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CONCEPT STORMWATER STRATEGY

PAYCE

38 – 42, 44 & 44A WHARF ROAD, MELROSE PARK NSW 2114

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Activity schedule

Date	Revision	Issue	Initial
04.12.2015	A	Final issue	JH
10.02.2016	B	Final Issue with amendments	JH
11.02.2016	C	Final Issue with comments	JH
06.03.2017	D	Masterplan amendment	PG
20.03.2017	E	Masterplan Amendment	PG
24.03.2017	F	Masterplan Amendment	PG
29.03.2017	G	Catchment plans amended	PG

Contents

1 INTRODUCTION

Northrop Consulting Engineers have been engaged by PAYCE to prepare a concept stormwater management strategy for a proposed mixed use development located at 38 – 42, 44 & 44A Wharf Road, Melrose Park. This report has been prepared in support of a planning approval to the NSW Department of Planning for the proposed development.

1.1 Limitations

Due care and skill has been exercised in the preparation of this report.

No responsibility or liability to any third party is accepted for any loss or damage arising out of the use of this report by any third party. Any third party wishing to act upon any material contained in this report should first contact Northrop for detailed advice which will take into account that party's particular requirements.

2 SITE DESCRIPTION

2.1 Existing Site Conditions

The site is currently developed and in use for light industrial and commercial purposes. The site covers an area of approximately 25 Ha. The site is surrounded by low density residential housing to the east and west, Victoria Road to the north and existing light industrial and Melrose Park Public School to the south (refer to **Figure 1**).

Figure 1 – Site Locality Plan

Based on aerial photography, the site appears to be approximately 70 - 80% impervious predominately comprising of access roads, on-grade car parking and commercial buildings. Levels across the site range from RL 10.2 – 31.6 m AHD. The site falls from the north-west to the south-east. The topography of the site consists of terraced platforms characterised by steep embankments between gently sloping platforms with grades ranging from 2-6%. Fall across the site generally fall uniformly across the site. For more information, refer to the catchment plan attached in **Appendix A**.

There are three defined overland flow paths that traverse the site. The first overland flow runs along the rear of Bartlett Park via a grassed channel, flowing in a west to east direction towards Wharf Road. The second overland flow runs through the middle of the site in a west-east direction towards Wharf Road. All overland flow paths are man made and no remnant creeks remain on site in a natural state. The third overland flow path is located along the western boundary of the site and conveys overland flows to Hope Street.

The site is currently serviced by existing stormwater, power, water and sewer infrastructure with services reticulation being provided from major services trenches along Wharf Road and Hope Street. In addition, to the services reticulation across the site, there are major services easements which traverse through the site.

2.2 Flooding

The site is located approximately 300m north of a tidal reach of Parramatta River but is not affected by mainstream flooding from the main Parramatta River channel.

The site sits within the Archer Creek catchment which drains towards the south east and ultimately discharges to the Parramatta River. Approximately 6.28 Ha of residential land drains to the site form the North. In minor events, stormwater from the pipe drainage network discharges to the northern and western boundary of the site. During rare events, overland flow from this area is conveyed east by Victoria Road and then flows around the site through Warf Road. From there, stormwater enters the Jennifer Park floodway and the Ryde Parramatta Golf Club. Existing residential areas downstream of the site are flood prone.

Floodwater generated within the site discharges to Wharf Road via internal driveways and roads. A portion of the site also discharges south to Hope Street.

2.3 Proposed Site Conditions

The proposed development will involve the demolition of all existing buildings within the site and the construction of a new road network, open space, public amenities, residential & commercial buildings and associated services and infrastructure (refer to **Figure 2**). For more information, refer to the masterplan prepared by AJ+C.

The proposed masterplan will comprise of the following:

- Apartments 4,900
- Affordable Apartment (Min) 150
- Retail 10,500 m^2 (GFA)
- Commercial 15,000 m^2 (GFA)
- Community 3,000 m^2 (GFA)
- Childcare 1,500 m^2 (GFA)
- FSR 1.85:1

Figure 2 – Proposed Melrose Park Masterplan

3 CONCEPT STORMWATER MANAGEMENT STRATEGY

The stormwater strategy within this document has been prepared in accordance with the following:

- Parramatta DCP 2011
- Upper Parramatta River Catchment Trust On-site Stormwater Detention Handbook
- NSW Draft MUSIC Modelling Guidelines
- Correspondence from Council's drainage engineers dated 21/03/2016.

3.1 Minor and Major Drainage

As per Council's stormwater management requirements, stormwater drainage infrastructure will need to be implemented to safely manage stormwater runoff generated off the site during a minor storm event (20 year ARI storm). Stormwater runoff generated during storms larger than the minor storm event will have to be conveyed as overland flows through the proposed site. As part of the design of the site, the overland flows will be incorporated into the road reserves and public opens space.

3.2 Stormwater Quantity Management

The proposed stormwater drainage system is to be designed to ensure no net increase in peak flow into Council's existing stormwater infrastructure for all critical storm events up to and including the 100 year ARI storm event.

There is existing stormwater infrastructure located within the site. Based on survey information it is understood that approximately 60-70% of the stormwater runoff generated from the site discharges into stormwater infrastructure located in Wharf Road. The volume of runoff generated from the remaining site discharges into stormwater infrastructure located in Hope Street.

There is an existing stormwater easement located across the centre of the site (refer to Appendix A). The stormwater easement has been allocated for the benefit of private lot located to the north of the site. As part of the proposed development, all provisions will be made to maintain stormwater conveyance for this individual lot.

On-site detention (OSD) will need to be implemented across the site in accordance with the Upper Parramatta River Catchment Trust specifications.

The OSD parameters for the site are as prescribed in email correspondence from Parramatta City Council received on 21/03/2016 and are as follows:

- Site Storage Requirement - 280 m^3/ha
- Permissible Site Discharge - 190 l/s/ha

A total OSD volume of approximately 7,500 – 8,000 m^3 will be required across the site.

The above OSD volume has not allowed for any potential rainwater reuse. The extent of the rainwater reuse across the site will be subject to BASIX requirements. Rainwater reuse can be incorporated to off-set the total OSD volume required for the site and will be subject to detailed design and analysis.

3.3 Stormwater Quality Management

Stormwater pollution reduction targets will be met through a combination of gross pollutant traps, proprietary stormwater filtration cartridge devices, vegetated swales and bioretention.

Council has expressed a preference for self-maintaining systems integral with the landscape that help achieve stormwater quality targets and other ecological and landscape values. These would typically be bioretention rain garden devices at a range of scales including road side swales, street tree pits and basins within landscaped areas on super lots.

4 CONCLUSION

Northrop Consulting Engineers have been engaged by PAYCE to prepare a concept stormwater management strategy for a proposed mixed use development located at 38 – 42, 44 & 44a Wharf Road, Melrose Park. Based on a review of the existing site conditions, the scale of the proposed development and relevant engineering requirements discussed above, we are satisfied that the existing stormwater infrastructure surrounding site can be appropriately serviced to support the proposed development.

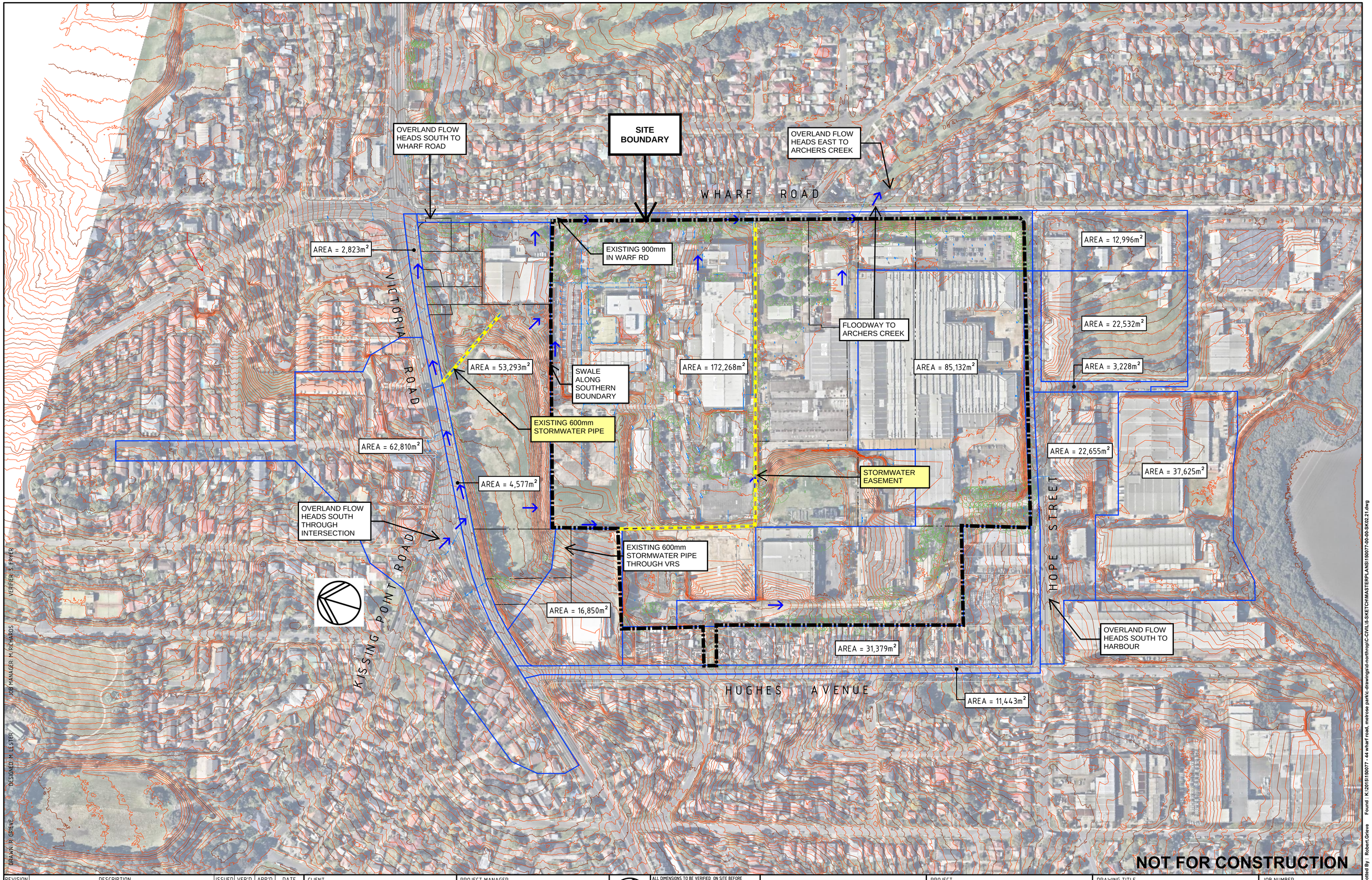
We trust the information provided in this letter provides an appreciation of the potential servicing opportunities and constraints available across the site. If you wish to discuss any of the above items in further detail, feel free to contact the undersigned on 9241 4188.

Yours faithfully

Peter Gillam
Senior Civil Engineer

Northrop Consulting Engineers

APPENDIX A



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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE

CLIENT: PAYCE

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PROJECT: 44 WHARF ROAD MELROSE PARK

MASTERPLAN

DRAWING TITLE: SKETCH

EXISTING EXTERNAL CATCHMENT PLAN

JOB NUMBER: 150077-00-00

DRAWING NUMBER: SK02.21

REVISION: 1

DRAWING SHEET SIZE = A1

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