



APPENDIX 9
INFRASTRUCTURE SERVICING
REPORT



Lot 50 Cockram Street, Mundijong
Infrastructure Servicing Report

Peet Ltd
August 2012

LOT 50 COCKRAM STREET, MUNDIJONG-INFRASTRUCTURE SERVICING REPORT

Project Brief

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1 INTRODUCTION

1.1 Background

Wave International was commissioned by Peet Ltd to prepare an infrastructure servicing report on Lot 50 Cockram Street in Mundijong. The subject land is bounded by Sparkman Road to the north, proposed Tonkin Highway to the west, Mundijong Road to the south and Adams Street to the east. The subject land is approximately 54 hectares and is shown on drawing 2681-01- SK-02 in Appendix A.

This infrastructure servicing report is prepared in support of the Local Structure Plan (LSP) submission.

1.2 Proposed Land Use

The Lot 50 Cockram Street Mundijong Development will be developed for residential purposes of standard traditional 500 to 550 sq m lots with pockets of medium density of 350 to 380 sq m lots and low density of 1500 sq m lots. Based on the preliminary concept plan by TBB, the lot yield will comprise between 472 and 507 lots depending on the options adopted.

2 SEWER

2.1 Existing Infrastructure

Currently there is no sewer reticulation network in Mundijong.

2.2 Water Corporation Planning

The Water Corporation has a long term plan to construct a permanent Type 1000 sewer pump station (Mundijong A) at Scott Road to service the whole of Mundijong. The discharge from Mundijong A will be at East Rockingham Waste Water Treatment Plant via a pressure main along the service corridor and Mundijong Road. Initially a temporary pump station will be built in Scott Road and pump northwards to an existing pump station in Byford with an approximately 20 l/s capacity available.

The availability of this 20 l/s capacity for Mundijong will be subject to ongoing monitoring and will only be available on a staged basis and will be dependent on the progressive upgrades of Byford pump station.

Water Corporation is currently undertaking a review of the sewer planning in Mundijong and it is expected that the review will be completed by November 2012.

To service Lot 50 Cockram Street, a temporary Type 40 sewer pump station can be constructed near Sparkman Road and discharge via a pressure main to the proposed temporary pump station at Scott Road.

The proposed sewer infrastructure requirements for Lot 50 Cockram Street are shown on drawing 2681-01-SK-01 in Appendix A.

3 WATER

3.1 Existing Infrastructure

The main water supply to Mundijong is currently supplied off the Serpentine Trunk Main on Summerfield Road 5.5km to the south of Mundijong Road. This water main consists of pipes of 150mm and 300mm diameters and Water Corporation is in the process of upgrading the 150mm dia. pipes to 400mm dia. pipes.

3.2 Water Corporation Planning

The long term water supply proposed for Mundijong would be a supply from the north along Soldier Road from Byford gravity tank. This proposed water distribution pipeline would vary in size from 500 to 900mm dia. Sections of the mains will be installed to allow for staging as development occurs to the north of Mundijong, but this would need to be supplied off the current network and works will be developer funded.

Water Corporation is currently undertaking a review of the water planning in Mundijong and it is expected that the review will be completed by November 2012.

However in the interim, the water supply for Lot 50 Cockram Street can be obtained from the water main at the corner of Paterson Street and Mundijong Road. It is expected that a 250mm dia. main will be laid from Paterson Road to the site.

The proposed water infrastructure requirements for Lot 50 Cockram Street are shown on drawing 2681-01-SK-01 in Appendix A.

4 ROADS AND TRAFFIC

4.1 Existing Road Infrastructure

Lot 50 Cockram Street is bounded by Sparkman Road to the north, proposed Tonkin Highway to the west, Mundijong Road to the south and Adams Street to the east.

The existing road infrastructure is described in more detail below.

- **Sparkman Road** - Sparkman Road is located to the north of the site and provides a link between Adams Street and the north of the site. Sparkman Road is not constructed.
- **Proposed Tonkin Highway** - Proposed Tonkin Highway is proposed to be located to the west of the site and there is no link between the site the Highway. The proposed Highway is separated from the site by a 60m Water Corporation service corridor.
- **Mundijong Road**- Mundijong Road is located to the south of the site and provides an east- west connection of the development area. Mundijong Road is a sealed rural road and unkerbed.
- **Adams Street**- Adams Street is located to the east of the site and provides a major link between site and the north. Adams Street is only constructed between Sparkman Road and Richardson Street.

4.2 Proposed New Road and Upgrade

Several new roads and existing road upgrading will be required to provide an acceptable level of service for the fully developed Lot 50 area and varies from existing external roads to new roads within the site.

The internal roads will be constructed as and when development occurs and will also be funded by the developer.

External roads will be constructed or upgraded when the level of service drops below the acceptable service level. The cost of upgrading / construction of the external road infrastructure will be shared between the adjoining owners. The following road infrastructure items will be required for Lot 50 area:

- **Sparkman Road** - Sparkman Road is not constructed and will be required to be constructed from the intersection with Adams Street to the Water Corporation Service Corridor. Sparkman Road may be required to be constructed to a Neighbourhood Connector B standard which is a 7.5m two lane road within a 20m road reserve. The construction of Sparkman Road will be a developer cost but cost share with adjoining owners and will be done as part of the subdivisional works or it may be done as Developer Contribution Plan.
- **Mundijong Road** - The road is currently a 7.5 m two lane rural road with a 1m shoulder and may be required to be upgraded to a four-lane divided road in a 40m road reserve. The upgrading of Mundijong Road will be a developer cost but cost share with adjoining owners and will be done as part of the subdivisional works or it may be done as Developer Contribution Plan.

- **Adams Street** - Adams Street is currently not constructed south of Richardson Street and will be required to be constructed to a Neighbourhood Connector B standard which is a 7.5m two lane road within a 22.5m road reserve. The construction of Adams Street will be a developer cost but cost share with adjoining owners and will be done as part of the subdivisional works or it may be done as Developer Contribution Plan outside the site.
- **North - South Road through the site-** the North-South Road may be required to be constructed to Integrator B standard with a 7.5m two lane road with a 2- 6 m central median within a road reserve of 25- 30 m. The construction of North-South Road through the site will be a developer cost and will be done as part of the subdivisional works.

All the above upgrading and construction of the road infrastructure have to be confirmed by a Traffic report.

The proposed road infrastructure requirements for Lot 50 Cockram Street are shown on drawing 2681-01-SK-02 in Appendix A.

5 SURFACE WATER MANAGEMENT

5.1 District and Local Water Management

Lot 50 Cockram Street falls within the area covered by the Mundijong Whitby District Structure Plan District Water Management Strategy, which was prepared by GHD (2010). The DWMS addresses broad-scale stormwater management measures over an 1800ha area which extends from the future Tonkin Highway reserve to South Western Highway.

A Local Water Management Strategy has been prepared by Wave International to further define surface water and groundwater management design concepts at Lot 50 Cockram St. The following paragraphs summarise the main outcomes of the DWMS and LWMS.

5.2 Flood Management Strategy

5.2.1 Flood Conveyance

Stormwater runoff from upstream landholdings flows via overland flow across the site from east to west. This flow, along with runoff from the Lot 50 development will be managed within the two multiple-use corridors on the site.

Stormwater will be managed to ensure that post-development flow rates are within pre-development levels and that dwellings are protected from flooding in major storm events.

5.3 Local Stormwater Management

5.3.1 Lot Runoff

Lot runoff will be managed through the use of soakwell systems to retain and infiltrate roof runoff within individual lots.

Subsoil drainage will be installed within road reserves to promote infiltration and improve the efficiency of soakwells.

Future lot owners may also opt to install rainwater tanks, which will also act to retain lot runoff on-site.

5.3.2 Road Runoff

A conventional piped network will be designed to manage road runoff, with 'leaky' side entry/gully pits located to suit appropriate spread rates and pit spacings. The level of service for the side entry/gully pits and the pipe network will be dependent on the road hierarchy.

Road runoff from minor storm events (up to 1 year ARI) will be retained and treated within bioretention systems in public open space areas to ensure water quality objectives are met.

5.3.3 Post Development Flows and Storage

To ensure that downstream landholdings are not adversely impacted by development in upstream catchments, each development must ensure that peak post-development flow rates generated by runoff from the development area do not exceed pre-development levels. This is achieved through the use of detention storage areas spread throughout the development.

Off-line storage areas will be provided within public open space to attenuate peak flows, and will discharge to open swale drains through the multiple use corridors.

6 POWER

The existing Western Power distribution infrastructure in the vicinity of the Lot 50 Cockram Street comprises of several three phase 22kV high voltage (HV) aerial feeder lines (BYF 524) from Byford Zone Substation along Taylor Road and Adams Street.

There is currently some spare capacity on the BYF 524 feeder but the actual spare capacity is not known and confirmation from Western Power will be required. This capacity is available on a first-come first-served basis.

Western Power has plans to construct a major Zone Substation along Gossage Road in Oldbury in 2025. If the supply capacity is required before 2025 Western Power will charge the developer for the full capital costs.

Western Power's Feasibility Study for Mundijong estimates that the Headworks charges will amount to approximately \$2,500 to \$3,000 per lot for the initial phase of the development. Headworks refer to distribution network reinforcements outside the subdivision that are necessary in order to provide power capacity to the subdivision. All headworks extensions, removal, moving or upgrades to the network will be fully funded by the developer.

The WAPC and Western Power will most likely stipulate that the existing HV and LV aerials adjacent to the subdivision are to be undergrounded and any existing consumers affected must have their consumer mains reconnected to the underground network.

7 GAS

There are no existing ATCO Gas (formally WA Gas Networks) gas headworks infrastructure in the vicinity of Lot 50 Cockram Street area and they have no current infrastructure planning in this area.

Provision of natural gas to the site will require the construction of a headworks high pressure gas main from Nettleton Road from Byford.

8 COMMUNICATIONS






It is envisaged that Lot 50 Cockram Street development would fall under the ambit of the National Broadband Network (NBN) which requires developers to install an approved pipe and pit system as part of the development.

Network infrastructure will be installed subsequently by NBN appointed contractors at no cost to the developers.

APPENDIX A - PRELIMINARY INFRASTRUCTURE SERVICES LAYOUT



LEGEND

	SUBDIVISION AREA
	WATER MAIN
	DN250 WATER MAIN
	SEWER GRAVITY MAIN
	SEWER PRESSURE MAIN



SCALE 1 : 4000

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