WINTEN PROPERTY GROUP

Hyder

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# Commercial Development

## 88 Christie Street, St Leonards

## Stormwater Concept Plan and Report

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## Stormwater Concept Plan and Report

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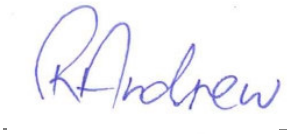
| **Author** | *Richard Andrew* |  |
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| **Approver** | *John McDermott* |  |
| **Report No** | DN00232 | |
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This report has been prepared for Winten Property Group in accordance with the terms and conditions of appointment for 88 Christie Street, St Leonards dated 17 May 2010. Hyder Consulting Pty Ltd (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

# CONTENTS

# 1 INTRODUCTION

Hyder Consulting has been commissioned by Winten Property Group to prepare a stormwater drainage concept plan and report in response to the Director General's Requirements for a Project Application for the site located at 88 Christie St, St Leonards.

The site is described as Lot50/DP3175, Lot4/DP560889, Lot71/DP542079, Lot72/DP542079, Lot10/DP3175, at Christie Street, St Leonards. The existing site is shown in Figure 1.

This report describes the existing and proposed stormwater management measures for the sites.


**Figure 1: Existing Site Location** *("AUSIMAGE © Sinclair Knight Merz Pty Ltd 2010")*

# 2 SITE DESCRIPTION

The proposed development is located in within St Leonards and falls within the local government area of Lane Cove City Council. The existing properties to be developed are described as Lot50/DP3175, Lot4/DP560889, Lot71/DP542079, Lot72/DP542079, Lot10/DP3175, at Christie Street, St Leonards.

The existing site is currently occupied by 5 commercial buildings with basement car parking and has frontages onto Christie St, Christie Lane and Lithgow Street. The site falls generally to the south west onto Lithgow Street.

The total site area for the proposed development is 2590m2 approximately.

# 3 DATA BASE

The following form the data base for this assessment and report:

1 Site inspection by Hyder Consulting 23/4/10.

2 Site Survey prepared by Craig & Rhodes, DWG. File 30709T1(01) Dated 23/10/09.

3 Architectural concept plans prepared by Bates Smart Pty Ltd Architects.

4 Lane Cove Development control Plan 2009.

5 Schematic of the stormwater drainage system adjacent to the site provided by Lane Cove Council

# 4 COUNCIL REQUIREMENTS

Any stormwater design is to be undertaken to conform with the requirements of Lane Cove Council's Development Control Plan Part O) – Stormwater Management.

The concept developed for the purposes of this report, conforms to Council's requirements and will be further developed in consultation with Council's representative officers.

# 5 STORMWATER MANAGEMENT

## 5.1 EXISTING DRAINAGE CONDITIONS

The 5 buildings currently occupy a combined area of approximately 2590m2, consisting of 100% impervious surfaces.

Stormwater drainage from the site is conveyed by the road drainage system in Christie Lane and Lithgow Street to the sag point in Lithgow Street, prior to discharge underneath the railway corridor.

Downstream of the rail corridor, stormwater drainage is conveyed overland by Berry's Creek prior to discharge into Sydney Harbour at Gore Cove.

**Photo 1: Southerly view on Lithgow Street from subject site towards the sag point.**


**Photo 1A: Westerley view on Christie Lane towards Lithgow Street.**

Existing site sub-catchment areas and impervious fractions were assessed based on site survey, aerial photography and site inspection. Refer to Drawing DACS002-01 (Appendix B) for details.

The subject discharges to the existing roads and drainage network in 2 locations:

- Discharge Location A (Figure 3) - Christie Lane via kerb connections. Sub-catchments A, D & E discharge into Christie Lane via downpipes and kerb connections (Photos 2-7 & Figure 3). Kerb and gutter in Christie Lane conveys this flow west into in Lithgow Street.
- Discharge Location B (Figure 3) - Directly to Lithgow Street. Sub-catchments B & C discharge into the road kerb and gutter via the existing converter pit in Lithgow Street (Photo 8).


**Figure 3: Existing Site Sub-catchment Areas & Discharge Locations**

**Photo 2: Kerb connection in Christie Lane (Connection 1)**

**Photo 3: Kerb connection in Christie Lane (Connection 2)**

**Photo 4: Kerb connection in Christie Lane (Connection 3)**

**Photo 5: Kerb connection in Christie Lane (Connection 4)**

**Photo 6: Kerb connection in Christie Lane (Connection 5)**

**Photo 7: Kerb connection in Christie Lane (Connection 6)**

**Photo 8: Discharge Location B –Converter Pit in Lithgow Street**

## 5.2 PROPOSED STORMWATER CONCEPT PLAN

It is proposed to develop the site to incorporate a multi storey commercial building with basement car parking (refer architectural drawings included in Appendix A).

The proposed development will not increase the imperviousness of the site, nor increase the area discharging into the drainage system in Lithgow Street. Therefore, it is not anticipated that the proposed development will increase stormwater discharges from the present condition. As a result, onsite detention will not be required for the development.

It is proposed that the roof and building drainage system for the proposed building be directed to discharge to the existing stormwater converter pit located adjacent to the site in Lithgow Street (refer to Drawing DACS003 – 01 in Appendix B for further detail). This approach maintains the existing stormwater regime in Lithgow St. The proposed connection will be completed in accordance with Council's specifications.

# 6 EROSION AND SEDIMENT CONTROL MEASURES

Erosion and sediment control measures will need to be implemented to minimise the risk of sediment mobilisation and transport during the construction period.

Erosion and sediment control measures will be designed and implemented in accordance with the 'Blue Book' (Soils and Construction – Volume 1, 4th Edition; ) produced by Landcom to minimise the risk to the environment through the generation and transportation of sediments during the construction phase.

Upon completion of the works, the site will be covered largely by roof area which will minimise the risk of sediment mobilisation during the operational phase.

# Appendix A

# Data Base

## Survey Plans

## Architectural Drawings

## Plan of Council Drainage Infrastructure (provided by Lane Cove Council).

# Appendix B

# Hyder Consulting Drawings

Drawing No. DACS001 – Title Sheet and Notes

Drawing No. DACS002 – Existing Drainage Design

Drawing No. DACS003 – Proposed Drainage Design