

# Central Park Block 4N

SSDA Stormwater Report

October 2014

Central Park JV No.2

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# Issue and revision record

Revision	Date	Originator	Checker	Approver	Description	Standard
A	16.10.14	CB	JT	JT	Draft	

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# Executive Summary

Frasers Broadway is currently redeveloping the former Carlton United Brewery site, Central Park, into a mixed use precinct. Mott MacDonald has been engaged by Central Park JV No.2 to undertake the detailed design of the roads and stormwater for Central Park. This report relates specifically to the State Significant Development Application (SSDA) for the redevelopment of Block 4N and addresses item 11 of the Secretary's Environmental Assessment Requirements in relation to SSD 6673.

The State Significant Development Application seeks approval for the redevelopment of Block 4N as a mixed use building, with associated non-residential/retail uses located on ground floor, consistent with the Concept Plan. The proposal includes residential, retail, hotel, commercial and childcare facilities. Refer to the architectural drawings for further details.

Mott MacDonald has previously prepared a stormwater quantity management study for the whole site. This report has been submitted and approved by City of Sydney Council and Sydney Water. The site stormwater reticulation system has been designed as part of this study and has been designed to accommodate flows resulting from the development of all Blocks on the site. The proposed development of Block 4N is in accordance with the proposed and approved stormwater management strategy for the site.

Measures related to sediment and erosion control are also addressed within this report.

# 1 Introduction

## 1.1 Existing Site

The Central Park site is bounded by Broadway, Abercrombie Street, Kensington Street (including properties along its eastern side) and Wellington Street. Block 4N is located at the north-west of the site and is bounded by Broadway to the north, Block 1 to the east, Block 4S to the south and Abercrombie Street to the west.

The site sits within the Blackwattle Bay (SWC17) stormwater catchment.

## 1.2 Data

A surface and underground services survey of the site and the road reserves surrounding the site has been undertaken by Degotardi, Smith and Partners as part of the project investigation. The survey includes details of the trunk lines and local street drainage.

The following surveys have been referenced or used to form the base survey:

- Blackwattle Bay SWC17 Asset Survey by AWT – 1997
- Detail and Levels Survey of the Carlton & United Brewery Site by Degotardi, Smith and Partners – July 2006
- Underground Services Survey of the Frasers Broadway Site by Degotardi, Smith and Partners – February 2008
- Detail and Levels Survey of the Catchment Area South of the Frasers Broadway by Degotardi, Smith and Partners – February 2008

## 1.3 Existing Stormwater

An infrastructure package lodged and approved as part of a separate PA (Stage 2 Site Infrastructure and Civil Works - MP 09\_0164) has been partially constructed (with the exception of the section of Central Park Avenue adjacent and to the south of the proposed Block 1). This package includes Central Park Avenue and associated services to the south-east of the proposed Block 4N.

Works approved as part of an earlier project application (Main Park and Associated Infrastructure - MP 08\_0210) have been constructed. This package encompasses roads, stormwater and services at the south of the site including a detention tank (approximate volume 2,000 cu.m) under the main park. The majority of the site, including the proposed Block 4N development, will drain to the existing detention tank.

## 2 Proposed Development

### 2.1 Proposed Development

The State Significant Development Application seeks approval for the redevelopment of Block 4N as a mixed use building, with associated non-residential/retail uses located on ground floor, consistent with the Concept Plan. Specifically, the proposal includes the following uses (as shown on the Architectural Drawing at Attachment B):

- o Residential – 3,518 m<sup>2</sup> located on levels 11 to 16 consisting of 48 permanent residential apartments
- o Retail – 236 m<sup>2</sup> located on the ground level with frontage to Central Park Ave
- o Hotel – 13,986 m<sup>2</sup> located from ground to level 18 – approximately 283 hotel rooms
- o Commercial – 6,146 m<sup>2</sup> located on levels 5 to 10
- o Childcare Centre (shell space) – 1,080m<sup>2</sup> located on level 3 and 4.
- o Existing Australia Hotel and Terraces (Heritage Pub and Terraces) – 789 m<sup>2</sup>

The proposal has a total GFA of 25,755 m<sup>2</sup> of which 22,237 m<sup>2</sup> is to be used for non-residential purposes and 3,518 m<sup>2</sup> is to be used for residential purposes in accordance with the Concept Plan (MP 06\_0171 MOD9).

Hotel facilities, including concierge, storage, swimming pool, spa, gym, conference facilities, will be located within the building. The hotel swimming pool, spa and gym will also be made available to permanent residents. Separate entries and lobbies are proposed to the commercial office, childcare, hotel and permanent residential.

The existing Australia Hotel and adjoining Abercrombie Street terraces will be retained, with the design creating a publicly accessible courtyard behind the terraces, accessible from Broadway and Abercrombie Street.

A combined basement below Block 1 and 4N is proposed, that will accommodate all car parking, bicycle parking, residential and commercial storage, waste handling, back of house facilities, building plant and services. The basement will have a connection into Block 4S and Central Park's Central Thermal Plant. Service Vehicle loading is provided via the Abercrombie Street access ramp, and car park access for residents, hotel guests, office, retail and childcare drop off carspaces provided via Central Park Avenue. The basement will accommodate a total of 130 car parking spaces for the proposed Block 4N use. Additional spaces are provided within the basement that will service Block 1 and the Brewery Yard building as shown on the Architectural Plans.

## **2.2 Site Stormwater Management Plan**

A stormwater management plan has been prepared for the development; the outcomes of which have been incorporated in the design of the stormwater reticulation infrastructure for the site and the Block 4N development.

The site stormwater system has been designed to accept the 20 year and 100 year design flows (piped and overland respectively) from Block 4N.

The proposed Block 4N will discharge to the street stormwater system in Central Park Avenue (approved under Project Applications MP 09\_0164 and MP08\_0210). The street stormwater system has been designed to accommodate flows from Block 4N and all developed blocks throughout the site.

The proposed Stormwater Reticulation for the site is indicated on Drawing MMD-286054-C-PA-CD-0003 – Concept Stormwater Layout Plan.

## **2.3 Site Grading**

Filling and grading of the site has been carefully considered and optimised respecting the following constraints:

- Proposed buildings and carpark entrances are above the 100 year ARI flood level including freeboard (where applicable);
- Flood depths on internal roads are safe for vehicles and pedestrians;
- Internal stormwater and kerb and gutter has sufficient grade to achieve self cleansing velocities; and
- Overland flow can be conveyed through the site without trapped low points.

## **2.4 Water Quality**

Water quality management, water storage and harvesting issues for the broader site are being addressed by WSP.

A Concept Erosion and Sediment Control Plan has been developed for works associated with Block 4N. Refer to drawing MMD-286054-C-PA-CD-0002 for details.

### 3 Conclusion

The site stormwater system has been designed to accommodate flows resulting from the development of all blocks within the site. Stormwater from Block 4N will discharge to the stormwater line in Central Park Avenue.

The outcomes of the approved Stormwater Quantity Management Strategy for the site, including implementation of appropriate Flood Planning Levels, will be incorporated in the design.

The proposals for Block 4N will meet the parameters agreed in the approved Stormwater Quantity Management Strategy.

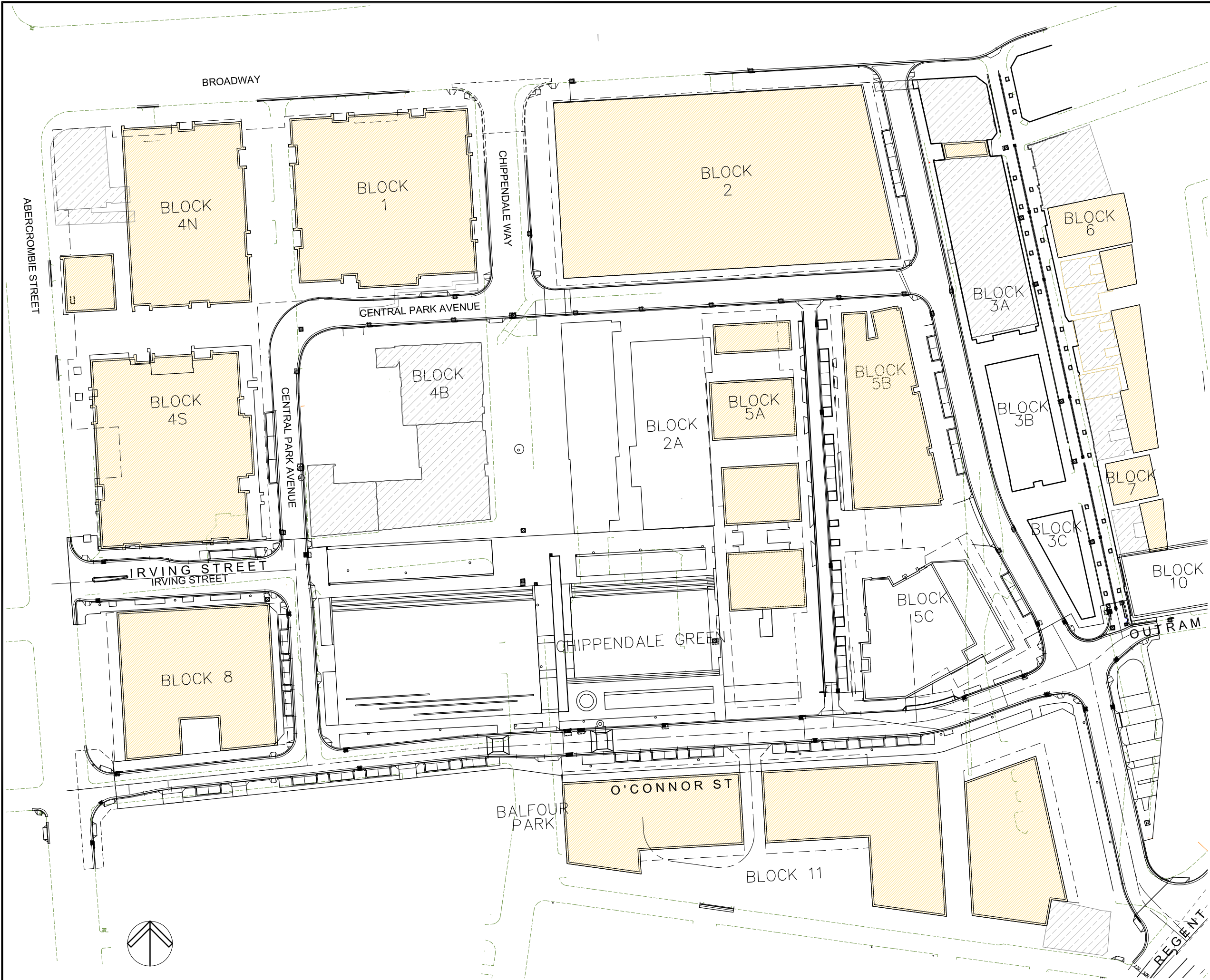
Measures relating to erosion and sediment control will be implemented as part of the development works.

# Appendices

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## Appendix A. Drawings

- MMD-286054-C-PA-CD-0001 – General Arrangement Plan
- MMD-286054-C-PA-CD-0002 – Concept Stormwater Layout Plan
- MMD-286054-C-PA-CD-0003 – Concept Sediment and Erosion Control Plan



Notes

Key to symbols

Reference drawings

P3	18.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P2	17.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P1	15.11.12	MM	ISSUED FOR PROJECT APPLICATION	CB	
Rev	Date	Drawn	Description	Ch'k'd	App'd

Level 2, 60 Pacific Highway  
St Leonards, NSW 2065  
Australia  
PO Box 151, St Leonards  
NSW 1590, Australia  
T +61 (0) 9439 2633  
F +61 (0) 9438 4505  
W www.mottmac.com.au

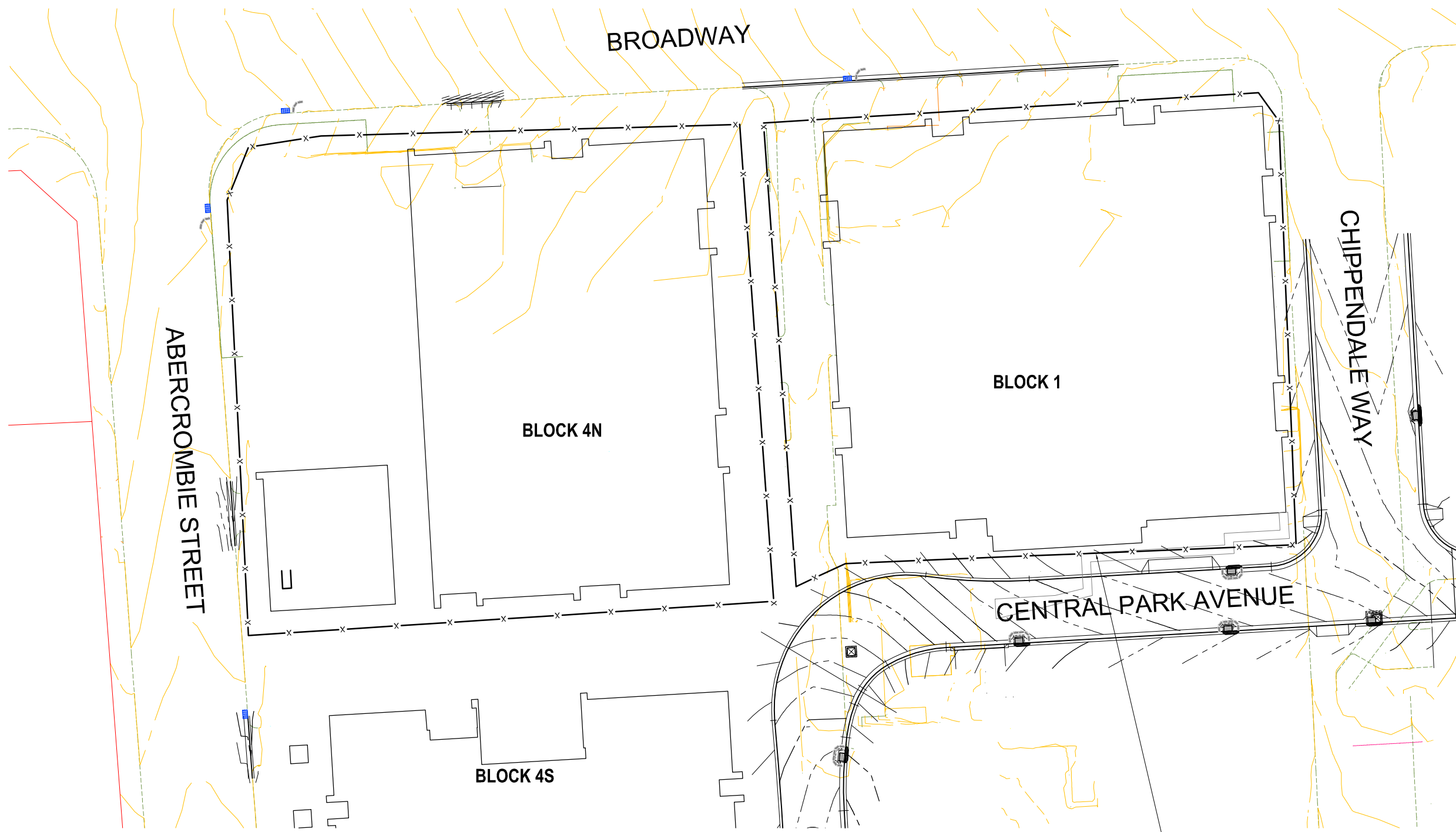
Client

**FRASERS**  
BROADWAY  
PTY. LTD.

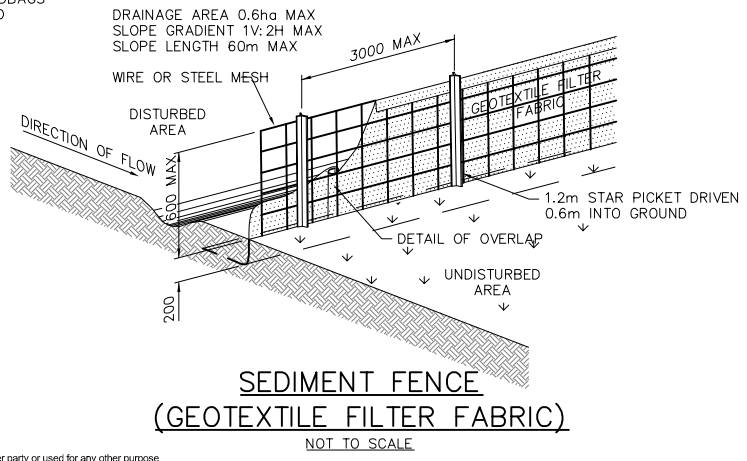
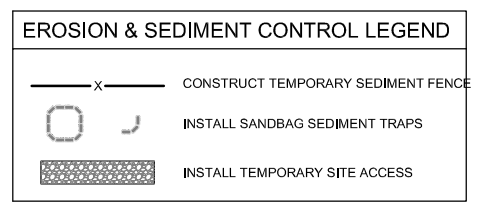
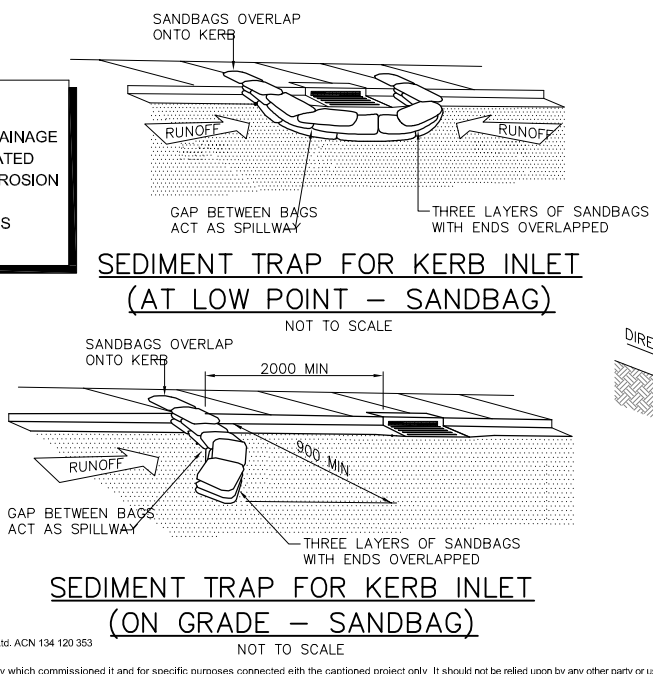
Title

CENTRAL PARK  
BLOCK 1 + 4N  
GENERAL ARRANGEMENT PLAN

Designed	CB		Eng check		
Drawn	MM		Coordination		
Dwg check			Approved		
Scale at A1	1:500	Status	PRELIM	Rev	P3
Drawing Number MMD-286054-C-PA-CD-0001					



**NOTE:**  
ALL INTERNAL DRAINAGE TO BE CO-ORDINATED AND RELEVANT EROSION AND SEDIMENT CONTROL DEVICES IMPLEMENTED.



SOIL AND WATER MANAGEMENT NOTES	
SWM1 THIS IS A CONCEPTUAL SOIL AND WATER MANAGEMENT PLAN (SWMP) ONLY, AND SHOWS A POSSIBLE WAY OF MANAGING SOIL EROSION. THE CONTRACTOR SHALL PREPARE A DETAILED PLAN AND OBTAIN APPROVAL FROM THE RELEVANT AUTHORITY - PRIOR TO THE COMMENCEMENT OF ANY WORKS.	SUITABLE FILTERING SYSTEM SHOULD THE PORES IN THE FABRIC BLOCK.
SWM2 THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND ANY OTHER PLANS, WRITTEN INSTRUCTIONS, SPECIFICATION OR DOCUMENTATION THAT MAY BE ISSUED AND RELATING TO DEVELOPMENT OF THE SUBJECT SITE.	SWM7 UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS, WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
SWM3 THE CONTRACTOR WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE CONSISTENT WITH 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION' - ALSO KNOWN AS 'THE BLUE BOOK'.	SWM8 TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
SWM4 ALL BUILDERS AND SUB-CONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.	SWM9 FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
SWM5 WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, IE THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.	SWM10 AT LEAST WEEKLY AND AFTER EVERY RAIN FALL EVENT, THE CONTRACTOR WILL INSPECT THE SITE AND ENSURE THAT -  DRAINS OPERATE EFFECTIVELY AND INITIATE REPAIR OR MAINTENANCE AS REQUIRED, SPILLED SAND (OR OTHER MATERIALS) IS REMOVED FROM HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, GUTTERS, PAVED AREAS AND DRIVEWAYS. SEDIMENT IS REMOVED FROM BASINS AND/OR TRAPS WHEN LESS THAN 20m <sup>3</sup> OF TRAPPING CAPACITY REMAIN PER 1000m <sup>2</sup> OF DISTURBED LANDS, AND/OR LESS THAN 500mm DEPTH REMAINS IN THE SETTLING ZONE. ANY COLLECTED SEDIMENT WILL BE DISPOSED IN AREAS WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS IS UNLIKELY. REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
SWM6 'SEDIMENT' FENCING WILL BE INSTALLED AS INDICATED ON THE PLANS AND AT THE DIRECTION OF SITE SUPERINTENDENT TO ENSURE CONTAINMENT OF SEDIMENT. THE SEDIMENT FENCING WILL OUTLET OR OVERFLOW UNDER STABILISED CONDITIONS INTO THE SEDIMENT BASIN, TO SAFELY CONVEY WATER INTO A	

Notes

Key to symbols

Reference drawings

P3	18.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P2	17.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P1	14.11.12	MM	ISSUED FOR PROJECT APPLICATION	CB	
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Level 2, 60 Pacific Highway  
St Leonards, NSW 2065  
Australia  
PO Box 151, St Leonards  
NSW 1590, Australia  
T +61 (0) 9439 2633  
F +61 (0) 9438 4505  
W W www.mottmac.com.au

Client

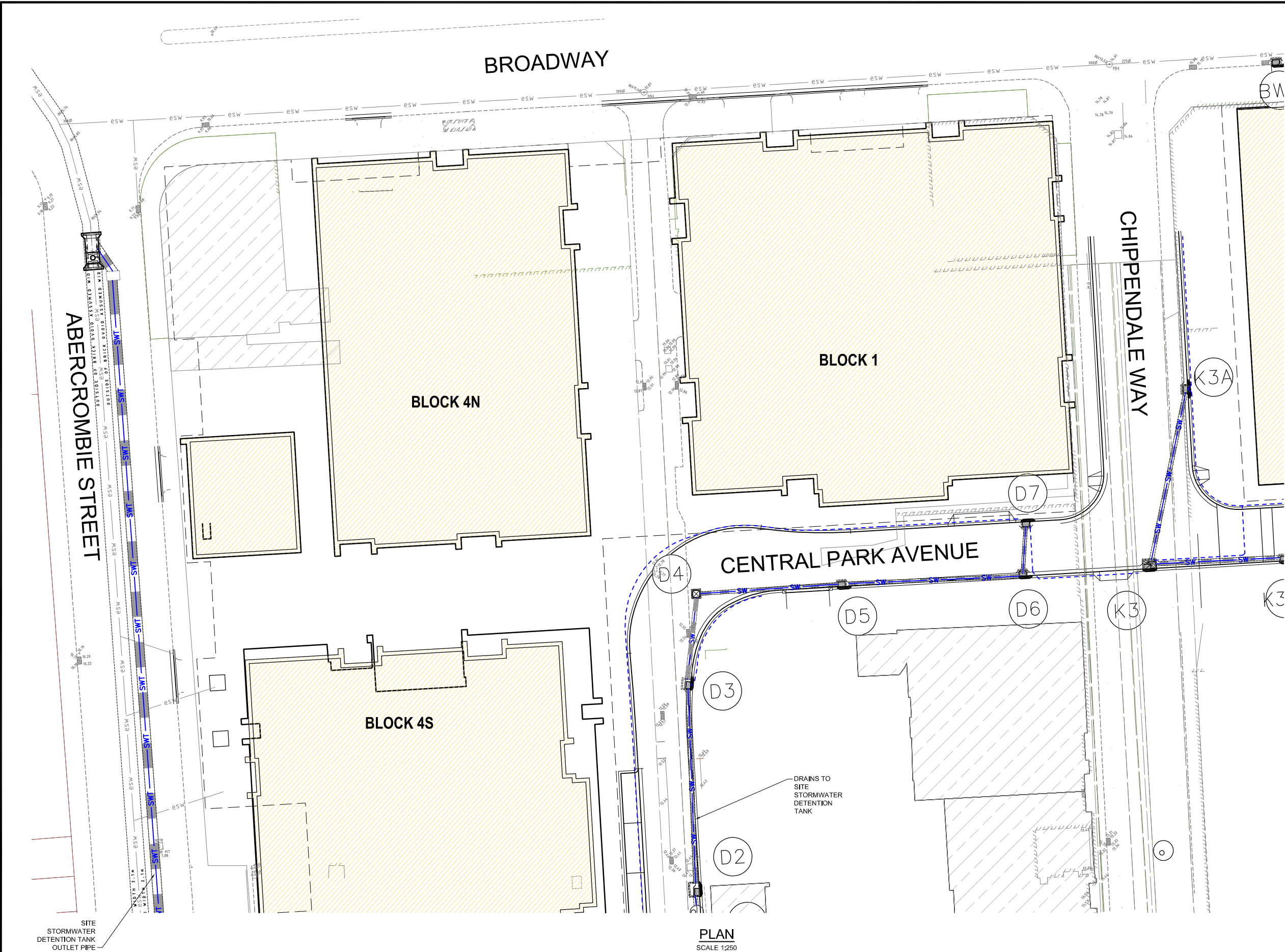
FRASERS  
BROADWAY  
PTY. LTD.

Title

CENTRAL PARK  
BLOCK 1 + 4N  
CONCEPT EROSION & SEDIMENT  
CONTROL PLAN

Designed	CB		Eng check		
Drawn	MM		Coordination		
Dwg check			Approved		
Scale at A1	1:250	Status	PRELIM	Rev	P3

Drawing Number  
MMD-286054-C-PA-CD-0002



Notes

Key to symbols

Reference drawings

P3	18.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P2	17.06.14	CB	ISSUED FOR PROJECT APPLICATION	CB	
P1	14.11.12	MM	ISSUED FOR PROJECT APPLICATION	CB	
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Level 2, 60 Pacific Highway  
St Leonards, NSW 2065  
Australia  
PO Box 151, St Leonards  
NSW 1590, Australia  
T +61 (0) 9439 2633  
F +61 (0) 9438 4505  
W www.mottmac.com.au

Client

FRASERS  
BROADWAY  
PTY. LTD.

Title

CENTRAL PARK  
BLOCK 1 + 4N  
CONCEPT STORMWATER  
LAYOUT PLAN

Designed	CB		Eng check		
Drawn	MM		Coordination		
Dwg check			Approved		
Scale at A1	1:250	Status	PRELIM	Rev	P3

Drawing Number  
MMD-286054-C-PA-CD-0003

NOTE:  
ALL ROADS AND STORMWATER SHOWN  
ON THIS PLAN HAVE BEEN APPROVED  
UNDER PROJECT APPLICATION MP09\_0164