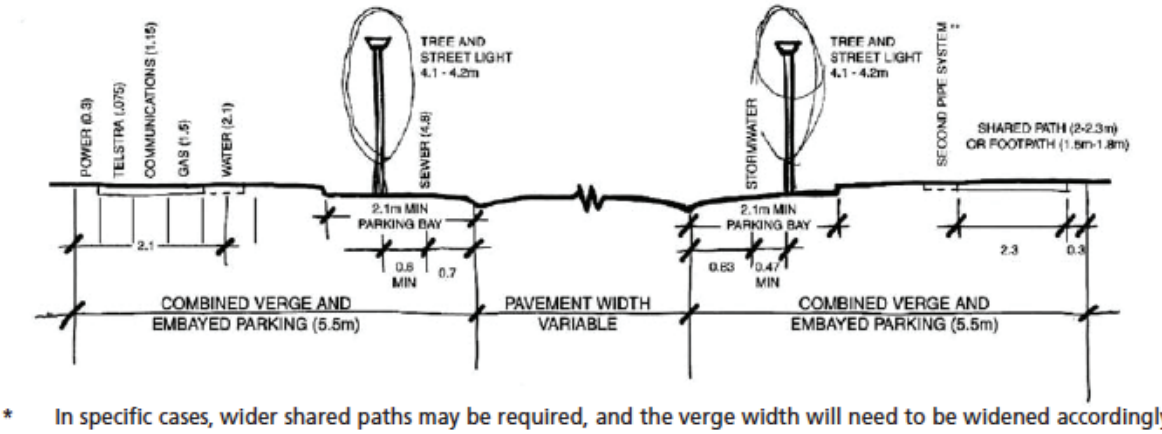


* In specific cases, wider shared paths may be required, and the verge width will need to be widened accordingly.

** Possible second pipe alignment

*** Trees may be located at 2.6 m from property boundary where there is no shared path.

Figure 64: Typical services, tree and path locations in 4.1 m verge.



* In specific cases, wider shared paths may be required, and the verge width will need to be widened accordingly.

** Possible second pipe alignment

Figure 65: Typical services, tree and path locations in 5.5 m verge incorporating indented parking.

Service provision

Underground power

R13 Provide electricity to each lot in a timely, efficient and cost effective manner.

R14 Underground power will be a mandatory requirement in areas where:

- the location is such that development is accessible to, and can be readily connected to, the existing distribution system; and
- the proposed reticulation is technically and economically acceptable to the service provider.

Gas

R15 In areas where a reticulated gas network is available provide each lot with access to a reticulated gas supply.

Sewer

R16 The WAPC will apply the requirements of the Government Sewerage Policy(s). All new lots shall be connected to a reticulated sewerage system where:

- there are extensive broad acre subdivisions, involving the creation of lots in areas not currently developed for urban purposes; and
- subdivision or density development in areas served by reticulated sewerage or which the responsible authorities determine can reasonably be connected to sewer.

R17 In areas identified as unsuitable for on-site wastewater disposal, subdivision and/or density development may not be permitted where the absence of sewerage is considered by the responsible authorities to:

- endanger public health, the environment or the quality of underground and surface water supplies; and
- prejudice, physically or financially, the ability to provide sewerage to adjoining areas.

R18 The Government Sewerage Policy Perth Metropolitan Region sets out special conditions which could provide possible exceptions to the mandatory provisions. These relate to areas where sewerage facilities are not available nor in reasonable prospect, and subject to ground conditions being suitable for the long-term, efficient, on-site disposal of effluent. The exceptions are:

a) In the inner metropolitan area where residential developments do not exceed R12.5, no individual lot on which wastewater is to be disposed is less that 700 m² in area and where in constrained areas the on-site wastewater disposal system is approved by the Executive Director, Public Health.

b) In the outer metropolitan area for:

- small infill subdivision or development which does not have potential for the creation of more than four additional lots, dwellings or single residential equivalents respectively in the immediate vicinity, and where the proposal completes rather than extends the existing pattern of subdivision and development;
- large lot subdivision which does not involve the creation of lots less than 2000 m², or density development exceeding R5, providing the responsible authorities are satisfied that no significant detriment to the environment is likely and there is no further opportunity for subdivision without sewerage;
- remote and isolated subdivisions or density developments which do not involve the potential for the creation of more than 25 lots, dwellings or single residential equivalents and the applicant can demonstrate that site conditions are suitable for effective long-term on-site disposal, residential developments do not exceed R12.5 and no individual lot containing on-site disposal is less than 700 m², and sewerage services are unavailable and impractical in the foreseeable future; and
- aged or dependent persons' accommodation which does not exceed a density of R12.5 and meets tests of need and site suitability.

R19 Similarly, outside the Metropolitan region, the WAPC will have regard to the Government Sewerage Policy: Country which specifies those towns, or parts of towns, where the provision of sewerage is mandatory for new subdivisions, together with any exceptions.

R20 Residential lots without sewerage will need to include a minimum unencumbered area of 150 m² of a suitable shape for each dwelling for the installation of an on-site effluent disposal

system. Transportation, treatment and disposal of sewage wastes must be to the satisfaction of the relevant servicing authority or local government (as appropriate), and the relevant State health and environmental regulators.

Water supply

R21 Subdivision for urban purposes must only occur in locations where there is access to an adequate reticulated water supply for domestic use and fire fighting purposes.

Public lighting

R22 Public lighting should be designed in accordance with Australian Standard 1158 and should be provided to adequately illuminate streets, footpaths, public telephones, public transport stops and major pedestrian and bicycle links including open spaces that are likely to be well-used at night to assist in providing safe passage for pedestrians, cyclists and vehicles.

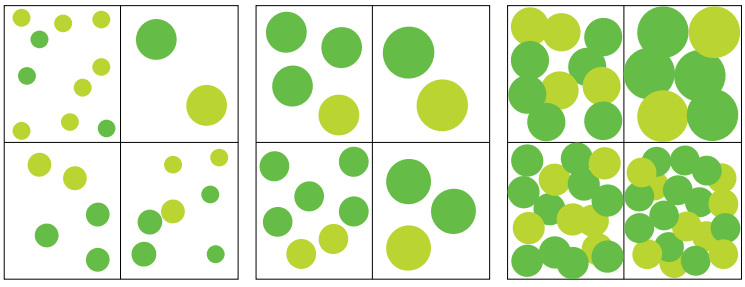
R23 Public lighting should be designed with regard to energy efficient practices and technologies. Obtrusive and upwards waste lighting should be minimised in accordance with AS 4282 (1997).

Other

R24 Payphones and public mailboxes should be located together wherever possible. Ideally they should be located at major activity centres, at neighbourhood centres and on neighbourhood connector roads, taking into account visibility, lighting, parking and effects on nearby residential properties.

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. **Figure 19:** Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	• Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes*