

CONTAMINATED SITES

assessment - remediation - advice

Jarrod Hughes Tonkin Zulaikha Greer 117 Reservoir Street Surry Hills NSW 2010

14 June 2016

Dear Jarrod

# RE: SEAR Condition 11 - Addressing of SEPP 55 for the Proposed Development of the O'Connell Street Primary School, O'Connell Street Parramatta NSW

### 1. INTRODUCTION

CONSARA Pty Ltd (CONSARA) has been engaged by Tonkin Zulaikha Greer (TZG) on behalf of the NSW Department of Education (DoE) to address matters in relation to SEPP 55 as part of the planning phase of the proposed development of a primary school on a property located at O'Connell Street Parramatta NSW (the Site).

The Site was previously occupied for use as a primary and secondary school by the Kings School and the proposed development comprises the adaptive re-use of the existing buildings and facilities for a new primary school to be referred to as the O'Connell Street Primary School. The proposed development will require minor demolition works, the refurbishment and re-use of existing buildings, construction of a new school hall and outdoor learning areas and landscaping works.

The proposed development has been classified as State Significant Development (SSD) and the Secretary's Environmental Assessment Requirements (SEARs) for the proposed development were issued to DoE on 30 November 2015. Condition 11 of the SEARs required "demonstration that the Site is suitable for the propose use in accordance with SEPP55". This report has been prepared to provide a summary response to this SEAR and to provide specific consideration to demonstration of Site suitability and to State Environment Planning Policy 55 Remediation of Land (SEPP 55).

In preparing this letter CONSARA has considered and referred to the information documented in the report "Detailed Site Investigation, 3 Marist Place and 24 O'Connell Street Parramatta" prepared by SMEC Australia Pty Ltd (SMEC) and dated June 2016 (the DSI) and the relevant requirements of the guidelines made and endorsed by the NSW Environment Protection Authority (EPA) under the Contaminated Land Management Act 1997, which include the National Environment Protection Measure (NEPM) 2013 (NEPC, 2013).

# 2. ASSESSMENT OF SITE SUITABILITY

## 2.1 RESULTS OF DSI

In order to provide an assessment of the suitability of the Site for the proposed use as a primary school DoE engaged SMEC to undertake an environmental investigation on the Site. The detailed results of the SMEC investigations are presented in the DSI. In summary the results and conclusions of the DSI identified the following:



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- The Site has a long history of use as a primary and secondary school with no evidence of potentially contaminating activities having been undertaken;
- Two underground storage tanks (USTs) were identified to still be present in-situ as part of a historically
  operating boiler house on the Site but were no longer in use. It was identified that these USTs were required to
  be decommissioned and removed from the Site as part of the proposed development works;
- Concentrations of potential contaminants of concern in soil and groundwater were generally identified to be
  less than the relevant NSW EPA endorsed guidelines for land to be used as a primary school. Specific targeted
  investigations conducted directly surrounding the USTs did not identify the presence of soil or groundwater
  contamination;
- However, at a limited number of locations on the Site concentrations of some metals and polycyclic aromatic hydrocarbons (PAHs) in surface and near-surface soils were identified to be greater than the relevant guidelines. Asbestos in bonded cement form (small fragments) were also identified to be present in two limited locations where fill materials associated with building demolition materials was present in the sub-surface. The presence of these substances were attributed to the historical use of fill materials and building materials on the Site that contained, what are now known as, hazardous substances, primarily being, the historical use of asbestos in construction materials, lead based paints and PAHs in asphalt hardstand pavements;
- The soil contamination identified on the Site is considered to be generally minor in nature and limited in extent;
   and
- The Site is considered to be suitable for the proposed development, subject to the management of the identified issues which will occur as part of the construction of the proposed development and, if required, through the implementation of a Long-term Management Plan once the construction works have been completed.

#### **2.1.1** ACID SULPHATE SOILS

It is noted that the DSI identified that the Site is located within an area identified by NSW Department of Land and Water Conservation Acid Sulphate Soil Risk Map (1997), Prospect and Parramatta, as having no known occurrence of potential acid sulphate soils or they are not expected to occur in the sub-surface environment of the Site. Given that there is no known occurrence of acid sulphate soil materials beneath the Site, it is considered unlikely that acid sulphate soils will be generated during any excavation works that are required to be conducted on the Site as part of its proposed development. As such, an acid sulphate soils management plan is not required for the construction phase of the proposed development.

#### 2.2 PROPOSED DEVELOPMENT PLANS

The proposed development will comprise the refurbishment of some existing buildings and carpark areas, minor demolition works, construction of a new school hall and outdoor learning areas and a range of landscaping works.

The detailed design and specification plans for the proposed development comprises the retention of much of the existing surface coverings and the establishment of variety of new surface coverings and treatments. The detailed plans for the proposed development and final surface treatments are provided as Attachment A to this report. It is noted that the specified surface treatments for the areas of the Site not covered by the building footprint range from the retention of existing paved and grassed areas, such as on the oval, and the establishment of new planting beds, soft-fall surfaces, bitumen and concrete pavements.



It is noted that the maintenance of the existing surface treatments and coverings and the establishment of the new surface treatments, as detailed in the plans, provide for a physical barrier to exist between the surface of retained existing soils and the materials used in the final surface treatments.

#### 2.3 SUITABILITY OF SITE FOR PROPOSED USE

The results of the DSI completed on the Site have identified the presence of surface and near surface soils in limited areas of the Site that contain minor asbestos-containing materials and/or have concentrations of some heavy metals and PAHs that are greater than the relevant guidelines for land to be used as a primary school. However, given the history of the Site it is considered that the presence of these substances are likely the result of the use of hazardous materials in the buildings on the Site and that the contamination present is minor and its nature and distribution limited.

It is considered that the identified soil contamination on the Site is not considered to pose a risk of harm to the human health of future users of the Site under the proposed development for a primary school as the existing surface coverings (where they will be retained) and the proposed final surface coverings (where improvements or changes are required as part of the proposed development) are considered to be sufficient to provide an effective physical barrier between any retained contaminated or potentially contaminated soils and the future users of the land, subject to the implementation of a Long-term Environmental Management Plan (LT EMP).

Given that the nature and extent of the proposed development works on the Site includes the maintenance or improvement of suitable surface cover and surface treatments and that a LT EMP will be implemented, it is considered that once developed the Site will be suitable for the proposed primary school use.

#### 3. REQUIREMENTS DURING CONSTRUCTION

## 3.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Given that the construction works will require some disturbance of contaminated or potentially contaminated materials on the Site there is a potential of risk to the surrounding environment, associated with the potential exposure of the potentially contaminated materials, the potential for the migration of any contamination that may be present off-site or within the Site, as well as to construction personnel. During construction of the proposed development these potential risks will be managed via the implementation of specific Construction Environmental Management Plan (CEMP).

The CEMP will set out the environmental management measures that are required to be implemented during construction works in order to manage identified risks to Site personnel and the environment to ensure that:

- Comprehensive control measures are implemented to prevent the migration of potentially contaminated materials or waters off-site or within the Site;
- Works that require disturbance of existing fill materials, natural soils or bedrock are undertaken in a manner that protects the health of the workers and users of the Site;
- Any potentially contaminated materials excavated from the Site are appropriately stored, handled and, where required, either beneficially re-used on the Site or disposed of off-Site;
- Imported materials can be demonstrated to satisfy the appropriate requirements for use on the Site; and
- Any unexpected surface or sub-surface conditions are appropriately managed in accordance with the relevant guidelines, regulation and legislation.



#### 3.2 DECOMMISSIONING OF USTS

The existing and abandoned USTs, identified by the DSI to be present on the Site and historically operating as part of the boiler room, and any associated pipework or equipment present, will be decommissioned and removed as part of the construction works. This decommissioning and removal work must be undertaken to comply with the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014* (the UPSS Regulation) and in accordance with the NSW Department of Environment, Climate Change and Water (DECCW) *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008* (the UPSS Guidelines) and must be conducted in accordance with the all current and relevant WorkCover Code of Practices and Australian Standards relating to the storage and handling of dangerous goods and the removal and disposal of underground petroleum storage tanks.

As part of the DSI, the soil and groundwater sampling completed immediately surrounding the USTs did not identify the presence of contamination associated with the historical use of the USTs. Consequently, it is not considered that remediation of soil or groundwater will be required as part of the UST removal works. However, as required by the UPSS Guidelines, an investigation will be conducted once the UST infrastructure is removed to confirm the absence of contaminated soils and groundwater and a validation report will be prepared for the area of the Site subject to the UST removal works in accordance with the requirements of Part 2 Division 4 Clause 15 of the UPSS Regulation. The investigation and validation works will be undertaken by a qualified environmental consultant and the validation report prepared in accordance with the UPSS Guidelines and with the technical notes and relevant guidelines made or endorsed by NSW EPA and provided to the relevant local authority within the timeframes set out in the UPSS Guidelines and UPSS Regulation.

Should unexpected surface or sub-surface conditions be encountered during and/or after the decommissioning and removal of the USTs then the procedures set out for such events, as set out in the CEMP, will be required to be implemented and where required, any remediation works required by undertaken in accordance with the guidelines made or endorsed by NSW EPA.

## 3.2.1 ADDRESSING OF SEPP 33

The purpose of State Environment Planning Policy 33 Hazardous and Offensive Development (SEPP 33) is to provide a statewide planning approach to development that comprises hazardous or offensive industries. It is noted that the identified USTs and their associated infrastructure that are currently present on the Site have not been in use for a number of years and are not required to be re-commissioned for use in the proposed development for the Site. Consequently under the UPSS Regulation they are required to be decommissioned and removed from the Site. This decommissioning work, as part of the proposed development on the Site, does not satisfy the definition of "hazardous or offensive industry" or "potentially hazardous or offensive industry" under SEPP 33 and as such the proposed development does not trigger any requirements under SEPP 33.

#### 3.3 REMOVAL OF HAZARDOUS BUILDING MATERIALS

The DSI provided a summary of a Hazardous Building Materials Audit completed on the buildings on the Site by SMEC in 2016. The results of this Audit identified the presence of asbestos containing materials and friable asbestos in various buildings, poly-chlorinated bi-phenyl containing light fittings and lead based paint systems. In accordance with the recommendations of the audit, hazardous building materials will removed or otherwise appropriately encapsulated as part of the early stage of construction works on the Site. This will be undertaken in both buildings that are to be retained and subject to refurbishment and the buildings that are to be demolished.



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This work will be undertaken by appropriately trained occupational hygienists and in accordance with relevant WorkCover Codes of Practice, regulations, guidelines and legislation. This work will also be undertaken in accordance with the requirements of the CEMP.

## 4. REQUIREMENTS POST CONSTRUCTION FOR LT EMP

On completion of the construction works and prior to the commencement of the use of the Site as a primary school a Long-term Environmental Management Plan (LT EMP) will be prepared by a qualified environmental consultant. For clarity the LT EMP will be implemented for the Site to set out the procedures that are required to be implemented to ensure that:

- Users are not exposed to potentially contaminated soils located beneath the constructed surfaces of the completed primary school;
- Works that require disturbance of the any surface coverings on the Site are undertaken in a manner that
  protects the health of the workers and users of the Site.

The LT EMP is required to be developed in accordance with the requirements of NSW DEC (2006) and to be written in plain English to be understood by non-professionally trained personnel.

The LT EMP must address the following:

- Why the LT EMP is required;
- Who is responsible for implementing the LT EMP;
- Where the LT EMP applies;
- How the LT EMP will be implemented, including corrective actions and reporting requirements; and
- When the LT EMP is required to be implemented and its duration.

The LT EMP must include the following information:

- The objective/s;
- Description of the completed primary school utilising as-built drawings showing the detail of the layout and surface treatments;
- A survey plan at A3 scale showing the locations of:
  - The cadastral boundaries of the Site;
  - The buildings and other relevant features constructed on the Site;
  - Description of the nature of the contaminated and potentially contaminated soil materials present in the sub-surface environment at the Site;
- Description of the restrictions and controls for the Site;
- Descriptions of what measures should be taken if the surface coverings on the Site are breeched;
- Description of responsibilities for persons implementing various elements of the LT EMP and the person/s
  responsible for ensuring the its overall management;
- Detail on how the LT EMP will be legally enforceable;
- Timeframe that applies to the LT EMP; and
- Health and safety requirements each relevant element required by the LT EMP.



#### 5. COMPLIANCE WITH SEPP 55

The purpose of SEPP 55 is to provide a statewide planning approach to the remediation of contaminated land. SEPP 55 defines remediation as 'removing, dispersing, destroying, reducing, mitigating or containing the contamination of any land, or eliminating or reducing any hazard arising from the contamination of any land (including by preventing the entry of persons or animals on the land)'. SEPP 55 specifies when remediation work does and does not require development consent from the consent authority. Remediation works that require development consent are classified as Category 1 remediation works and remediation works that do not require development consent are Category 2 remediation works.

A description of the works to be undertaken to ensure the suitability of the Site for use as a primary school is set out below along with an assessment of the category that these works trigger under SEPP 55.

#### **5.1 PROPOSED WORKS**

The proposed development works on the Site ensure the maintenance of existing suitable surface coverings and the establishment of new suitable surface coverings that provide a physical barrier that prevents exposure of the future users to any contaminated or potentially contaminated soils that may remain in the sub-surface of the Site at the completion of the development works. The proposed development works also include, as part of the construction phase, the decommissioning and removal of the identified abandoned USTs and associated infrastructure and the removal of hazardous building materials that may be present in existing buildings that are to be retained and refurbished and also the removal of such materials from buildings that are to be demolished. These works will be completed in accordance with a CEMP to be developed for the construction works. Once construction works are complete and use of the Site as a primary school commences the maintenance of the surface coverings will be provided for by the implementation of a Long-term Environmental Management Plan (LT EMP) that will ensure the on-going suitability of the Site for use as a primary school.

This approach to achieving Site suitability is consistent with that undertaken on other similar development sites in NSW and is consistent with the guidance set out by the NSW EPA for Sites that do not have history of commercial/industrial use; where contamination or potential contamination is minor and exposure prevented by an appropriate physical barrier and implementation of a LT EMP.

In accordance with SEPP55, the approach to be undertaken to achieve Site suitability could be described as "mitigating or containing the contamination of any land" and thereby satisfies the definition of "remediation" provided in SEPP55. Given that proposed development on the Site is SSD and that the Site is listed on the State Heritage Register, the works to be conducted to contain and mitigate the identified contamination on the Site are classified as Category 1 Remediation work and require consent.

## **5.2 PLAN FOR THE "REMEDIATION"**

SEPP 55 and associated guidelines that are relevant to ensuring that sites in NSW are suitable for proposed land use set out that should a site be required to be made suitable for a proposed development then a plan for the "remediation" works in order to achieve suitability be prepared. Such plans are usually prepared as a Remediation Action Plan in accordance with the relevant requirements of the NSW OEH (2011) guidelines.

However, as detailed in Section 2.3 and 5.1 above, the proposed development of the Site will inherently render the Site suitable without the requirement for any specific active remediation works or subsequent validation or monitoring works. Given this and that the management measures set out in this report are to be implemented during construction



and post-construction, it is considered that the preparation of a specific Remediation Action Plan for the Site is not necessary to ensure that suitability is achieved. Rather the plan for ensuring the suitability of the Site is to complete the proposed development works in accordance with the detailed plans that are provided in Attachment A and with the CEMP and other during construction requirements set out in Section 3 of this report. Once the development works are completed and prior to use of the Site as a primary school the LT EMP will be prepared for implementation in accordance with the requirements set out in Section 4 above.

This report provides an appropriate approach and a complete plan for ensuring that the suitability of the Site will be achieved as part of the proposed development and has been developed in accordance with the relevant guidelines made or endorsed by NSW EPA. This report is considered to satisfy the requirements for the provision of a plan for remediation for Category 1 Remediation Work under SEPP55 to ensure the suitability of the Site for its proposed use.

#### 6. CLOSURE

It is considered that this report, together with the DSI, adequately addresses the requirements of Condition 11 of the SEARs for the proposed development. Should there be any further questions relating to the information presented above please do not hesitate to contact me.

**Kind Regards** 

Rebecca Organo

**Principal Environmental Scientist** 

Encl: Attachment A



### **REFERENCES**

ASTM Standard Practice D2488-90 *Description and Identification of Soils (Visual-Manual Procedure.* American Society for Testing and Materials.

AS1726-1993. Geotechnical site investigations Australian Standard.

AS4964-2004. Australian Standard Method for the Qualitative Identification of asbestos in bulk samples.

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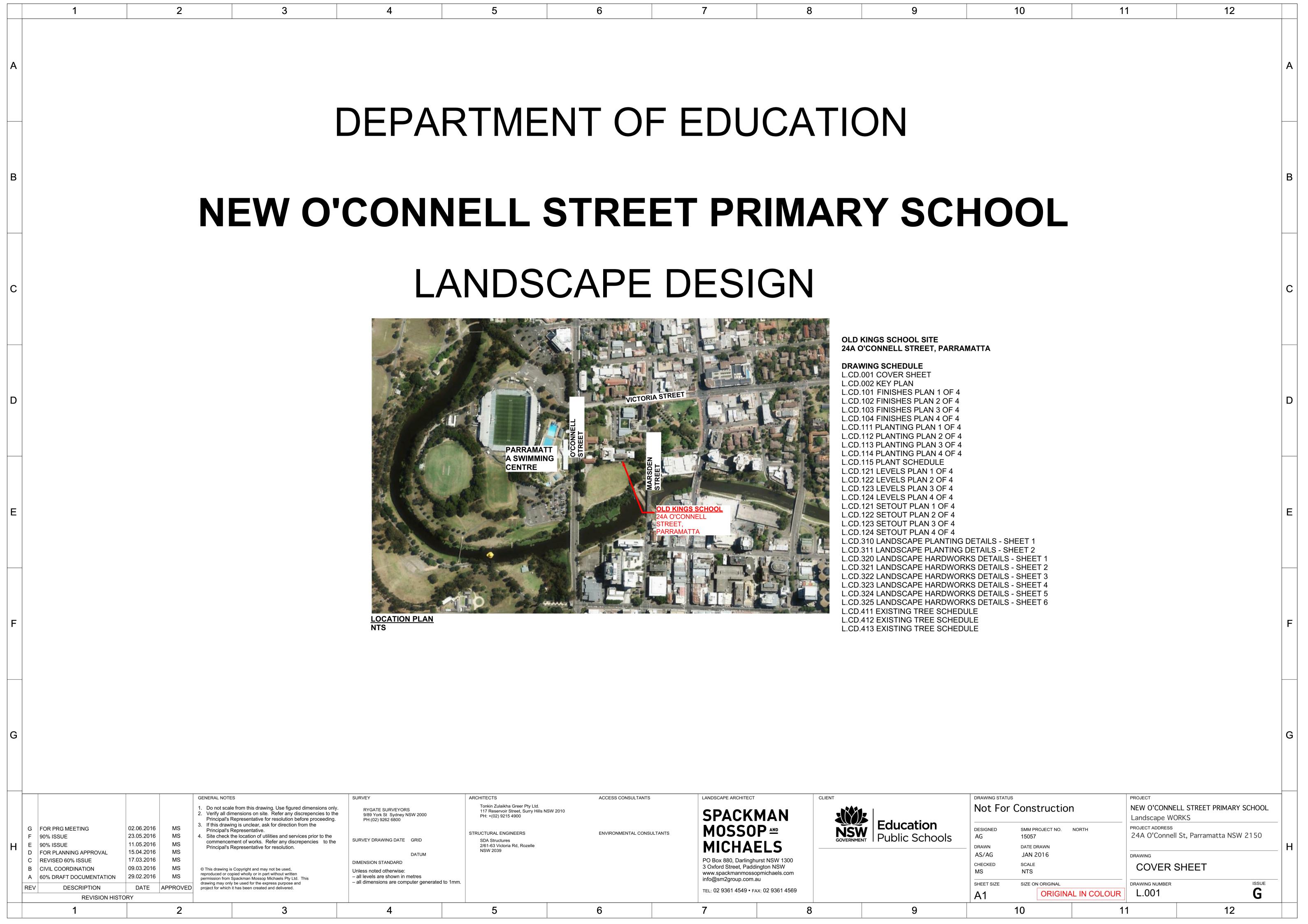
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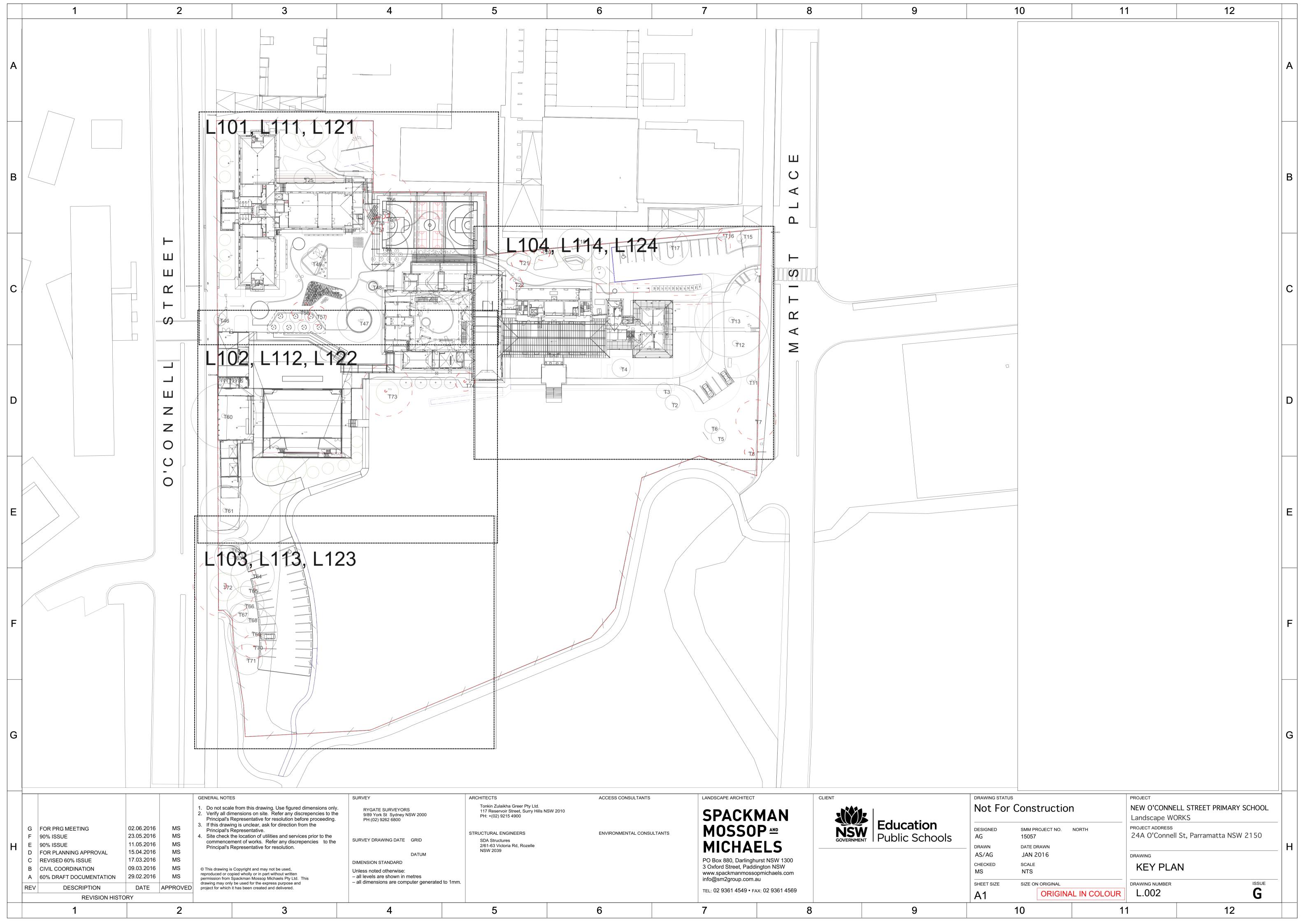
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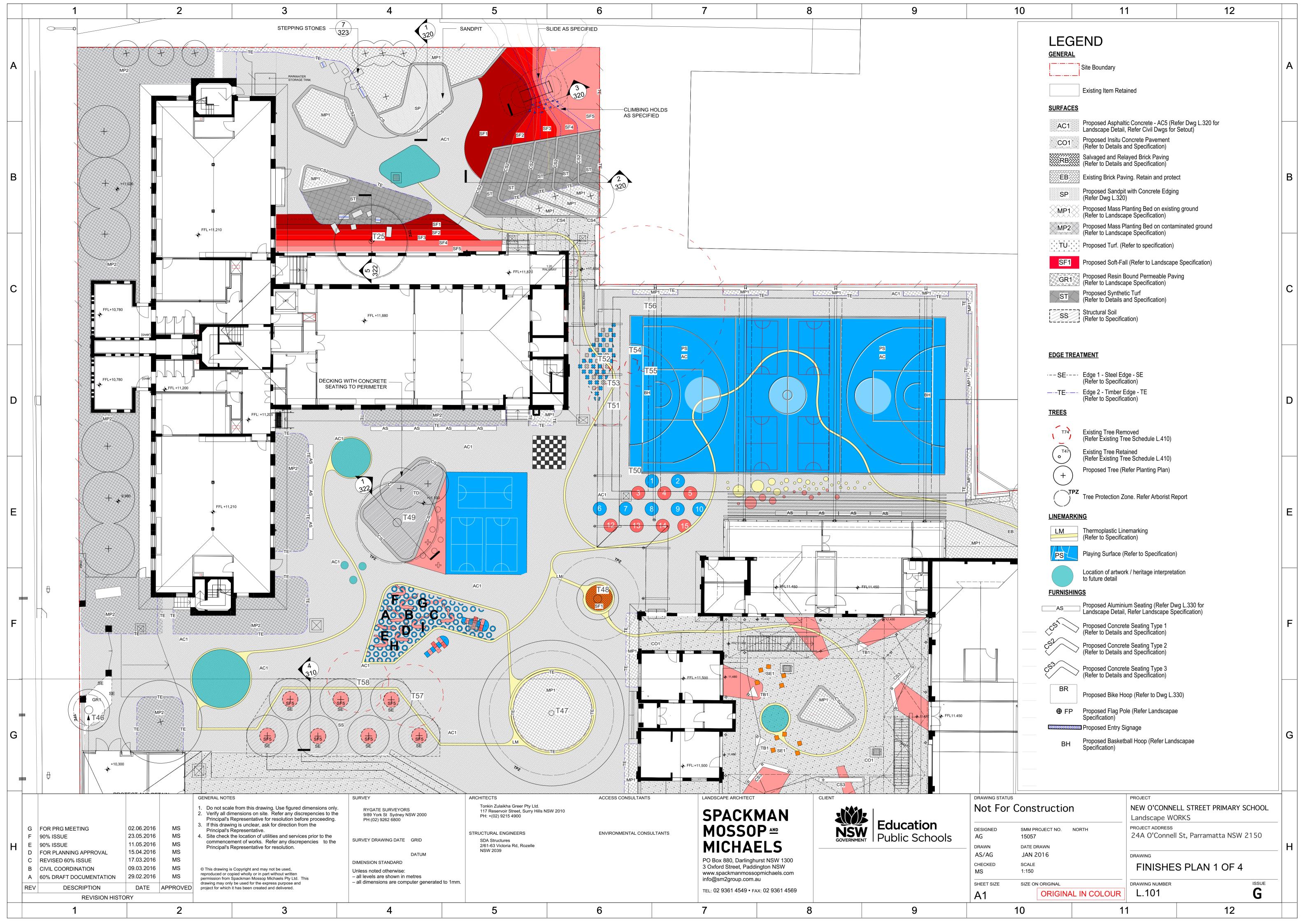
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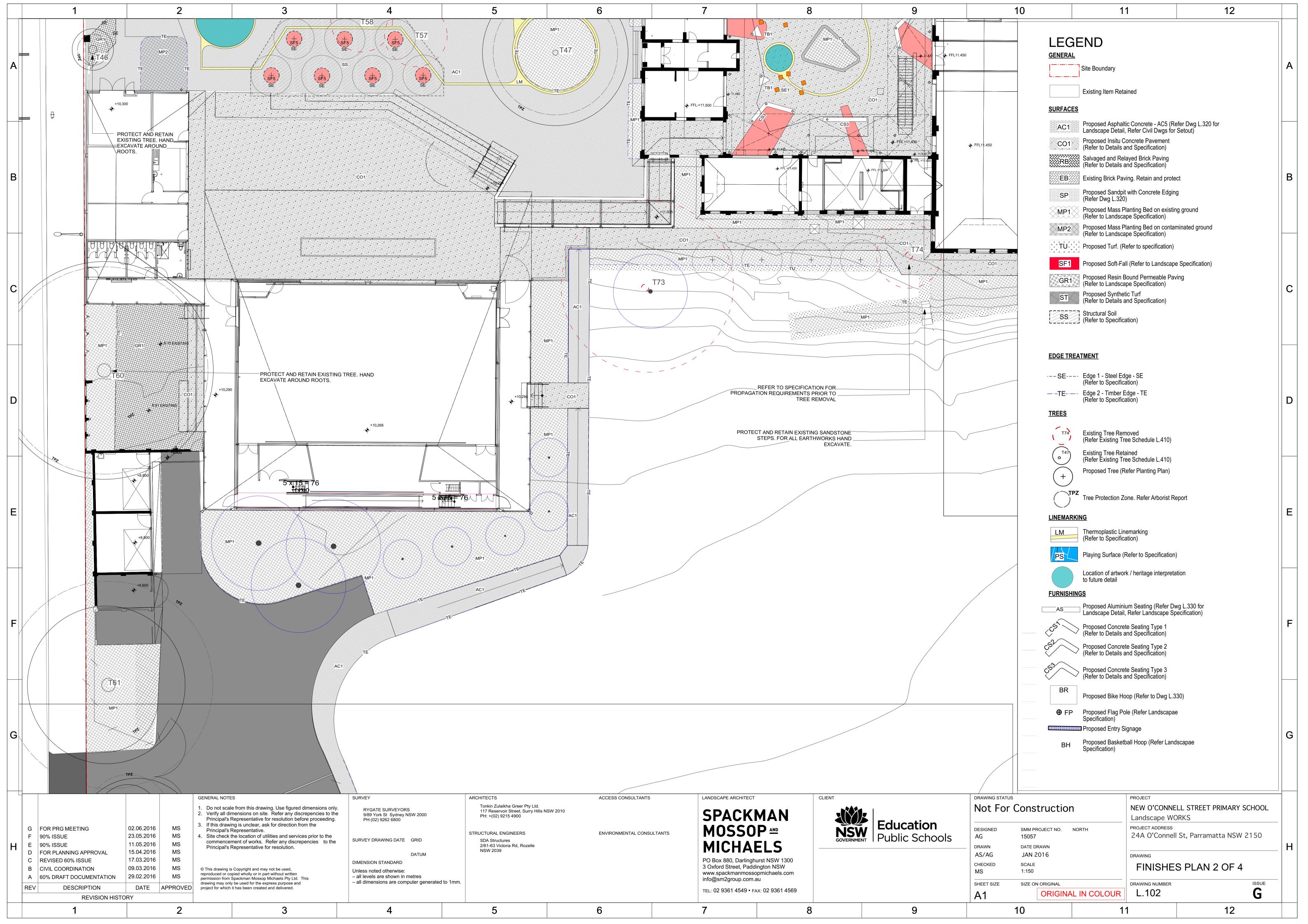


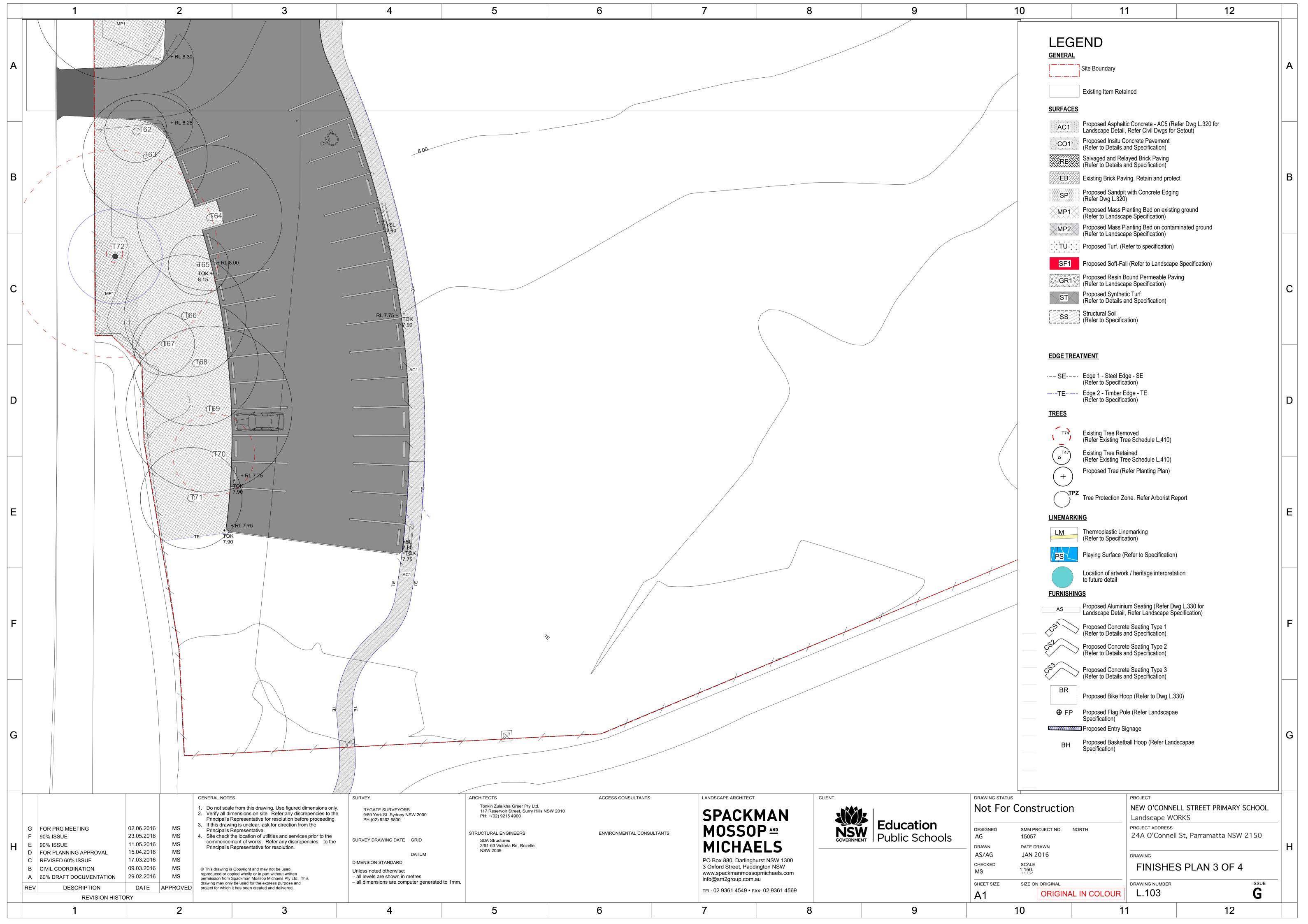
# **ATTACHMENT A**

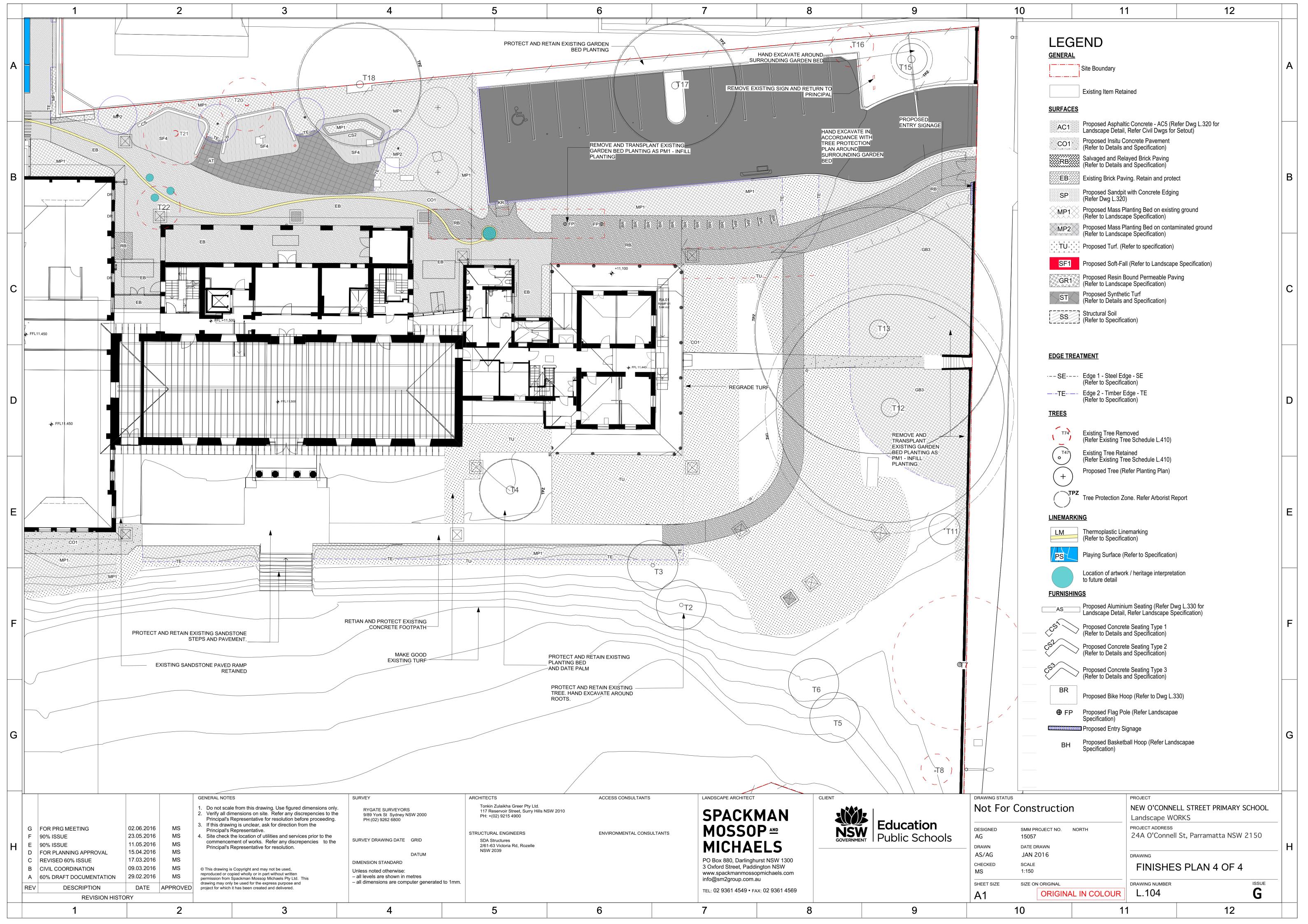












TREES	BOTANICAL NAME			SHRUBS, GROUNDCOVERS AND GRASSES						SHRUBS, GROUNDCOVERS AND GRASSES				
TREES		COMMON NAME	<b>CONTAINER SIZE</b>	RATE / m2	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	RATE / m2	QTY				
						GRASSES & GROUND COVERS				0				
	Calodendrum capense	Cape Chestnut	200L	As shown	2	Dianella caerulea	Blue Flax Lily	150mm	400mm.	415				
	Ceratonia silique	Carob Bean	*	As shown	4	Dietes grandiflora	Iris	150mm	400mm.	13				
	Corymbia maculata	Spotted Gum	100L	As shown	6	Grevillea 'Mt Tamboritha'	Grevillea 'Mt Tamboritha'	150mm	400mm.	72				
	Elaeocarpus eumundii	Guondong	75L	As shown	6	Liriope Evergreen Giant	Liriope Evergreen Giant	150mm	400mm.	96				
	Eucalyptus mannifera 'Little Spotty'	Little Spotted Gum	75L	As shown	3	Lomandra katrinus	Lomandra katrinus	150mm	400mm.	284				
	Eucalyptus robusta	Swamp Mahogany	200L	As shown	4	Lomandra Tanika	Lomandra Tanika	150mm	400mm.	3907				
	Lagerstroemia natchez	White Crepe Myrtle	100L	As shown	4	Myoporum parvifolium	Creeping Myoporum	150mm	400mm.	147				
	Magnolia soulangeana	Saucer Magnolia	100L	As shown	2	Poa labillardieri	Common Tussock-Grass	150mm	400mm.	3126				
	Pistacia chinensis	Chinese Pistachio	200L	As shown	2	Salvia officinalis	Sage	150mm	400mm.	24				
	Platanus orientalis	Oriental Plane Tree	100L	As shown	3	Santolina chamaecyparissus	Cotton Lavender	150mm	450mm.	52				
	Pyrus ussuriensis	Manchurian Pear	200L	As shown	7	Stachys byzantina	Lambs Ear	150mm	400mm.	106 55				
	Tristaniopsis laurina	Water Gum	100L	As shown	5	Viola hederacea	Native Violet	150mm	400mm.	55				
								150mm		0				
				TOTAL	3492	RAISED VEGETABLE GARDEN - HERBS								
SHRUBS	A locked	Nietis O'	222		^=	BUILDING B COURTYARD	-							
	Alpinia caerulea	Native Ginger	200mm	500mm.	37	Artemisia dracunculus 'sativa'	Tarragon	Punnet		2				
	Alpinia nutans	Dwarf Cardamon	200mm	500mm.	13	Coriandrum sativum	Coriander	Punnet		2				
	Aspidistra elatior	Cast Iron Plant	200mm	500mm.	215	Mentha spp	Mint	100mm.		2				
	Banksia spinulosa  Callistemon 'Great Balls of Fire'	Hairpin Banksia Great Balls of Fire	200mm 200mm	500mm.	235 149	Petroselinum crispum Thymus vulgaris	Parsley	Punnet		2				
	Cissus antarctica	Kangaroo Vine	150mm	500mm.	49	Thymus vulgaris  Petroselinum crisnum	thyme Parsley	Punnet 100mm.		2				
	Clivia miniata	Clivia	150mm	500mm.	168	Petroselinum crispum Ocimum basilicum	Basil	100mm. 100mm.		3				
	Cordyline petiolaris	Palm Lilly	200mm	450mm.	11	Coriandrum sativum	Corriander	100mm.		3				
	Cordyline Petiolaris  Cordyline Rubra	Palm grass	200mm	As shown	55	Contanulum sativum	Comander	TOOMIII.						
	Correa alba	Coastal correa	200mm	As shown	263	BUILDING C COURTYARD								
	Crassula arborescens	Jade Plant	200mm	500mm.	8	Artemisia dracunculus 'sativa'	Tarragon	Punnet		3				
	Crinum pedunculatum	Swamp Lily	200mm	500mm. 600mm.	101	Coriandrum sativum	Coriander	Punnet		3				
	Dorianthes excelsa	Gymea Lily	200mm	As shown	28	Mentha spp	Mint	100mm.		5				
	Grevillea 'Robyn Gordon'	Grevillea 'Robyn Gordon'	200mm	500mm.	56	Petroselinum crispum	Parsley	Punnet		3				
	Hesperaloe parviflora	Red Yucca	200mm	500mm.	9	Thymus vulgaris	thyme	Punnet		3				
	Leucophyta brownii	Cushion Bush	200mm	600mm.	6	,								
	Melaleuca linariifolia 'Claret Tops	Melaleuca linariifolia 'Claret Tops	200mm	500mm.	80	BUILDING D COURTYARD								
	Pimelea ferruginea Pink	Pink Rice Flower	150mm	600mm.	11	Artemisia dracunculus 'sativa'	Tarragon	Punnet		3				
	Pittosporum 'Miss Muffet'	Dwarf Pittosporum	200mm	500mm.	12	Coriandrum sativum	Coriander	Punnet		3				
	Plectranthus argentatus	Silver Spurflower	200mm	500mm.	82	Mentha spp	Mint	100mm.		5				
	Poa labillardieri	Common Tussock-Grass	200mm	500mm.	48	Petroselinum crispum	Parsley	Punnet		3				
	Rhaphiolepis indica 'Oriental Pearl'	Rhaphiolepis indica 'Oriental Pearl'	200mm	500mm.	71	Thymus vulgaris	thyme	Punnet		3				
	Rhaphiolepis indica 'Snow Maiden'	Rhaphiolepis 'Snow Maiden'	200mm	450mm.	19	Petroselinum crispum	Parsley	100mm.		2				
	Syzygium cascade	Pink Flowering Lilly Pilly	200mm	650mm.	14	Rosmarinus officinalis	Rosemary	150mm		3				
	Xanthorrhoea australis	Grass Tree	200mm	As shown	6	Ocimum basilicum	Basil	100mm.		3				
					0	CLIMBERS Coriandrum sativum	Corriander	100mm.		3				
				TOTAL	0	Parthenocissus tricuspidata	Boston Ivy	150mm	As Shown	22				
						·	•		As Shown	24				
						Hardenbergia violacea	Purple Coral Pea	150mm	AS SHOWII	24				
						TURF								
						To Match Existing- Refer Specifica	ition		AREA	670				
									-					
	GENERAL NOTES	SURVEY	ARCHITECTS	1-11-0	ACCESS CC			RAWING STATUS	PROJECT					
	Do not scale from this drawing. Use     Verify all dimensions on site. Reference of the property of the p	any discrepencies to the 9/89 York St Sydney NSW 2	117 Rese	ılaikha Greer Pty Ltd. rvoir Street, Surry Hills NSW 2010 ) 9215 4900		SPACKMAN		lot For Construction		CONNELL STREET PRIMA				
G MEETING 02.06	Principal's Representative for resol 3. If this drawing is unclear, ask for dir Principal's Representative.	ution before proceeding. PH:(02) 9262 6800	111. ((32)			MOCCODAND	Education	SIGNED SMM PROJECT NO. NOR		cape WORKS				
UE 23.05	5.2016 MS 4. Site check the location of utilities at	nd services prior to the SURVEY DRAWING DATE GRI		ctures	ENVIRONM	NTAL CONSULTANTS MOSSOP AND GOVE	Education Public Schools		111	'Connell St, Parramatta				
UE 11.05 ANNING APPROVAL 15.04	5.2016 MS Commencement of works. Refer at Principal's Representative for resol	iy discrependes to the	2/61-63 V NSW 203	/ictoria Rd, Rozelle		MICHAELS —	DF	RAWN DATE DRAWN S/AG JAN 2016						
D 60% ISSUE 17.03	3.2016 MS	DIMENSION STANDARD				PO Box 880, Darlinghurst NSW 1300 3 Oxford Street, Paddington NSW	CH	HECKED SCALE	DRAWING DI Z	ANTING SCHEDU				
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