

## GUIDELINE

# PLANTING OF VEGETATION NEAR GAS PIPELINES

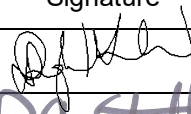
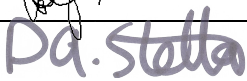

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## AUTHORISATION

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## PUBLIC

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# 1 INTRODUCTION

## 1.1 PURPOSE

With the continued growth of Australia's metropolitan centres, Jemena's pipelines are increasingly encroached upon by suburban areas where previously there was farmland, bushland or other low density land uses. During this change in land use the protection of Jemena's assets is paramount. Coordination with the relevant authorities is required to ensure Jemena's easements and land entitlements are not impinged upon. Often the solution is to turn the pipeline easement into 'community land' or 'green space' to create a buffer zone between housing and the pipeline(s).

This document is a guideline for councils and development authorities and their contractors as to the types and placement of vegetation permitted by Jemena on its pipeline easements, or alignments.

## 1.2 SCOPE

This document is intended mainly for use on Jemena Networks' Primary and Secondary pipeline assets that are not installed in an easement.

For Jemena Gas Markets and Jemena Networks licensed pipelines, this document may be used for information and to inform discussion. Any planting of vegetation on the easement or within 15m of the pipe itself must have the consent of Jemena and Jemena reserves the right to deny the planting of vegetation on its easement. Any ground penetration on a Jemena pipeline easement must only be completed once a Third Party Works Notice has been issued.

## 1.3 PLANTING OF VEGETATION

In general, planting of vegetation around the gas assets is acceptable provided roots of the plants are not capable of causing damage to the pipeline. Also free passage must be maintained along the pipeline route. Separation distances should be planned, and the expected height of the fully grown plant should be taken into account so the plant cannot fall onto any compound, fence or above ground asset, nor the roots interfere with the gas pipeline or below ground assets.

Damage and increased fire risk are issues associated with above ground assets, whilst breakages, restriction of flows and damage to pipeline coating, leading to more severe integrity issues are the risks associated with below ground assets.

## 1.4 PLANT SELECTION – GUIDE

The categories in the following table provide guidelines in selecting plants and can be used to aid in the correct choice of species for your garden and in particular the pipeline easement for all network distribution natural gas mains. This is a guide only and all proposed planting should be agreed with Jemena

## 1.5 PLANTING ZONES

**Clearance Zone** - The strip of land 3 m wide located directly above the pipeline which must be kept clear of vegetation to allow for easy access to the pipeline, clear vision of warning signs and acts as a buffer zone from deeper rooted trees.

For licenced pipelines on a designated ROW the clearance zone must be a minimum of 10m, the alignment of the pipeline must be greater than 1.5m from edge of the clearance zone. The ground in the clearance zone must be clear from canopy obstruction to allow for proper aerial surveillance of the route and landing of the surveillance vehicle if required.

**Zone A** – Perennial and Annual plants which must be less than 1 metre in height and have a shallow fibrous root system. These plants must be located no closer than 1.5 m laterally from the outer edge of the pipeline.

**Zone B** – Small shrubs which have a maximum height of 3 m and a maximum width of 4m. These plants must be located no closer than 3 m laterally from the outer edge of the pipeline.

**Zone C** – Taller shrubs and small trees which have a maximum height of 8m and maximum width of 6m. These plants must be located no closer than 5m laterally from the outer edge of the pipeline.

These zone are described in Drawing GAS-960-GL-PL-XX, attached in Appendix A

## 1.6 GENERAL INFORMATION

Please check with your local Nursery, Council or Botanic Garden about your local conditions. They can assist you in selecting the most suitable plants from the following lists.

## 2 PLANT SELECTION GUIDE

### 2.1 ZONE A PLANT SELECTION GUIDE

#### 2.1.1 LIST OF PLANTS SUITABLE FOR PLANTING IN ZONE A

Mature plants must be less than 1 m in height when grown in ideal conditions and have shallow fibrous root systems.

These plants must be located no closer than 1.5 m from the outer edge of the pipeline.

BOTANICAL NAME	COMMON NAME
GROUND COVERS:	
<b>Grevillea fasciculata</b>	Grevillea
<b>Grevillea gaudichaudii</b>	Grevillea
<b>Grevillea juniperina</b>	Grevillea
<b>Grevillea "Royal Mantle"</b>	Grevillea
<b>Hardenbergia violaceae</b>	False Sarsparella
<b>Hibbertia dentata</b>	Trailing Guinea Flower
<b>Hibbertia scandens</b>	Snake Vine
<b>Jasminum polyanthum</b>	Jasmine

<b>Kennedia rubicunda</b>	Dusky Coral-pea
<b>Pandore jasminoides</b>	Bower-of-Beauty
<b>Viola hederacea</b>	Native Violet
SHRUBS:	
<b>Boronia floribunda</b>	Pink Boronia
<b>Boronia megastigma</b>	Brown Boronia
<b>Chorizema cordarum</b>	Heart Leaf Flora-pea
<b>Gardenia augusta "Radicans"</b>	Dwarf Gardenia
<b>Hibbertia bracteata</b>	Hibbertia
<b>Hibbertia fasciculata</b>	Hibbertia
<b>Melaleuca thymifolia</b>	Feather Honey Myrtle

## 2.2 ZONE B PLANT SELECTION GUIDE

### 2.2.1 LIST OF PLANTS SUITABLE FOR PLANTING IN ZONE B

Zone B is suitable for small shrubs which have a maximum height of 3m and a maximum width of 4m when grown in ideal conditions.

These plants must be located no closer than 3m from the outer edge of the pipeline.

BOTANICAL NAME	COMMON NAME
<b>Abelia x grandiflora</b>	Glossy Abelia
<b>Abelia x grandiflora "Francis Mason"</b>	Chinese Abelia
<b>Banksia spinulosa</b>	Hairpin Banksia
<b>Banksia ericifolia</b>	Heath Banksia
<b>Callistemon speciosus</b>	Albany Bottlebrush
<b>Grevillea buxifolia</b>	Grey Spider Flower
<b>Grevillea rosmarinifolia</b>	Rosemary Grevillea
<b>Grevillea sericea</b>	Silky Spider Flower
<b>Hebe x franciscana "Blue Gem"</b>	Blue Gem Veronica
<b>Hebe x franciscana "Inspiration"</b>	Mauve Veronica

<b>Leptospermum scoparium</b>	Manuka
<b>Leptospermum squarrosum</b>	Peach Flowered Tea-tree
<b>Melaleuca incana</b>	Grey Honey Myrtle
<b>Melaleuca lateritia</b>	Robin Red Breast Bush
<b>Westringia fruticosa</b>	Coastal Rosemary
<b>Westringia glabra</b>	Violet Westringia

## 2.3 ZONE C PLANT SELECTION GUIDE

### 2.3.1 LIST OF PLANTS SUITABLE FOR PLANTING IN ZONE C

Zone B is suitable for taller shrubs and small trees which have a maximum height of 8m and a maximum width of 6m

These plants must be located no closer than 5m from the outer edge of the pipeline.

BOTANICAL NAME	COMMON NAME
<b>Acacia longifolia</b>	Sydney Golden Wattle
<b>Acacia pendula</b>	Myall
<b>Banksia serrata</b>	Red Honeysuckle
<b>Callistemon citrinus</b>	Crimson Bottlebrush
<b>Callistemon linearis</b>	Narrow-leaf Bottlebrush
<b>Callistemon viminalis</b>	Drooping Bottlebrush
<b>Grevillea banksii</b>	"Red" and "White" Banks Grevillea
<b>Hakea laurina</b>	Pin-cushion Hakea
<b>Hakea salicifolia</b>	Willow-leaf Hakea
<b>Leptospermum petersonii</b>	Lemon-scented Tea Tree
<b>Leptospermum laevigatum</b>	Coastal Tea Tree
<b>Melaleuca arinillaris</b>	Bracelet Honey Myrtle
<b>Melaleuca bracteata</b>	White Cloud Tree
<b>Melaleuca styphelioides</b>	Prickly Paperbark
<b>Pistacia chinensis</b>	Chinese Pistachio

<b>Pittosporum revolutum</b>	Brisbane Laurel
<b>Pittosporum undularum</b>	Sweet Pittosporum

## 2.4 LIST OF UNSUITABLE PLANTS

The tree and shrub species listed below are known to cause pipe damage if planted within 15m of a pipeline. Please note that the list is not exhaustive. Please contact Jemena for any queries relating to this.

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
<b>African Tulip Tree</b>	Spathodea campanulata	<b>Norfolk Island Pine</b>	Araucaria heterophylla
<b>Black Bean</b>	Castanospermum australe	<b>Hibiscus</b>	Lagunaria patersonni
<b>Black locust</b>	Robinia pseudoacacia	<b>Oaks</b>	Quercus spp
<b>Blue Quandong</b>	Elaeocarpus grandis	<b>Oleander</b>	Nerium oleander
<b>Bougainvillia</b>	Bougainvillea spp	<b>Oliver's Sassafras</b>	Cinnamomum oliveri
<b>Brush Box</b>	Lophostemon confertus	<b>Paperbarks</b>	Melaleuca spp (large growing)
<b>Bunya Pine, Hoop Pine, Cook's Pine</b>	Araucaria Spp	<b>Pepperina</b>	Schinus molle
<b>Camphor Laurel</b>	Cinnamomum camphora	<b>Pines</b>	Pinus spp
<b>Coral Tree</b>	Erythrina spp	<b>Plane Trees</b>	Platanus spp
<b>Cotoneaster</b>	Cotoneaster spp	<b>Poinciana</b>	Ocotea regia
<b>Crepe Myrtle</b>	Lagerstroemia spp	<b>Poplars</b>	Populus spp
<b>Crow's Ash</b>	Flindersia australis	<b>Queensland Kauri</b>	Agathis robusta
<b>Cypress</b>	Cupressus spp	<b>Pine</b>	Casuarina spp
<b>Figs and Rubber Trees</b>	Ficus spp	<b>Sheoaks</b>	Grevillea robusta
<b>Flame Tree</b>	Brachychiton acerifolium	<b>Silky Oak</b>	Angophora costata



<b>Gum Trees</b>	Eucalyptus spp (large growing)	<b>Smooth-barked</b>	Taxocium distichum
<b>Hackberry, Chinese Elm etc.</b>	Celtis spp	<b>Apple</b>	Tipuana tipu
<b>Swamp Cypress</b>	Cupaniopsis	<b>Indian Beech</b>	Pongamia spp
<b>Jacaranda</b>	Jacaranaa mimosaeifolia	<b>Liquidambar</b>	Liquidambar spp
<b>Mango</b>	Mangifera indica	<b>Tuckeroo</b>	Cupaniopsis anacardioides
<b>Monstera</b>	Monstera deliciosa	<b>Umbrella Tree</b>	Brassaia actinophylla
<b>White Cedar</b>	Melia azederach	<b>Willows</b>	Salix spp
<b>Yellow Jacaranda</b>	Schizolobium parahyba	<b>Wisteria</b>	Wisteria spp

### 3 PIPELINE PROTECTION MEASURES

#### 3.1 BARRIER PROTECTION

Trees planted within Zone A shall have a root protection barrier installed not less than 1 m from the side of the gas pipeline.

The barrier shall be of a suitable material and strength to prevent root ingress into the 1 m separation zone from the tree at maturity, heavy preformed concrete or polyethylene pipe/ liners used as root barrier are sufficient (e.g. Rocla or similar type concrete pipe or PE stormwater/sewer pipe).

Concrete soak-wells used as a root barrier around the tree next to a gas main are another approved option subject to blocking all holes on the full half side facing the gas main. The tree root barrier shall be a minimum 2 m long and must extend 250mm deeper than the gas pipe as a minimum

#### 3.2 ROOT ARRESTORS

Trees planted within zone B & C shall have root arrestors installed, normally consisting of properly wrapped and secured robust polyethylene/ nylon sheeting or solid concrete cylinders must be employed to a minimum depth of 1m; or 250mm deeper than the gas pipeline, whichever is greater.

#### 3.3 INSTALLATION

Installation of any such measures around Jemena assets must be performed under the supervision of a Jemena permit issuing officer and any ground penetration on a Jemena pipeline easement must only be completed once a Third Party Works Notice has been issued.

#### IN AN EMERGENCY

If in the case of an emergency please contact the Emergency response centre

**For JGN Assets in NSW - 132 909**

**For EGP - 1800 620 492**

**For QGP - 1800 177 008**

**For NGP - 1800 531 709**

**For DDP - 1800 571 880**

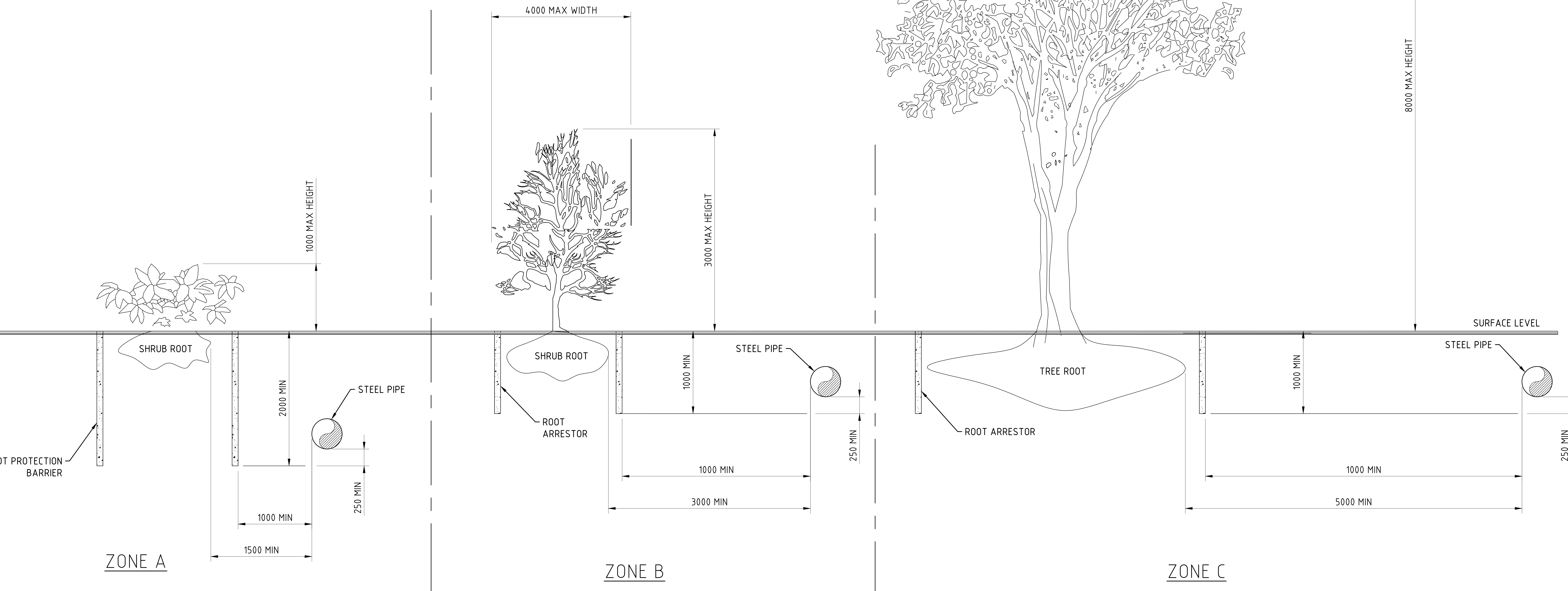
NOTES:

1. TREES/SHRUBS ARE NOT TO BE PLANTED OVER OR ADJACENT TO T-JUNCTIONS, VALVES, DISTRICT REGULATOR SETS OR CATHODIC PROTECTION POSTS AND WIRING.
2. FOR VEGETATION PLANTING DETAILS REFER TO PLANTING OF VEGETATION NEAR GAS PIPELINES GUIDELINES GAS-960-GL-PL-003.

**ZONE A:**  
SHRUB MAX HEIGHT OF 1m. MUST BE LOCATED NO CLOSER THAN 1.5m FROM THE OUTER EDGE OF THE PIPE.

**ZONE B:**  
SHRUB MAX HEIGHT OF 3m AND MAX WIDTH OF 4m. MUST BE LOCATED NO CLOSER THAN 3m FROM THE OUTER EDGE OF THE PIPE.

**ZONE C:**  
TREE MAX HEIGHT OF 8m AND MAX WIDTH OF 6m. MUST BE LOCATED NO CLOSER THAN 5m FROM THE OUTER EDGE OF THE PIPE.



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