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## Campbell's Stores – Civil Engineering Schematic Design and Integrated Water Management Report

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for Tallawoladah Pty Ltd

23<sup>rd</sup> October 2015

151261

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## 1.0 OVERVIEW

The proposed works involve redevelopment of the historic Campbell's Stores buildings and surrounds into a world class dining precinct with boutique waterfront restaurants and flexibility to cater for convention cocktail parties and gala dinners.

To the east of the historic Campbell's Stores buildings, Campbell's Cove Promenade paved levels are proposed to be adjusted create a public precinct suitable for the location and its usage. The benefits will include better protection to the historic Campbell's Stores buildings against water damage, creation of a uniform public space, and creation of a cohesive dining precinct adjacent the water in Campbell's Cove.



Existing Campbell's Cove Promenade view from Overseas Passenger Terminal



Existing Campbell's Cove Promenade looking toward Campbell's Stores from waterfront



Proposed Campbell's Stores Waterfront Dining rendering by Johnson Pilton Walker

To the west of the historic Campbell's Stores buildings, the Hickson Road footpath is proposed to be widened and a raised pedestrian crossing of will be provided to improve pedestrian amenity along the street frontage and allow expanded area for street side dining.



Existing View of Campbell's Stores from Hickson Road



Proposed Campbell's Stores Hickson Road Dining rendering by Johnson Pilton Walker

A new modern glass building known as Bay 12 is proposed to the north of the historic Campbell's Stores buildings with improved pedestrian connection and sight lines between Hickson Road and the waterfront.

## 2.0 RISKS

The primary risks are

- Electrical Transmission cable; 132kV oil filled HV cables under the site. The proposed works will reduce the cover over these cables.
- Classification and removal of existing fill on site
- Coordination of proposed storm water works with existing services
- Unconfirmed location, extent and depth of existing services
- Diversion or treatment of services as necessary
- Control of storm water quality during construction
- Maintenance of the storm water system during operation
- RMS requirements for the mooring yachts on the pier
- Heritage wall stability
- Climate Change effects on Water levels in the harbor with respect to storm surge and tide variation
- Possible underpinning required for the stair structure
- Pavement subsidence creating trip hazards
- Yacht impact on the boardwalk



### 3.0 RISK MITIGATION

- Carry out physical location of transmission cables to confirm the proposed finished levels that can be achieved in the promenade
- Carry out geotechnical testing sampling and classification of the fill to be removed to identify cost risk.
- Carry out physical location of other services to confirm the services diversion extent and / or protection of existing services required to enable the proposed works to be carried out.
- Provision of storm water treatment to limit the pollution risk during construction and to provide a maintenance schedule for operations
- Coordinate with RMS on the requirements for mooring yachts and the protection required to the proposed boardwalk
- Investigate the condition and treatment required of the stone sea wall to ensure its stability
- Provision of a storm water system to reduce the risk of degradation of the existing Campbell's Stores heritage building.
- Replacement or maintenance of blocked or broken storm water pipe work as required to ensure the maintenance of the existing infrastructure
- Provision of a pavement suitable for loading applied for the next 50 years minimum.
- Provision of suitable means (impact barriers or other controls to minimize promenade impact risk.
- Identification of foundation conditions for the boardwalk.
- Identification of foundation conditions for the stair.

## 4.0 PROPOSED WORKS AND INTEGRATED WATER MANAGEMENT PLAN

### 4.1 Overland Flow Paths and Flooding

Campbell's Store and Campbell's Promenade stormwater drainage system was identified as a problem with respect to deterioration of the sandstone structure, varying levels of rising damp and flowing water in the dining area in larger storm events.

Some existing stormwater services are blocked and the connectivity unclear.

The promenade has been built up during development changes around 1988 which had the effect of creating a trapped low point in front of the stores building.



The levels of Campbell's promenade were lower prior to 1988

Our recommendation is to;

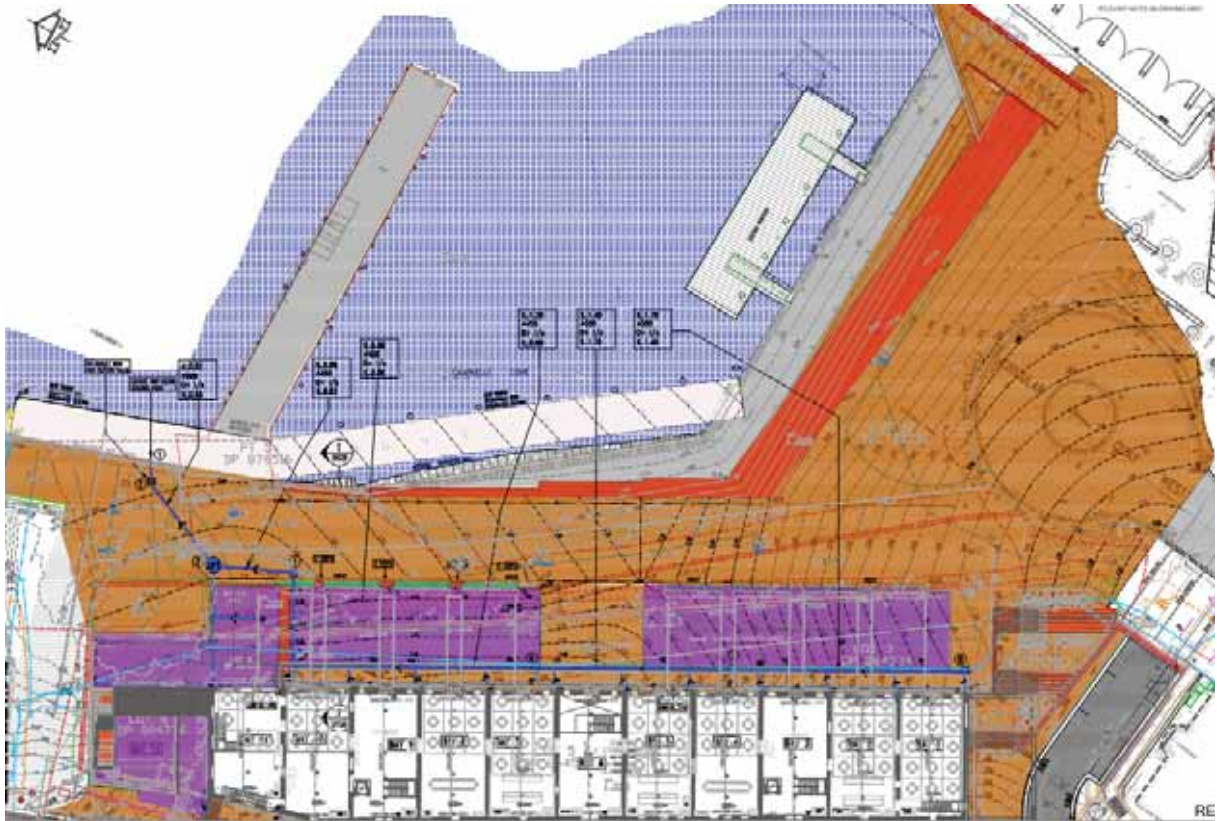
- Renew the stormwater system draining the eastern side of Campbell's store to provide improved surface drainage.
- Provide additional subsoil drainage to limit the saturated ground condition which will exacerbate rising damp conditions.
- Provide a tide valve or non return valve to limit the ingress of salt laden sea water to the building footings during higher tide cycles and storm events
- Limit the catchment draining to the front of Campbell's Store to reduce the surface flow through the outdoor dining area and at the door access paths.
- Improve the accessibility to Campbell's stores by improving the surface grading

Limits to the amendment of the promenade levels are the created by the oil filled 132kV electrical transmission lines which cannot be economically moved, and require minimum cover to be maintained as per the authority requirements.

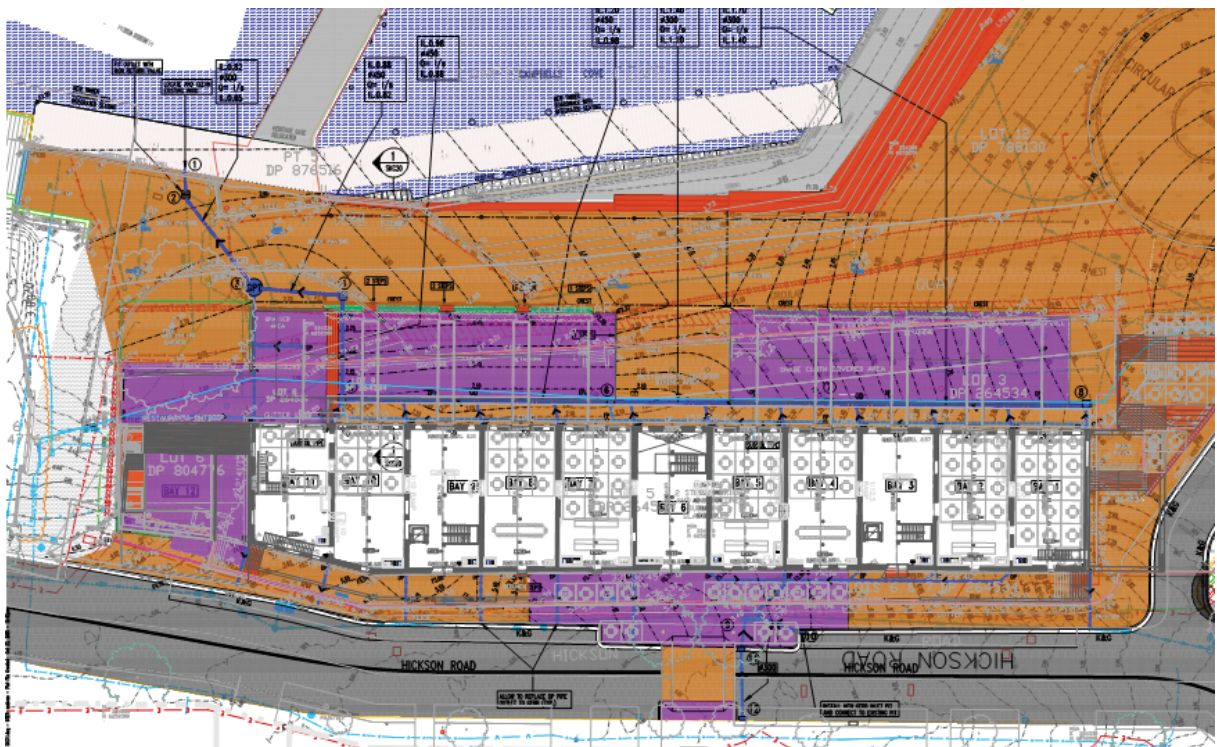
Finalisation of the promenade levels and the relief of the problems at Campbell's stores depends on complying with the necessary site limitations. The investigation into the transmission levels will be completed in November we understand.



The existing stormwater drainage system and other services based on limited services survey and Dial Before You Dig information.



Proposed levels design waterfront promenade



Proposed levels design Hickson Road

## 4.2 Water Sensitive Urban Design

NSW Maritime guidance for stormwater disposal into Sydney Harbour requires gross pollutant traps prior to stormwater discharge into the Harbour. Gross pollutant traps should have the following features;

- A removable trash screen or basket,
- At least one baffle,
- A weir located adjacent to the outlet pipe,
- A sediment zone, a minimum of 200mm high, located below the levels of the inlet and outlet pipes,
- Easy accessibility for removal of trash and sediment, and
- Weepholes in the base with a granular sub-base underneath.

## 4.3 Sediment, Erosion and Dust Controls

Construction works are to be carried out in accordance with the "Blue Book" erosion and sediment control requirements. The controls for each Stage will depend on construction staging and methodology, but will most likely include sediment fences, sandbags around pits and a vehicle wash down. An erosion and sediment control plan has been prepared as part of the schematic design drawings.

## 4.4 Schematic Stormwater Design

We have prepared schematic stormwater design for the redevelopment showing the layout and level of stormwater pits and piping, gross pollutant trap and outlet to Sydney Harbour. The stormwater schematic design plan is shown in Appendix A of this report.

We recommend investigations be commenced to physically identify services, obtain geotechnical reports on foundations and waste classification, and determine the treatment / protection required for the existing services and buildings.

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Technical Director**

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# **APPENDIX A**

## **CIVIL SCHEMATIC DESIGN DRAWINGS**

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SCALE 1:500  
AT ORIGINAL SIZE



Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
A1	REVISED	SB	AS	23/10/15					
A2	FOR PERMIT	SB	AS	24/10/15					
A3	FOR PERMIT	SB	AS	04/03/15					
A4	FOR PERMIT	SB	AS	04/03/15					

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Designer <td></td> <td></td> <td></td> <td></td> <td></td>					
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**CAMPBELLS STORE REDEVELOPMENT**

**AREAS OF WORKS PLAN**

Sheet: A1  
 Scale: 1:500  
 Drawn: AS  
 Authorised:  
 Date: 23/10/15  
 Title: SKC01  
 Revision: P4  
 Plot File Created: Oct 23, 2015 - 1:46pm

**REVIEW**

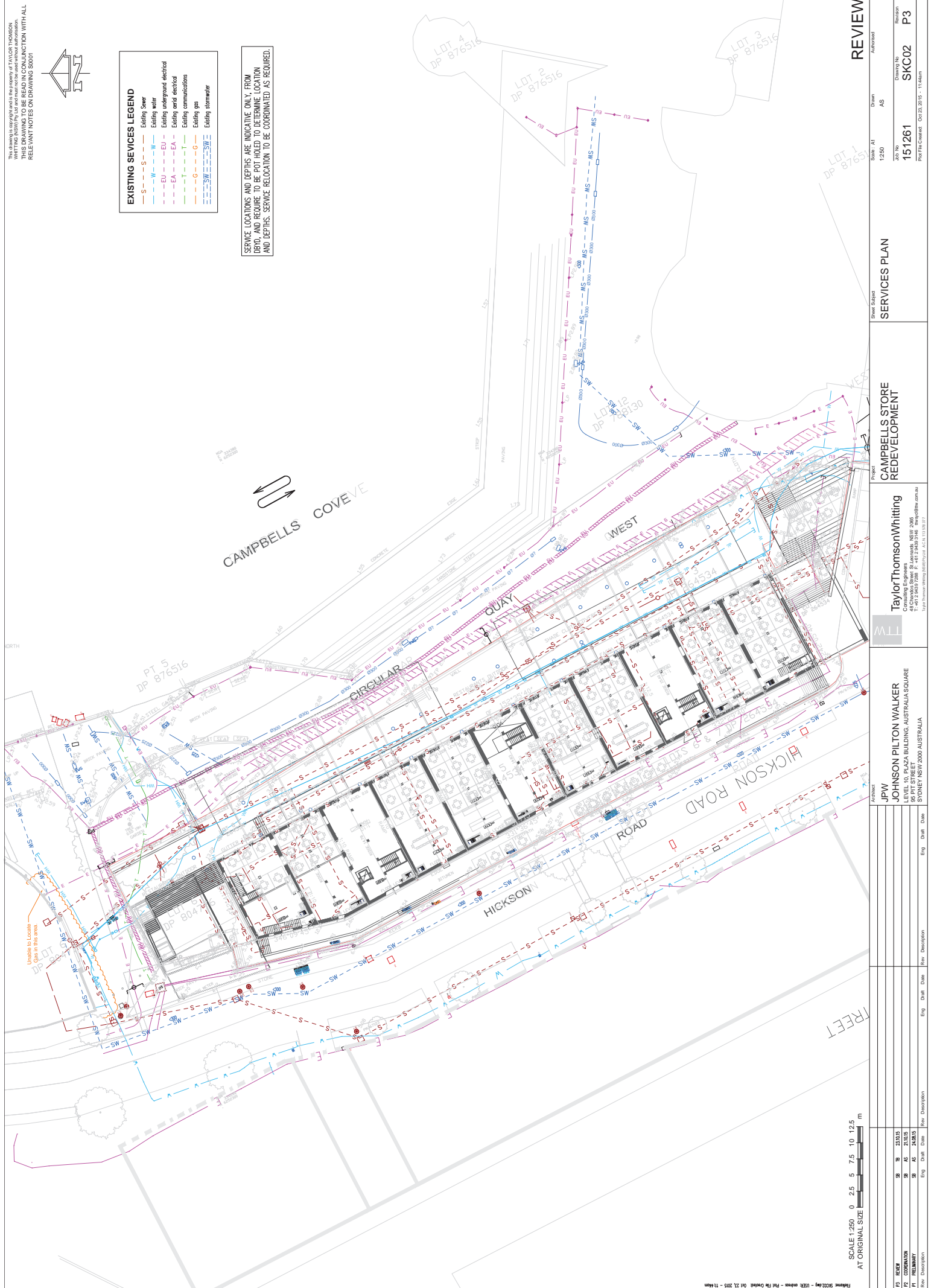
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**EXISTING SERVICES LEGEND**

— S —	Existing sewer
— W —	Existing water
— EU —	Existing underground electrical
— EA —	Existing aerial electrical
— T —	Existing telecommunications
— G —	Existing gas
— SW —	Existing stormwater

SERVICE LOCATIONS AND DEPTHS ARE INDICATIVE ONLY. FROM  
DIPED, AND REQUIRE TO BE POT HOLED TO DETERMINE LOCATION  
AND DEPTHS. SERVICE RELOCATION TO BE COORDINATED AS REQUIRED.



SCALE 1:250 0 2.5 5 7.5 10 12.5  
AT ORIGINAL SIZE m

Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
01	ISSUE	SR	AS	21/11/15					
02	COORDINATE	SR	AS	21/11/15					
03	REMARKS	SR	AS	24/11/15					

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**Project**  
CAMPBELL'S STORE  
REDEVELOPMENT

**Sheet Subject**  
SERVICES PLAN

**Scale:** A1  
1:250  
AS  
**Drawn:** AS  
**Checked:** SKC02  
**Revision:** P3  
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**REVIEW**





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02	REV	23/10/15	SB	SB	SB	
01	PRELIMINARY	24/05/15	SB	PM	SB	

ENG	DRAW	DATE	REV	DESCRIPTION

PROJECT	CAMPBELLS STORE REDEVELOPMENT
PROJECT NO	151261
DATE	02/05/2015 - 12/03/16
SCALE	A1
DRAWN	SB
CHECKED	SB
APPROVED	SB

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DATE	02/05/2015
SCALE	A1
DRAWN	SB
CHECKED	SB
APPROVED	SB

DATE	02/05/2015
SCALE	A1
DRAWN	SB
CHECKED	SB
APPROVED	SB

REVIEW

