

# Network Performance Report 2016

## South Melbourne HP (H07)



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## Preparation Record

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1.0	30/05/2016	Elsie Zhao	Initial 2016 draft
1.1	19/12/2016	Anja Trifkovic	Issue 2016 draft – for review
2.0	19/12/2016	Troy Praag	Final version – issued for use

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## 1. Executive Summary

The (H07) South Melbourne high pressure (HP) network has been performing adequately in the past, however due to the rapid growth forecasted in the future, this network will require reinforcement to maintain minimum system pressure above 140 kPa as required by the Gas Distribution System Code.

### 2017/2018

- Upgrade field regulator Lorimer St P4-154 to variable control and integrate into South Melbourne HP group pressure control (GPC).

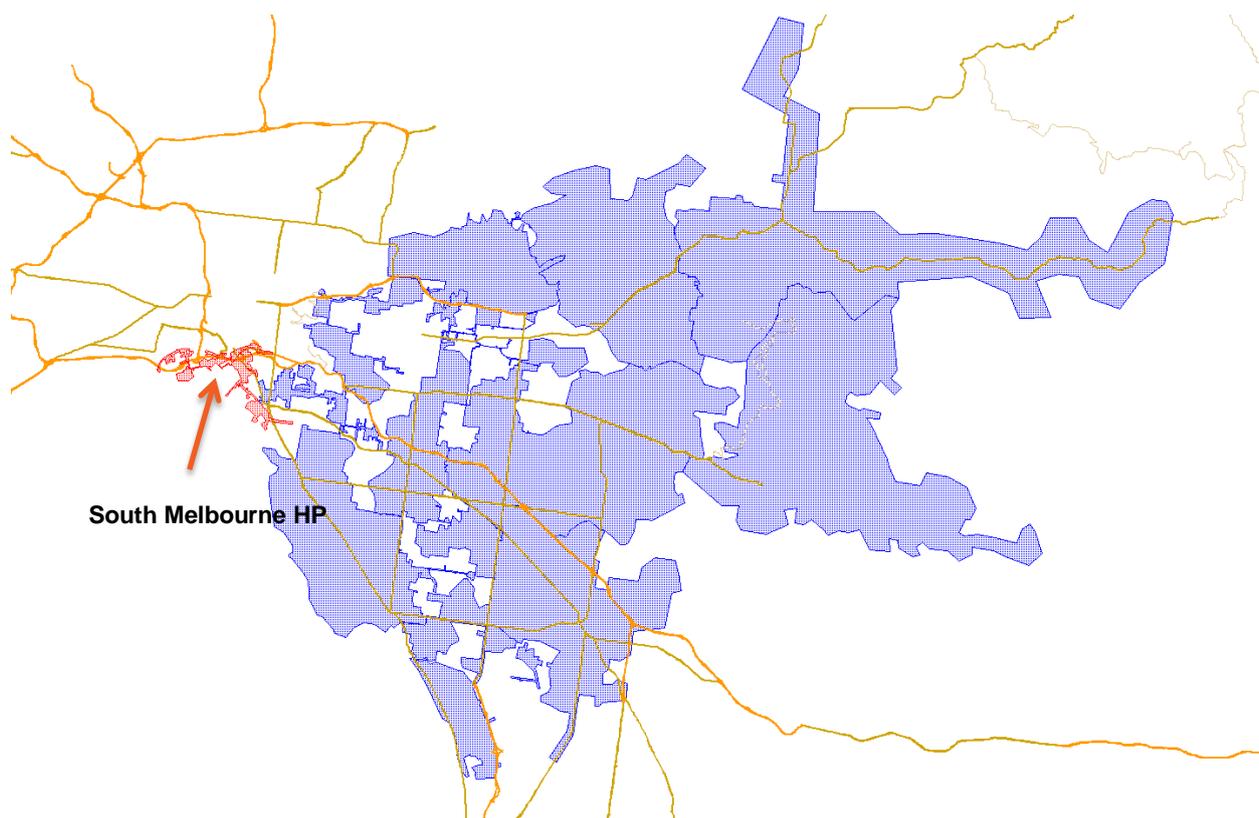
### 2021/2022

- Lay approximately 1.5 km of 180 mm P10 main in Lorimer St, Docklands, and interconnect to the existing 200 mm S4 and 100 mm S7 mains.

## 2. Introduction

The South Melbourne network is a high pressure network. It supplied by 5 field regulators which are P4-285 Howe Pde (Port Melbourne Howe Pde custody transfer meter (CTM)), P4-276 Albert Rd, P4-154 Lorimer St (Port Melbourne Lorimer St CTM), P4-024 Market St and P4-023 Ross Gregory Drive fed from APA Transmission and Multinet Gas (MG) 840 kPa system. It supplies areas of South Wharf, Fishermans Bend and Yarras Edge which have been experiencing rapid growth due to new developments.

*Figure 2-1 Overview of South Melbourne HP Network*

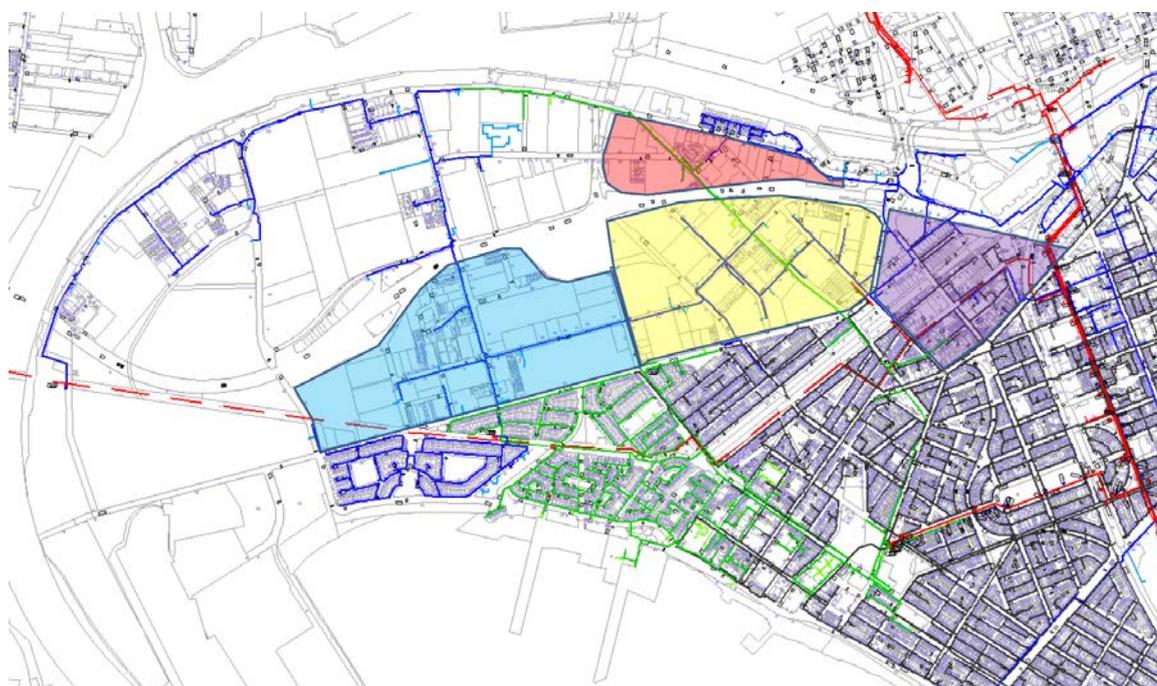


Fishermans Bend has been identified as the largest urban renewal area in Australia. (Refer to Figure 2-2) The Metropolitan Planning Authority has prepared a Strategic Framework Plan to guide the future development of the Fishermans Bend Urban Renewal Area.

Plan Melbourne<sup>1</sup> envisages central city jobs growing from 435,000 jobs in 2011 to almost 900,000 jobs by 2051. Fishermans Bend has a vital role to play in the delivery of new space for office, retail, tourism, education, health and cultural activities needed to support this growth. More than 40,000 jobs are expected in Fishermans Bend.

On average, more than 80,000 people move to Melbourne each year. Over the next 40 years, Melbourne's population is expected to grow by 3.4 million to 7.7 million. Fishermans Bend is projected to accommodate at least 40,000 dwellings and quite likely more.

**Figure 2-2 Fishermans Bend Future Development Area**



### 3. Analysis

This review is based on the latest available matched model from 2013. Forecast load growth data by postcode provided by NIEIR in June 2016 was used to forecast network capacity and augmentation works for next regulatory period from 2018 to 2022.

Suburb	2017	2018	2019	2020	2021	2022
Docklands	4.40%	3.02%	2.10%	2.13%	1.81%	2.02%

<sup>1</sup> Plan Melbourne was released in May 2014 and is currently referenced in the State Planning Policy Framework <http://www.planmelbourne.vic.gov.au/home>

## 4. Legend

The report includes schematics of the networks to visualise the network before reinforcement and the effects after reinforcement.

The legend depicting the colours for pressure ranges has been used throughout this report. The legend is as follows:

	Below 140 kPa
	Between 140 and 250 kPa
	Between 250 and 350 kPa
	Between 350 and 450 kPa
	Greater than 450 kPa

## 5. Results and Recommendations

### 2017/18

It is recommended to upgrade Lorimer St field regulator to a SCADA controlled regulator in order to fully utilise the Lorimer St field regulator capacity and reduce the load at Howe Pde, since the flow at the Howe Pde CTM is exceeding its meter capacity. The Lorimer St regulator is currently underutilised due to the absence of SCADA control.

### 2021/22

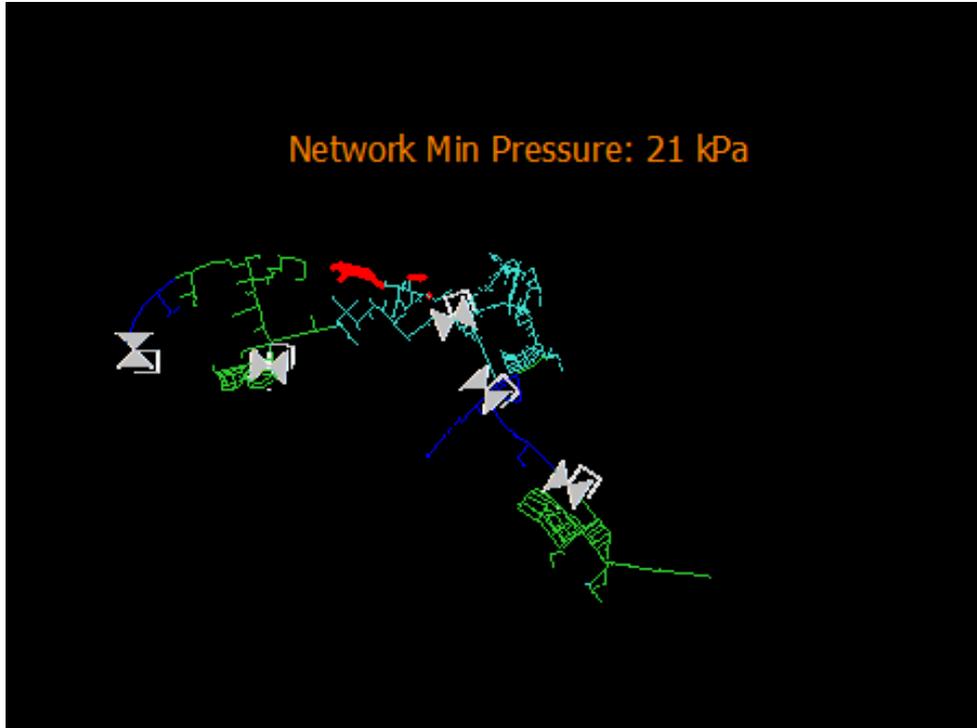
The minimum pressure will drop to 21 kPa in winter 2022. In order to maintain the system pressure above 140 kPa, the following project is recommended:

- Lay approximately 1.5 km of 180 mm P10 main in Lorimer St (Melway 2E A8), Docklands, and interconnect to the existing 200 mm S4 and 100 mm S7 mains in Lorimer St (refer to Figure 5-3 for details).

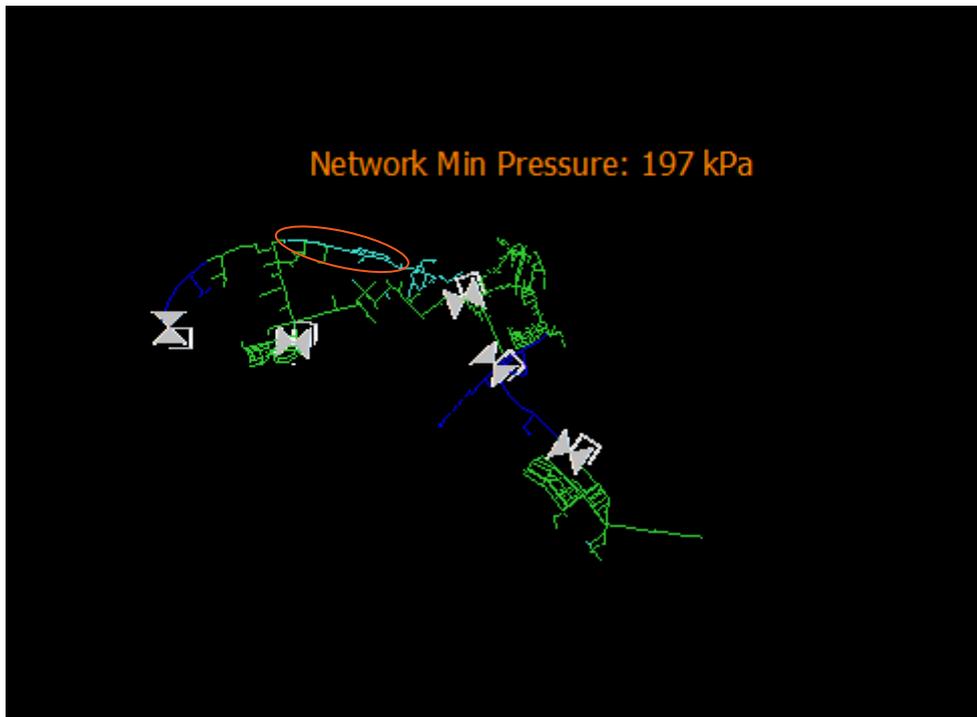
This will improve the minimum pressure to 197 kPa.

Figure 5-1 and Figure 5-2 show the network pressure profiles before and after reinforcement.

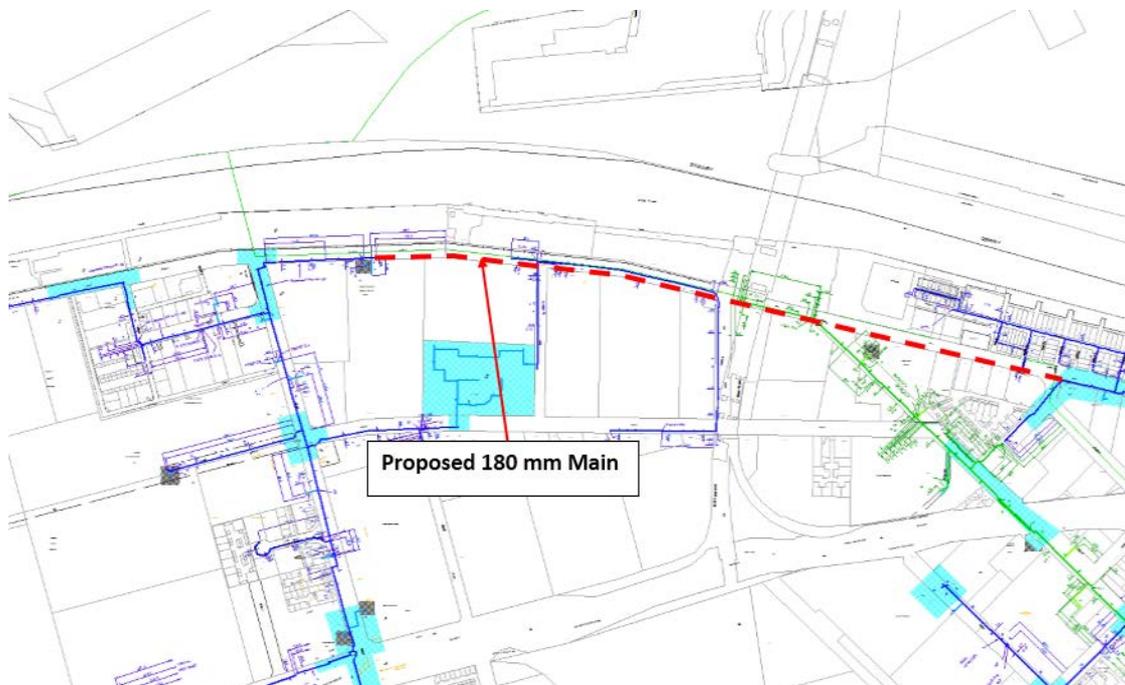
**Figure 5-1 Pressure Profile before Reinforcement**



**Figure 5-2 Pressure Profile after Reinforcement**



**Figure 5-3 Reinforcement Detail**



**Forecast minimum network pressure (kPa)**

2018	2019	2020	2021	2022	2022R
218	188	173	147	21	197

R denotes reinforcement required

## Appendix A Reference Files and Models

All SynerGEE models are saved under folder: \1. Asset Planning & Strategy\1.0 System Planning Synergiee \HP\\_GAAR2016\SthMelb\

Matching spreadsheet is saved under folder: \3.0 System Planning\\_Annual Planning\Winter Testing\Winter Testing Spreadsheet\GAAR

Forecast growth by postcode can be accessed via folder: \1. Asset Planning & Strategy\3.0 System Planning\\_Annual Planning\Winter Testing\Winter Testing Spreadsheet\GAAR