NORTH PENRITH
STAGE 2A

ROAD AND DRAINAGE DESIGN

FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION

LOCALITY PLAN
N.T.S.

LANDCOM

BROWN
Smart Consulting

DRAWING LIST

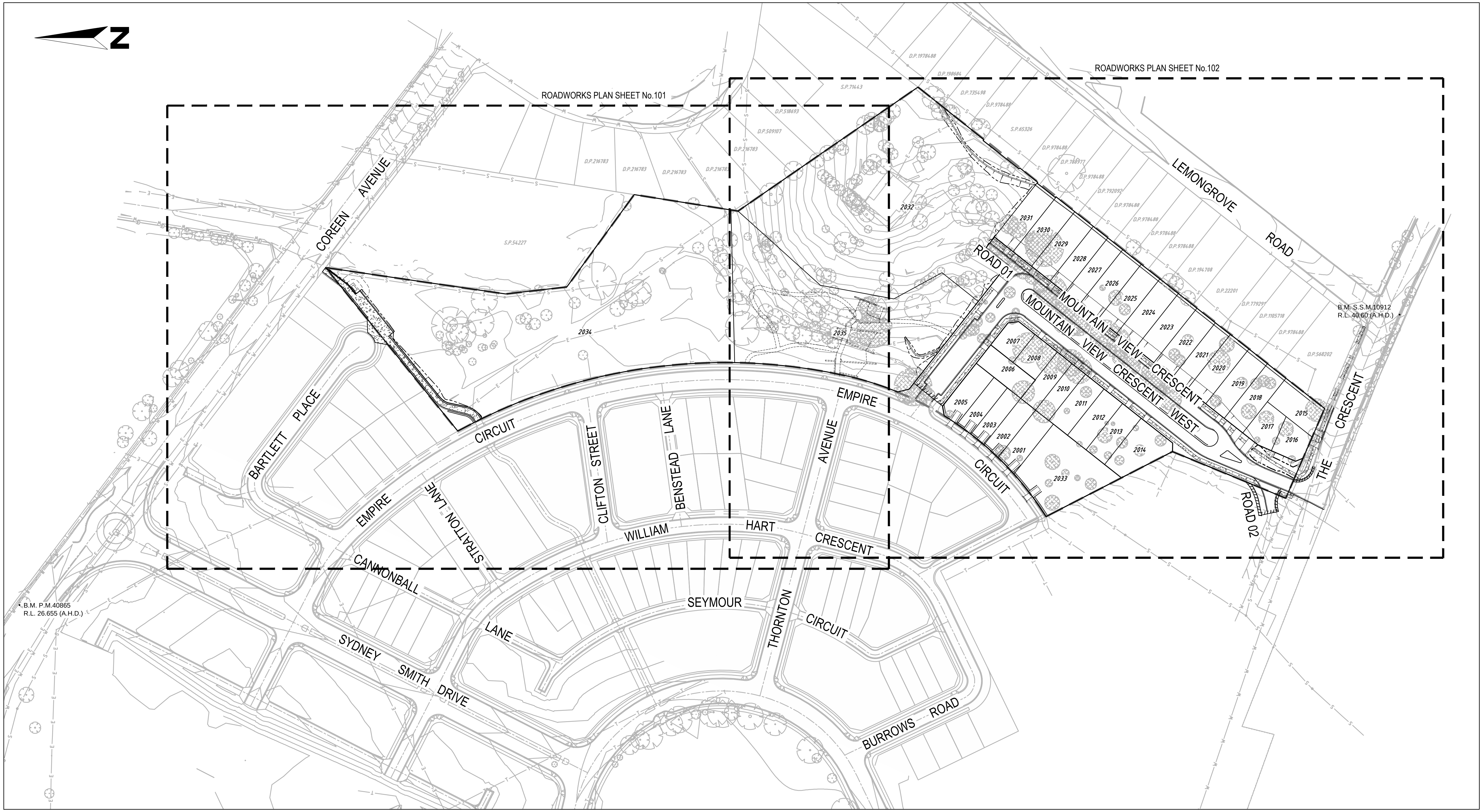
LGA PENRITH COUNCIL

PENRITH CITY COUNCIL
Serving Our Community

Quality Endorsed Company
CONSULT AUSTRALIA
Member Firm

NORTH PENRITH - STAGE 2A

Project No.:	Stage:	Milestone:	Drawing No.:	Revision:
X12016	2A	SSD	000	04



STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions		Drawn	Design	Check	Appd.	Date	Revision Details
	P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
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	04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue		JM	PB	CB	TT		

0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

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CONSULT AUSTRALIA Member Firm
Quality System Quality Endorsed Company

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN: [illegible]
DATE: 26/10/12.

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: GENERAL LAYOUT PLAN

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	001	04

FILE: H:\X12\X12016 - NORTH PENRITH DEFENCE LANDS, STAGE 2A\DRAWINGS\CIVIL\DA\X12016 - 001.DWG PRINTED: 10/25/12 USER: JAMES MCLEOD

STANDARD NOTES

GENERAL:

G1 FOR LEGEND OF DRAWINGS REFER TO COVER SHEET

G1 ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH PENRITH CITY COUNCIL'S ENGINEERING STANDARDS AND SPECIFICATIONS AND THE REQUIREMENTS OF COUNCIL'S ENGINEER, AS DIRECTED BY THE SUPERINTENDENT.

G2 THE CONTRACTOR SHALL OBTAIN ALL LEVELS FROM ESTABLISHED BENCH MARKS ONLY AS SUPPLIED BY THE APPOINTED SURVEYORS.

G3 SERVICES SHOWN ON THESE PLANS ARE LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE OR CORRECT. ALL SERVICE LOCATIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

G4 THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS. TO BE PROVIDED PRIOR TO THE APPROVAL OF THE PLANS.

G5 THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.

G6 ALL RUBBISH, BUILDINGS, SHEDS, AND FENCES ARE TO BE REMOVED IN ACCORDANCE WITH COUNCIL SPECIFICATION.

G7 ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S STANDARD SPECIFICATIONS AND TO THE REQUIREMENTS OF COUNCIL'S ENGINEER.

G8 NO TREES TO BE REMOVED OTHER THAN THOSE AFFECTED BY THE ROAD & SITE WORKS IN ACCORDANCE WITH COUNCIL'S TREE PRESERVATION ORDER.

G9 ALL CO-ORDINATES ARE TRUNCATED MGA CO-ORDINATES. ALL LEVELS ARE TO AHD. SURVEY INFORMATION SUPPLIED BY CRAIG & RHODES PTY LTD

G10 COUNCIL'S TREE PRESERVATION ORDER MUST BE OBSERVED AND NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT THE PRIOR APPROVAL OF COUNCIL'S ENGINEER.

G11 THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES, OUT-HOUSES, CAR BODIES AND DEBRIS, ETC.

G12 PUBLIC RESERVE AREAS SHALL BE CLEARED OF UNDERGROWTH, IMPROVEMENTS AND FENCES TO THE REQUIREMENTS OF COUNCIL'S ENGINEER AS DIRECTED BY THE SUPERINTENDENT.

G13 SCOURS AND WATERCOURSES SHALL BE DEWATERED AND DESILTED. LEVELS SHALL BE OBTAINED ON SOUND MATERIAL PRIOR TO FILLING.

G14 SURPLUS EXCAVATED MATERIAL SHALL BE PLACES WHERE DIRECTED BY THE SUPERINTENDENT TO THE REQUIREMENTS OF COUNCIL'S ENGINEER.

G15 ALL CONDUITS AND MAINS SHALL BE LAID PRIOR TO LAYING FINAL ASPHALTIC CONCRETE SEAL.

G16 ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.

G17 DIMENSIONS OF ANY DETAILS SHALL NOT BE SCALED - DIMENSIONS, IF IN DOUBT, SHALL BE VERIFIED BY THE SUPERINTENDENT.

SURVEY SET OUT INFORMATION NOTES:

G18 ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.

G19 THE INFORMATION DETAILED ON THE CERTIFIED CONSTRUCTION CERTIFICATE PLANS TAKES PRECEDENCE OVER ALL ELECTRONIC INFORMATION PROVIDED. THE ORDER OF PRIORITY FOR USE OF ALL INFORMATION PROVIDED IS AS FOLLOWS:
i. CERTIFIED CONSTRUCTION CERTIFICATE DRAWINGS
ii. 2D DRAFTING BASE (ELECTRONIC FILE)
iii. 3D DTM (ELECTRONIC FILE)

G20 ANY DISCREPANCY BETWEEN ANY OF THE INFORMATION CONTAINED WITHIN THESE FILES IS TO BE BROUGHT TO THE ATTENTION OF THE SUPERINTENDENT WHO WILL SEEK CLARIFICATION AND ISSUE INSTRUCTIONS ON THE APPROPRIATE COURSE OF ACTION.

ROADWORKS:

R1 PAVEMENT DEPTHS SHOWN ON CROSS SECTIONS ARE FOR DESIGN PURPOSE ONLY. ALL DEPTHS TO BE CONFIRMED FOLLOWING INSITU SUBGRADE CBR TESTING DURING CONSTRUCTION BY CONTRACTOR.

R2 SUBGRADE, SUBBASE AND BASE ARE TO BE COMPACTED TO THE REQUIREMENTS OF COUNCIL.

R3 GUTTER SLOTS ARE TO BE PROVIDED AT REGULAR INTERVALS AND AT PITS (ONLY WHERE TEMPORARY SEAL FINISHES BELOW LIP OF GUTTER)

R6 SUBSOIL DRAINS TO BE CONSTRUCTED AT BACK OF ALL KERBS LOCATED IN CUT AND ON THE HIGH SIDE OF ALL ROADS OR AS DIRECTED BY COUNCIL ENGINEER. DRAINAGE LAYER TO EXTEND 100mm BELOW TOP OF KERB.

R7 SUBSOIL FLUSHING POINTS TO BE CONSTRUCTED IN ACCORDANCE WITH DOH STD DWG No RM14 AND TO BE LOCATED AS DIRECTED.

R8 KERB OUTLETS OF 145 x 45 (CLEAR OPENING) HOT DIPPED GALVANISED IRON PIPE FOR HOUSE DRAINAGE ARE TO BE PLACED IN THE KERB ON THE LOW SIDE OF LOTS NOT DRAINED BY THE INTERALLOTMENT LINE.

R9 PROPOSED SERVICES CROSSING EXISTING ROADS SHALL BE THRUST BORED UNDER THE ROAD SO AS NOT TO DAMAGE THE EXISTING SURFACE.

R10 SERVICES CONDUITS TO BE PLACED AS DIRECTED FOR INTEGRAL ENERGY, TELSTRA AND AS REQUIRED BY THE SYDNEY WATER CORPORATION.

R11 PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY.

R12 ALL BATTERS ARE TO BE SCARIFIED TO ASSIST WITH ADHESION OF TOPSOIL TO BATTER FACE.

R13 PROVIDE MIN. 300mm TOPSOIL WITH GRASS SEEDING ON FOOTPATHS. A 0.3m WIDE, CONTINUOUS STRIP OF COUCH GRASS SHALL BE PLACED BEHIND THE BACK OF ALL KERBS IMMEDIATELY AFTER THE COMPLETION OF THE FOOTPATH GRADING, MAINTAINED AND REPLACED AS REQUIRED DURING THE MAINTENANCE PERIOD.

R15 ALL ROADS ARE TO BE TEMPORARILY SEALED WITH A 1 COAT SEAL, THE FINAL AC IS TO BE BONDED AND PLACED FOLLOWING APPROVAL FROM COUNCIL.

R16 ALL LOT NUMBERS AND STREET NAMES TO BE STENCILLED ON KERB FACE.

R17 VEHICULAR CROSSINGS SHALL BE CONSTRUCTED IN KERB & GUTTER WHERE SHOWN.

R18 PRAM CROSSINGS SHALL BE CONSTRUCTED IN KERB & GUTTER IN ACCORDANCE WITH COUNCIL'S STANDARD DRAWING.

R19 GUIDE POSTS SHALL BE 100 x 50 HARDWOOD, PAINTED WHITE AND DELINEATED.

R20 STREET NAMES SIGNS SHALL BE ERECTED, WHERE SHOWN, IN ACCORDANCE WITH COUNCIL'S STANDARDS.

DRAINAGE:

D4 ALL GULLY PITS TO BE COUNCIL'S STANDARD AND LINTELS CENTRALLY PLACED AT SAG PITS. All PITS ARE TO BE PCC STANDARD REFER TO DWG No. S801. ALL PITS TO BE BENCHED AND STREAMLINED, PITS OVER 1.2m DEPTH TO BE PROVIDED WITH STEP IRONS AND F82 REINFORCEMENT

D5 CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS U.N.O.

D6 LINTEL LENGTH SHOWN ON DRAWINGS INDICATES LENGTH OF CLEAR OPENING.

D7 ALL LONGITUDINAL PIPELINES IN ROADS ARE TO BE LOCATED UNDER KERBS AND GUTTERS AND TO BE BACKFILLED WITH WASHED RIVER SAND, A 3.0 m LENGTH OF AGLINE WRAPPED IN GEOFABRIC IS TO BE PROVIDED TO THE UPSTREAM SIDE OF PITS ON ALL INCOMING LINES UNLESS NOTED OTHERWISE.

D8 ALL REINFORCED CONCRETE PIPES (RCP) TO BE CLASS 3 RUBBER RING JOINTED (RRJ) UP TO 750MM NOMINAL DIAMETER. PIPES ARE TO BE CLASS 2 FOR NOMINAL DIAMETERS LARGER THAN 750MM.

D9 PROVIDE TEMPORARY TAILOUT DRAINS WITH MINIMUM FLOOR WIDTH 0.5 & SLOPE OF 1.0% WITH BATTERS AT 1:1.

D11 CATCH DRAINS ARE TO BE CONSTRUCTED AS REQUIRED BY COUNCIL ENGINEER.

D12 STANDARD PITS TO COUNCIL STANDARD WHERE DEPTH OF PIT EXCEEDS 2M REFER DRAWING C0019.

D13 ALL DRAINAGE LINES THROUGH LOTS SHALL BE CONTAINED WITHIN THE FOLLOWING EASEMENTS:-
a) INTERALLOTMENT DRAINS (C.D.L.) - 150mm DIA. - 1.5m WIDE MINIMUM
- 225mm DIA. & 300mm DIA. - 2.0m WIDE MINIMUM
- 375mm DIA. to 600mm DIA. - 2.5m WIDE MINIMUM
- 675mm DIA. to 750mm DIA. - 3.0m WIDE MINIMUM

D14 DRAINAGE LINES UNDER ROADS SHALL BE BACKFILLED WITH NON-COHESIVE SAND AND HAVE 3m OF SUBSOIL DRAIN WRAPPED IN APPROVED FILTER SOCK, DISCHARGING INTO DOWN STREAM PITS.

D15 ALL INTERALLOTMENT DRAINAGE LINES SHALL BE LAID AT A MINIMUM GRADE OF 1%.

D16 DRAINAGE LINES ON PLANS ARE DIAGRAMMATIC ONLY AND PIPE CENTRELINES SHALL ENTER AND EXIT PITS AT THE CENTRE OF THE RESPECTIVE PIT WALLS.

EROSION CONTROL MEASURES:

EC1 CONTROLS AFFECTED BY WORKS ARE TO BE RE-ESTABLISHED PRIOR TO THE COMPLETION OF EACH DAYS WORK.

EC2 THE CONTRACTOR IS TO STABILISE TOPSOIL STOCKPILE AND ALL DISTURBED AREAS AS SOON AS THEY REACH FINAL LEVELS. STABILISATION TO BE BY HYDROSEEDING OR OTHER METHOD APPROVED BY SUPERINTENDENT AND COUNCIL ENGINEER. ALL SEEDED AREAS TO BE WATERED TWICE WEEKLY UNTIL GRASS IS ESTABLISHED OR COVERED WITH BITUMEN HAY MULCH. SEED MIXTURE FOR RESERVES, FOOTWAYS AND EMBANKMENTS TO BE IN ACCORDANCE WITH PCC SPECIFICATION.
FOR OTHER AREAS:
A RECOMMENDED LIST OF PLANT SPECIES FOR TEMPORARY COVER IS :

- JAPANESE MILLET 25kg/ha	SPRING
- OATS (RYECORN) 25kg/ha	SUMMER
- JAPANESE MILLET 10kg/ha	AUTUMN
- OATS (RYECORN) 30kg/ha	WINTER

GYPSUM AND MULTIGROW/ ENRICH FERTILIZER AT RATES TO BE DETERMINED BY SUBSOIL AND TOPSOIL TESTING.
A RECOMMENDED LIST OF PLANT SPECIES FOR PERMANENT GRASSING IS :

- DURATURF PARK BLEND (WRIGHT STEPHENSON SEED MIX) + COVER CROP	
- JAPANESE MILLET	10kg/ha
- OATS (RYECORN)	10kg/ha
- THOROUGHBRED TURF TALL FESCUE	15kg/ha
- PERENNIAL RYEGRASS	37kg/ha
- CHEWINGS FESCUE	5kg/ha
- UNMULLED COUCH	4kg/ha
- TACKIFYING AGENT (CURASOĒ OR SIMILAR)	

EC3 WHERE SURFACE SLOPES ARE MORE THAN 6H:1V BITUMEN STRAW MULCH SHALL BE APPLIED AFTER SEEDING AT THE FOLLOWING RATES.
- MULCH 0.5kg/m²
- BITUMEN EMULSION 0.25 l/m (50% WATER, 50% SLOW BREAKING ANIONIC EMULSION MIX).

EC4 DUST CONTROL MEASURES SHALL BE IMPLEMENTED CONTINUOUSLY DURING CONSTRUCTION WORKS TO THE SATISFACTION OF THE SUPERINTENDENT AND COUNCIL.

EC5 TOPSOIL SHALL BE RESPREAD AND STABILISED AS SOON AS POSSIBLE. DISTURBED AREAS SHALL BE LEFT WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST KEYING IN TOPSOIL.

EC6 THE CONTRACTOR SHALL TEMPORARILY REHABILITATE ANY DISTURBED AREAS WITHIN 60 DAYS. WHERE FINAL SHAPING HAS OCCURRED THE CONTRACTOR SHALL PROVIDE FINAL REHABILITATION WITHIN 20 DAYS

EC7 SEDIMENT BASINS SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF THE PROJECT OR UNTIL SUCH TIME AS ALL DISTURBED AREAS ARE HYDROMULCHED.

EC8 WHERE FLOCCULATION OF BASINS IS REQUIRED UNLESS OTHERWISE SPECIFIED THE RECOMMENDED INITIAL DOSING IS 30KG OF GYPSUM PER 100 CUBIC METRES OF BASIN VOLUME. THE CONTRACTOR MAY VARY THIS RATE SUBJECT TO TESTING OF PREVIOUS WATER SAMPLES AND THE ACHIEVEMENTS OF THE REQUIRED WATER QUALITY STANDARDS.

EC9 FOR FURTHER SEDIMENT & CONTROL NOTES AND DETAILS REFER DRAWING No. 703

EARTHWORKS:

E1 ALL PROPOSED EARTHWORKS, INCLUDING STRIPPING, FILLING AND COMPACTION SHALL BE:

A) UNDERTAKEN IN ACCORDANCE WITH COUNCIL'S CURRENT "GUIDELINES FOR ENGINEERING WORKS FOR SUBDIVISIONS AND DEVELOPMENTS, A53798 " GUIDELINES FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENT" (AS AMENDED), AND APPROVED CONSTRUCTION DRAWINGS.

B) SUPERVISED, MONITORED, INSPECTED,TESTED AND REPORTED ON BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER IN ACCORDANCE WITH A53798 APPENDIX B 2(A) LEVEL 1 AND APPENDIX C REQUIREMENTS BY A NATA REGISTERED LABORATORY APPOINTED BY THE APPLICANT. TWO COLLATED COPIES OF THE REPORT AND FILL PLAN SHALL BE FORWARDED TO COUNCIL.

C) CERTIFIED BY THE LABORATORY UPON COMPLETION AS COMPLYING, SO FAR IT HAS BEEN ABLE TO DETERMINE, WITH COUNCIL'S SPECIFICATION AND A53798, AND

D) COMPLETED TO THE SATISFACTION OF THE PRINCIPAL CERTIFYING AUTHORITY.

E2 SITE FILL AREAS: - THE CONTRACTOR'S REGISTERED SURVEYORS SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.

E3 ALL SITE FILLING TO BE COMPACTED TO 95% STANDARD COMPACTION, 100% STANDARD IN ROADS AND SHALL BE CONTROLLED BY A REGISTERED SOIL LABORATORY IN ACCORDANCE WITH COUNCIL'S "WORKS SPECIFICATIONS".

LEGEND

PROPOSED	DESCRIPTION	EXISTING	FUTURE
L1 375ø	STORMWATER PIPELINE		
	STORMWATER DRAINAGE PITS		
3 / 10	DRAINAGE LINE No. 3 DRAINAGE PIT No. 10	3 / 10	3 / 10
	CONCRETE HEADWALL		
SS SS	SUBSOIL DRAIN		
K&G	STANDARD 150mm KERB AND GUTTER		
RK	STANDARD ROLL KERB AND GUTTER		
KO	STANDARD KERB ONLY		
ES	STANDARD EDGE STRIP		
MK	STANDARD MOUNTABLE KERB		
DC	STANDARD DISH CROSSING		
VC	VEHICULAR CROSSING		
PR	PEDESTRIAN RAMP		
EOB	EDGE OF BITUMEN		
	ROAD PAVEMENT		
	BENCHMARK	▲ BM: 115 RL: 165.332	
	BATTERS		
	CONCRETE PATHWAY		
99.5 99.0	CONTOURS	99.5 99.0	99.5 99.0
CUT FILL	SITE REGRADING AREA		
S S G G W W E E	SERVICE LINES SEWER, GAS, WATER, ELECTRICITY		
T T OF OF	COMMUNICATION LINES TELSTRA, OPTUS FIBRE		
	OVER HEAD LINES AND POLES		
	SERVICE PITS TELECOM PIT, ACCESS CHAMBER, HYDRANT, STOP VALVE, AIR VALVE		
	LIMIT OF CONSTRUCTION		
	LIMIT OF STAGE		
	FENCE POST AND RAIL FENCE SECURITY FENCE		
D-LOTNO	LOT NUMBERS	E-LOTNO	F-LOTNO
	TREES TREES TO REMOVE		
	RETAINING WALL		
	ROCK WALL		

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First Issue	JM Drawn	PB Design	CB Check	TT Appd.		Date	Revision Details

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: STANDARD NOTES & LEGEND

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	002	04

PROPOSED ELECTRICAL SUBSTATION

MINIMUM 2.5m WIDE CONCRETE SHARED PATH, COLOUR & JOINT PATTERN TO BE AS PER STAGE 1 PATH TREATMENTS

PROPOSED LANDSCAPING TO PLACE DESIGN GROUP PTY LTD DETAILS

FOR CONTINUATION REFER TO DRAWING No.102

COREEN AVENUE

BARTLETT PLACE

EMPIRE CIRCUIT

CLIFTON STREET

BENSTEAD LANE

THORNTON AVENUE

STRATTON LANE

WILLIAM HART CRESCENT

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SIGN:
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Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: ROADWORKS PLAN - SHEET 01 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	101	04

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X12016-PA

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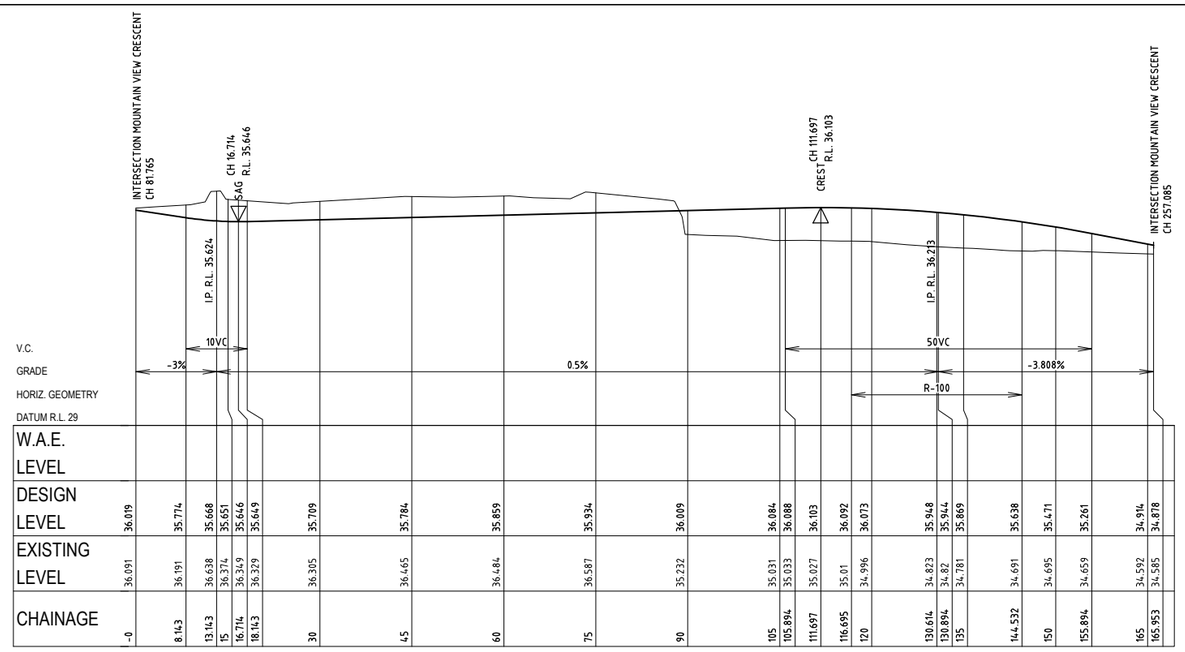
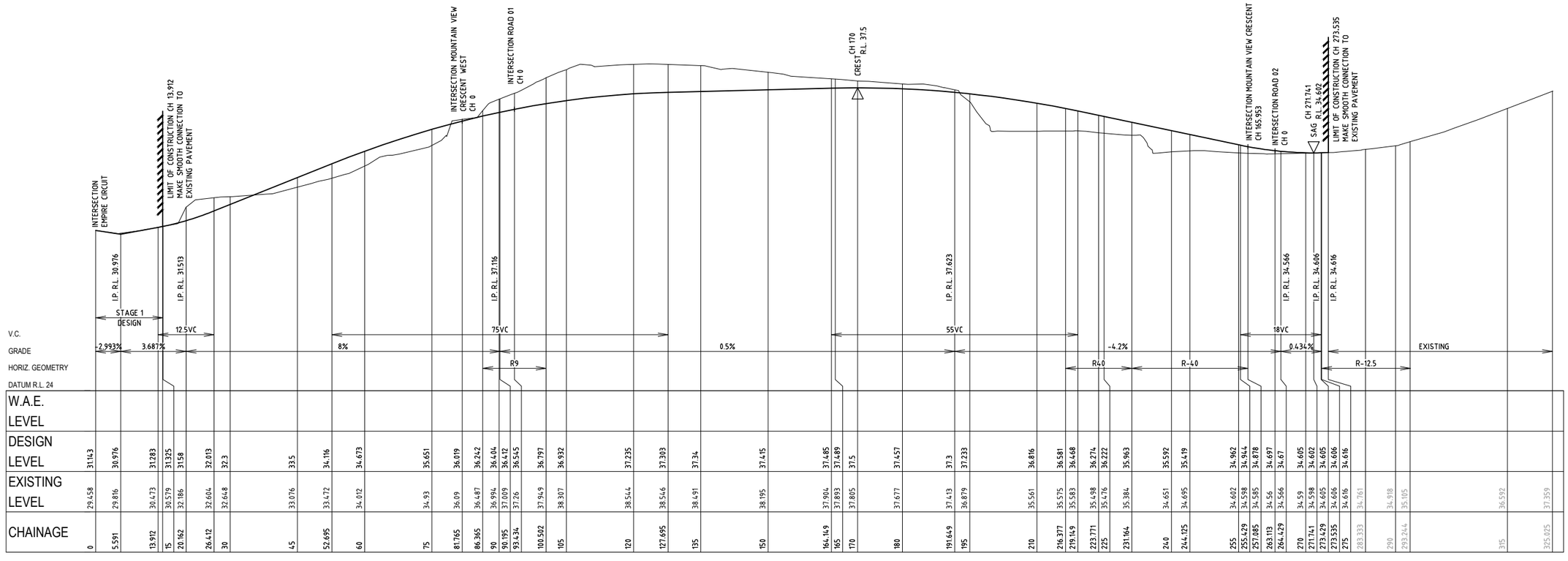
Drawing Title: ROADWORKS PLAN - SHEET 02 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	102	04



LONGITUDINAL SECTION CENTRELINE - MOUNTAIN VIEW CRESCENT WEST

SCALE 1:500 (H)
SCALE 1:100 (V)



LONGITUDINAL SECTION CENTRELINE - MOUNTAIN VIEW CRESCENT

SCALE 1:500 (H)
SCALE 1:100 (V)

LEGEND
- DESIGN LEVEL
- EXISTING LEVEL

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SCALE 1:100 (A1) SCALE 1:200 (A3)
SCALE 1:500 (A1) SCALE 1:1000 (A3)

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X12016-PA

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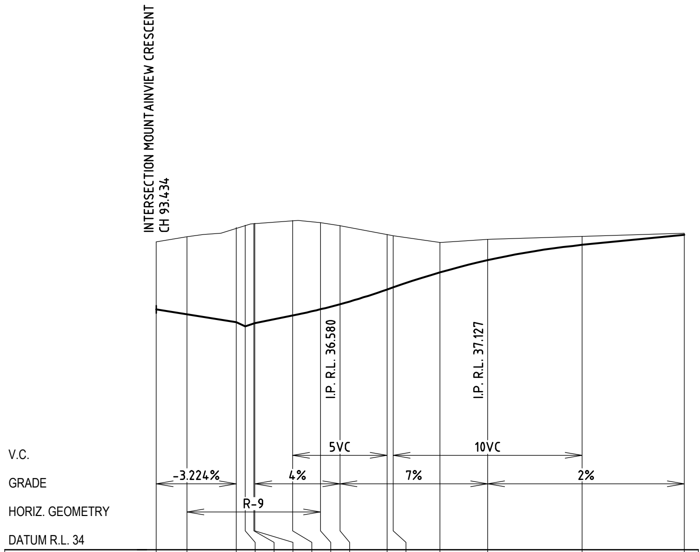
Drawing Title: LONGITUDINAL SECTIONS - MOUNTAIN VIEW CRESCENT

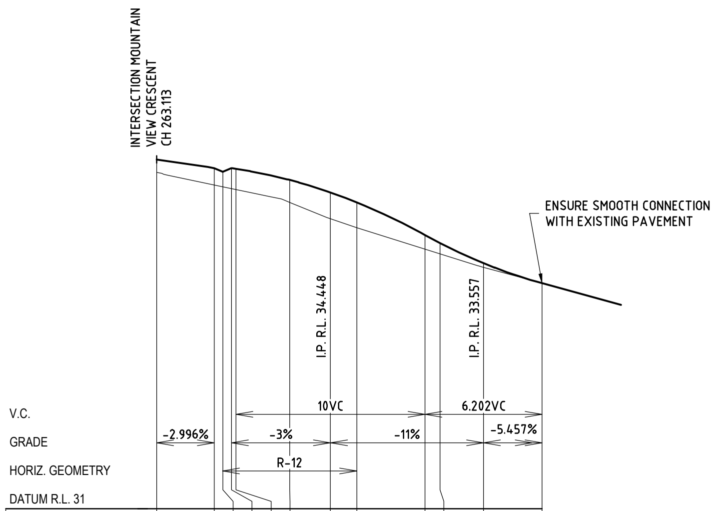
Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	201	04



W.A.E. LEVEL															
DESIGN LEVEL	36.545	36.492	36.408	36.364	36.396	36.4	36.48	36.546	36.599	36.755	36.777	36.935	37.065	37.227	37.335
EXISTING LEVEL	37.26	37.313	37.413	37.436	37.453	37.455	37.487	37.462	37.431	37.336	37.324	37.252	37.287	37.318	37.35
CHAINAGE	0	1.626	4.232	4.718	5.161	5.212	7.215	8.695	9.715	12.215	12.527	15	17.527	22.527	27.927

LONGITUDINAL SECTION CENTRELINE - ROAD 01

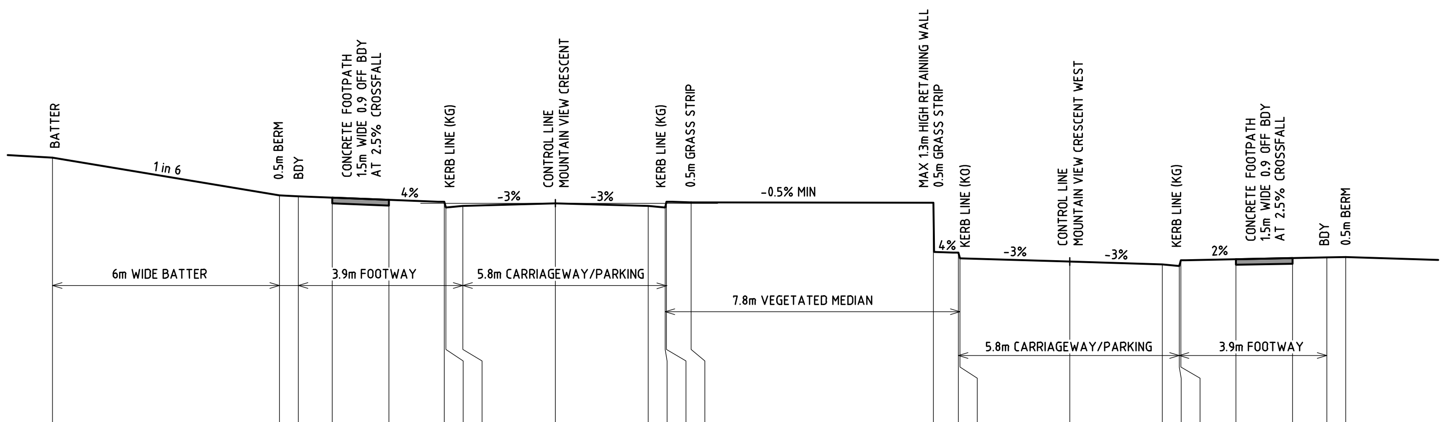
SCALE 1:200 (H)
SCALE 1:40 (V)



W.A.E. LEVEL												
DESIGN LEVEL	34.697	34.606	34.566	34.606	34.598	34.481	34.348	34.243	33.898	33.813	33.6	33.388
EXISTING LEVEL	34.56	34.427	34.408	34.39	34.379	34.237	34.067	33.974	33.748	33.698	33.557	33.388
CHAINAGE	0	3.05	3.5	3.95	4.198	7.039	9.198	10.589	14.198	15	17.3	17.896

LONGITUDINAL SECTION CENTRELINE - ROAD 02

SCALE 1:200 (H)
SCALE 1:40 (V)



DESIGN LEVEL	1.204	0.204	0.184			0.036	-0.114	-0.074	0	-0.074	-0.114	0.086
OFFSET	-13.3	-7.3	-6.8	-5.9	-4.4	-2.94	-2.9	-2.45	0	2.45	2.9	2.94

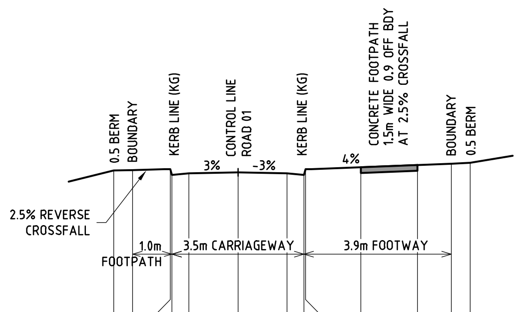
MOUNTAIN VIEW CRESCENT

DESIGN LEVEL	1.557	0.237	0.087	0	-0.074	-0.114	0.036	0.063	-0.093	-0.111	-0.121
OFFSET	-3.6	-2.94	-2.9	0	2.45	2.9	2.94	4.4	5.9	6.8	7.3

MOUNTAIN VIEW CRESCENT WEST

TYPICAL CROSS SECTION MOUNTAIN VIEW CRESCENT

SCALE 1:100



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OFFSET	-3.29	-2.79	-1.79	-1.75	-1.3	0	1.3	1.75	1.79	3.25	4.75	5.65	6.15

TYPICAL CROSS SECTION - ROAD 01

SCALE 1:100 NATURAL

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions	Drawn	Design	Check	Appd.	Date	Revision Details
P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
01	JM	PB	CB	TT	5/06/2012	ISSUED FOR PROJECT APPLICATION
02	JM	PB	CB	TT	7/06/2012	REVISED TO SUIT CLIENT'S COMMENTS
03	JM	PB	CB	TT	19/06/2012	REVISED TO SUIT CLIENT'S COMMENTS
04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue	JM	PB	CB	TT		

SCALE 1:40 (A1) / SCALE 1:80 (A3)
SCALE 1:100 (A1) / SCALE 1:200 (A3)
SCALE 1:200 (A1) / SCALE 1:400 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12.

Client: LANDCOM

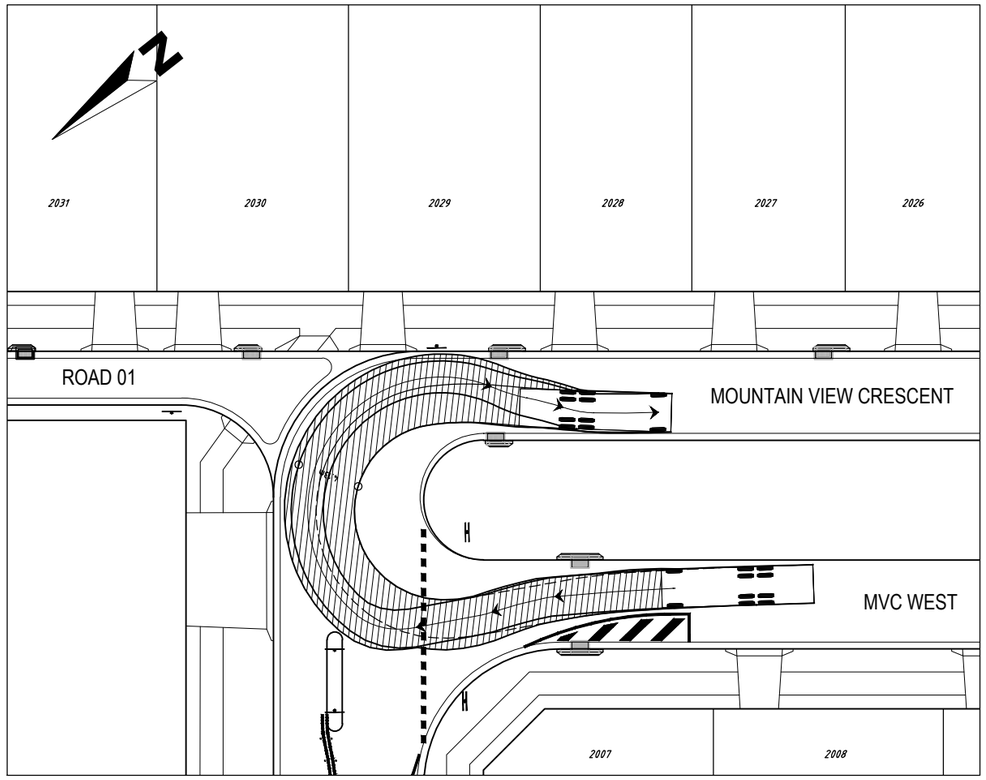
Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

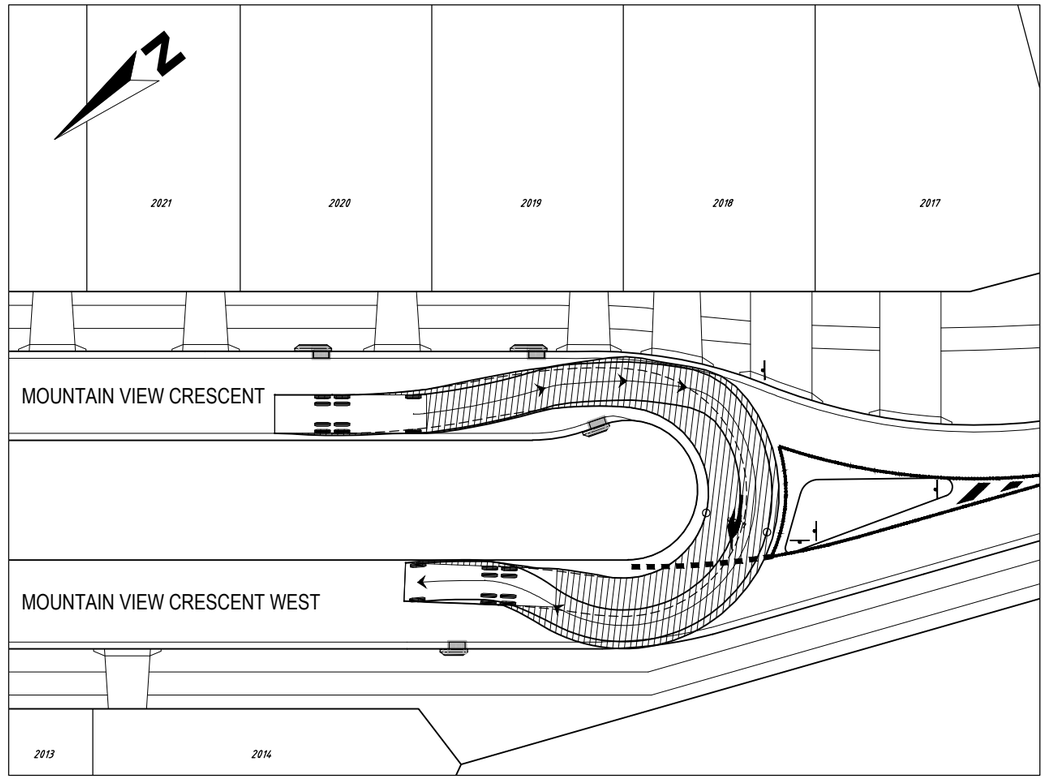
Drawing Title: LONGITUDINAL SECTIONS - ROAD 01 + 02 & TYPICAL CROSS SECTIONS

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	301	04

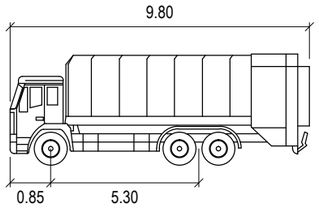
FILE: H:\X12\X12016 - NORTH PENRITH DEFENCE LANDS, STAGE 2A\DRAWINGS\CIVIL\DA\X12016 - 301.DWG PRINTED: 10/25/12 USER: JAMES MCLEOD



PLAN
SCALE 1:200



PLAN
SCALE 1:200



9.9m Garbage Truck	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.9

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions							
00	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue	JM Drawn	PB Design	CB Check	TT Appd.	Date	Revision Details

0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: GARBAGE TRUCK TURNING PATH PLAN

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	401	00

DENOTES STAGE 1CC DRAINAGE NODE NUMBER, REFER TO DRAWING BY WORLEY PARSONS REFERENCE NO: 301015-02381-C1-S1

FOR CONTINUATION REFER TO DRAWING No.502

FORM BERM TO DIRECT WATER TO EXISTING PIT 1/XD5

COREEN AVENUE
BARTLETT PLACE
EMPIRE CIRCUIT
CLIFTON STREET
BENSTEAD LANE
STRATTON LANE
THORNTON AVENUE
WILLIAM HART CRESCENT

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions							
	P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
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	03	JM	PB	CB	TT	19/06/2012	REVISED TO SUIT CLIENT'S COMMENTS
	04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue		JM	PB	CB	TT		
		Drawn	Design	Check	Appd.	Date	Revision Details

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: DRAINAGE PLAN - SHEET 01 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	501	04

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions							
	P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
	01	JM	PB	CB	TT	5/06/2012	ISSUED FOR PROJECT APPLICATION
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	03	JM	PB	CB	TT	19/06/2012	REVISED TO SUIT CLIENT'S COMMENTS
	04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue		JM	PB	CB	TT		Revision Details
		Drawn	Design	Check	Appd.	Date	

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng
MIEAust Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: DRAINAGE PLAN - SHEET 02 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	502	04

LEGEND

- 116.0 — EXISTING CONTOUR
- 118.5 — DESIGN CONTOUR
- CUT AREA (APPROX VOLUME = 4,900m³)
- FILL AREA (APPROX VOLUME = 7,600m³)
- APPROX BALANCE = 2,700 m³ (VOLUMES SHOWN ARE EXCLUSIVE OF ROAD BOXING & EXCAVATION SPOIL)
- +1.2m x — DENOTES APPROXIMATE RETAINING WALL HEIGHT

N

COREEN AVENUE

TREES TO BE RETAINED

BARTLETT PLACE

EMPIRE CIRCUIT

CLIFTON STREET

BENSTEAD LANE

THORNTON AVENUE

STRATTON LANE

WILLIAM HART CRESCENT

1177 1178 1179 1180 1181 1182 1184 1185 1186 1187 1188 1189 1190 1213 1214 1215 1216 1218 1219 1223 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1334 1335 1340 1349 1350 1352 2034 2035

FOR CONTINUATION REFER TO DRAWING No.602

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions							
	P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
	01	JM	PB	CB	TT	5/06/2012	ISSUED FOR PROJECT APPLICATION
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	04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue		JM Drawn	PB Design	CB Check	TT Appd.	Date	Revision Details

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

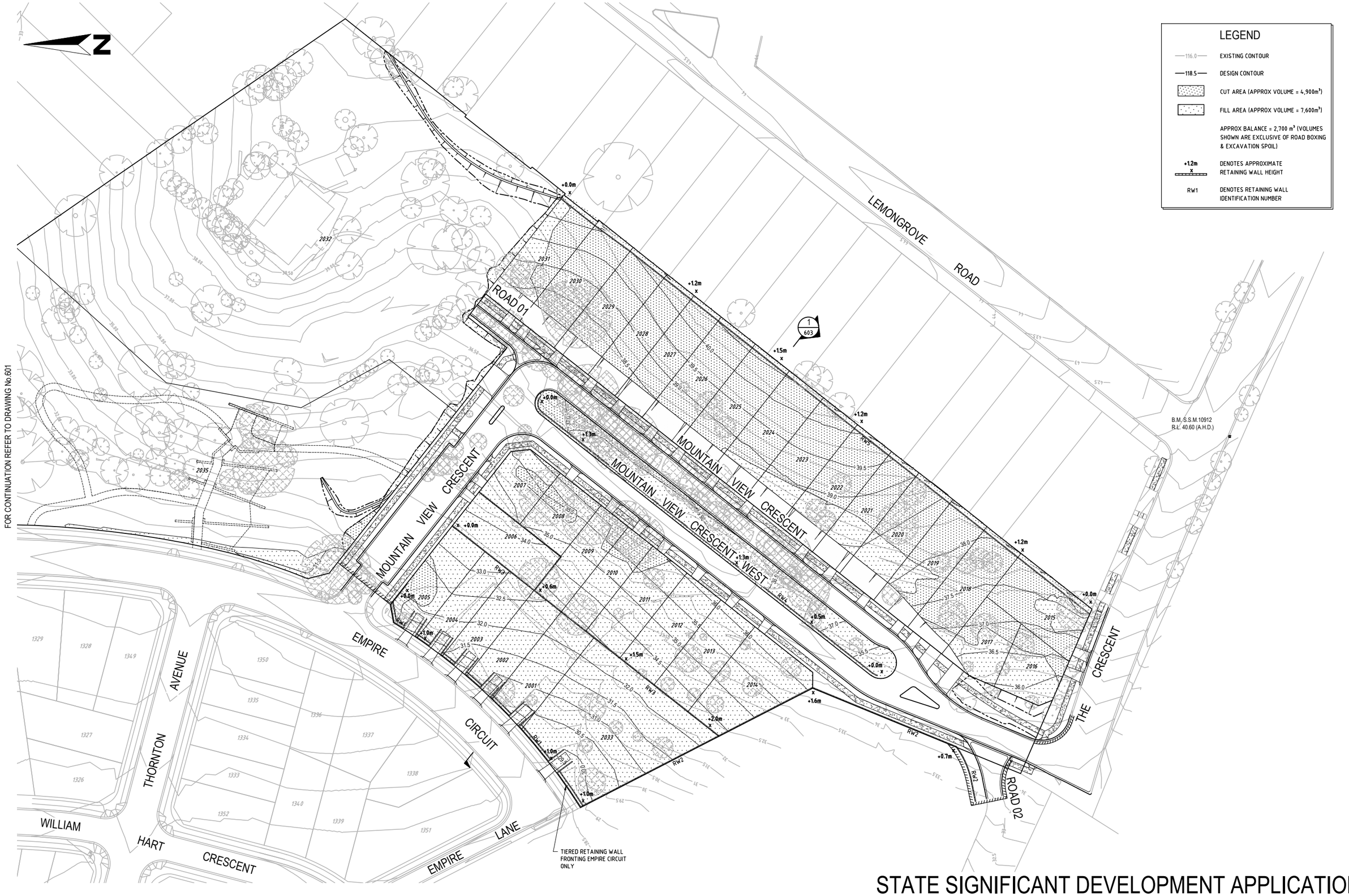
Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SITE REGRADING PLAN - SHEET 01 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	601	04



STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions	First Issue	Drawn	Design	Check	Appd.	Date	Revision Details
P		JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
01		JM	PB	CB	TT	5/06/2012	ISSUED FOR PROJECT APPLICATION
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03		JM	PB	CB	TT	19/06/2012	REVISED TO SUIT CLIENT'S COMMENTS
04		JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

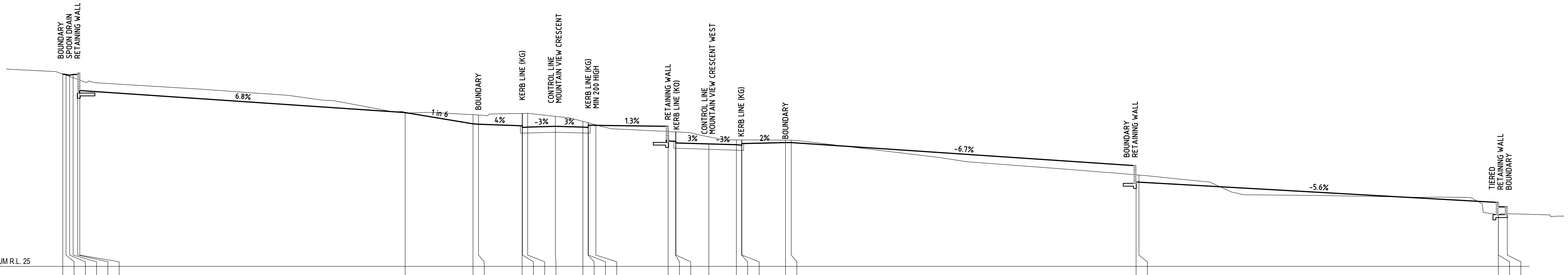
Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SITE REGRADING PLAN - SHEET 02 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	602	04



DESIGN LEVEL	EXISTING LEVEL	OFFSET
42.011	42.011	-57.233
41.982	41.915	-56.951
41.917	41.807	-56.631
41.982	41.695	-56.321
41.986	41.548	-55.921
42.086	41.478	-55.73
40.56		
38.602	38.541	-26.9
37.602	38.422	-20.9
37.582	38.392	-20.4
37.434	38.532	-16.54
37.284	38.533	-16.5
37.324	38.543	-16.05
37.397	38.27	-13.6
37.324	37.831	-11.15
37.284	37.707	-10.7
37.484	37.696	-10.66
37.471	37.518	-10.01
37.391	36.929	-3.6
36.071	36.895	-2.94
35.921	36.893	-2.9
35.834		0
35.76	36.191	2.45
35.72	36.19	2.9
35.87	36.189	2.94
35.944	36.178	6.8
35.954	36.166	7.3
33.9	33.091	37.85
32.451	33.069	38.1
30.658	29.571	69.941
30.258	29.57	69.952
30.254	29.655	70.739

SECTION 1/602 MOUNTAIN VIEW CRESCENT WEST - CH 55

HORIZONTAL 1:200
NATURAL

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Issue	Drawn	Design	Check	Appd.	Date	Revision Details
P	JM	PB	CB		23/04/2012	PRELIMINARY ISSUE
01	JM	PB	CB	TT	5/06/2012	ISSUED FOR PROJECT APPLICATION
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04	JM	PB	CB	TT	24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue	JM	PB	CB	TT		

0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12.

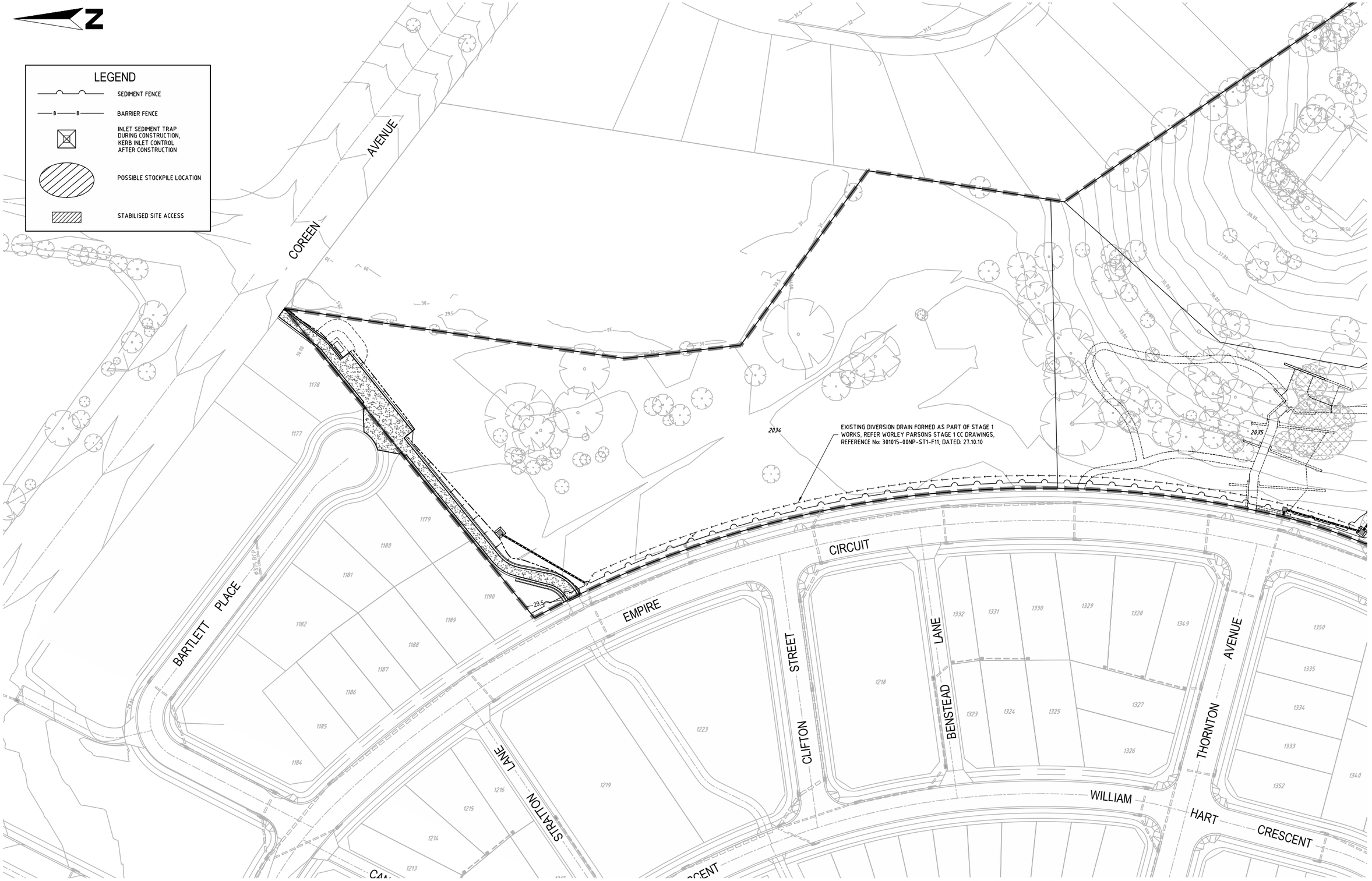
Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SITE REGRADING SECTION

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	603	04



STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions	First Issue	Drawn	Design	Check	Appd.	Date	Revision Details
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04	JM	PB	CB	TT		24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SEDIMENT & EROSION CONTROL PLAN SHEET 01 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	701	04

STATE SIGNIFICANT DEVELOPMENT APPLICATION

Revisions	First Issue	01	02	03	04
Drawn	JM	P	JM	JM	JM	JM
Design	PB	PB	PB	PB	PB	PB
Check	CB	CB	CB	CB	CB	CB
Appd.	TT	TT	TT	TT	TT	TT
Date		5/06/2012	7/06/2012	19/06/2012	24/10/2012
Revision Details		ISSUED FOR PROJECT APPLICATION	REVISED TO SUIT CLIENT'S COMMENTS	REVISED TO SUIT CLIENT'S COMMENTS	REVISED TO SUIT CLIENT'S COMMENTS

SCALE 1:500 (A1) SCALE 1:1000 (A3)

Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SEDIMENT & EROSION CONTROL PLAN SHEET 02 OF 02

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
X12016	2A	SSD	702	04

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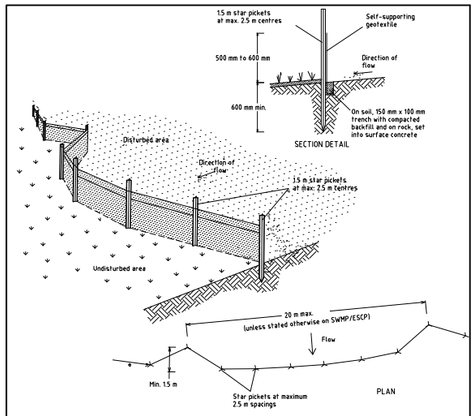
SEDIMENT & EROSION CONTROL NOTES

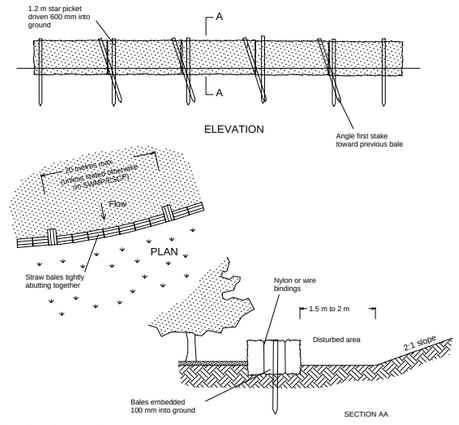
1. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORKS BEING CARRIED OUT. ALL SOIL AND EROSION MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE FULL DURATION OF THE WORKS AND SHALL ONLY BE REMOVED AT FINAL STABILISATION OF THE WORKS. WHERE IT IS NECESSARY TO UNDERTAKE STRIPPING IN ORDER TO CONSTRUCT A SEDIMENT CONTROL DEVICE ONLY SUFFICIENT GROUND SHALL BE STRIPPED TO ALLOW CONSTRUCTION.
2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED AS INDICATED ON THESE DRAWINGS. LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT.
3. CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ANY NECESSARY CONTROL IS IN PLACE EVEN THOUGH SUCH CONTROL MAY NOT BE SHOWN ON THE PLAN.
4. THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS AND ALL EMPLOYEES OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM AREAS
5. APART FROM SEDIMENT BASINS, THE CONTRACTOR SHALL REGULARLY MAINTAIN SEDIMENT AND EROSION CONTROL STRUCTURES AND DESILT SUCH STRUCTURES PRIOR TO THE REDUCTION IN CAPACITY OF 30% DUE TO ACCUMULATED SEDIMENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE IN A MANNER APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL TEMPORARILY REHABILITATE WITHIN TEN (10) DAYS ANY DISTURBED AREAS PROVIDING A MINIMUM 60% COVER. FINAL REHABILITATION IS TO BE PROVIDED WITHIN A FURTHER 60 DAYS WITH A MINIMUM 70% COVER.
7. THE CONTRACTOR SHALL PROVIDE WATERING OF THE VEGETATED BATTERS FOR MAINTENANCE PERIOD. PLANT, MACHINERY AND VEHICLES SHALL NOT BE DRIVEN OVER GRASSED AREAS UNLESS ON AN APPROVED HAULAGE ROUTE.
8. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS QUICKLY AS POSSIBLE TO MINIMISE RISK OF EROSION.
9. SITE ACCESS SHALL BE RESTRICTED TO THE NOMINATED POINTS. THE CONTRACTOR SHALL PROVIDE STABILISED SITE ACCESS.
10. DUST AND SITE DISTURBANCE MUST BE KEPT TO A MINIMUM. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS MUST BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO REDUCE WIND EROSION. ERECT BARRIER FENCING TO MINIMISE LAND DISTURBANCE BY PREVENTING VEHICULAR AND PEDESTRIAN ACCESS TO AREAS BEING REHABILATATED AND LANDS THAT DO NOT NEED TO BE DISTURBED BY THIS PROJECT.
11. STOCKPILE TOPSOILS, SUBSOILS AND OTHER MATERIALS SEPARATELY.
12. TOPSOIL SHALL BE STORED IN LOW MOUNDS NO MORE THAN 2 METRES HIGH AND RE-USED WITHIN TWO MONTHS TO MAINTAIN ACTIVE POPULATIONS OF BENEFICIAL SOIL MICROBES AND SEED.
13. PLACE ALL STOCKPILES AT LEAST FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS, ESPECIALLY EARTH BANKS AND ROADS. IF NECESSARY, EARTH BANKS OR DRAINS WILL BE CONSTRUCTED TO DIVERT
14. TURN TOPSOIL STOCKPILES OVER TO AERATE THEM AT MONTHLY INTERVALS. ENSURE VEGETATION IS NOT INCORPORATED INTO THE SOIL.
15. AVOID REVERSING THE SOIL PROFILE MATERIALS DURING FILL OPERATIONS - REPLACE DISTURBED SOILS IN THEIR ORIGINAL ORDER.
16. ON COMPLETION OF MAJOR EARTHWORKS AND BEFORE ADDING TOPSOIL, LEAVE DISTURBED LANDS WITH A LOOSE SURFACE. ALTERNATELY, DISTURBED AREAS PREVIOUSLY COMPACTED BY CONSTRUCTION WORKS WILL BE RIPPED TO MORE THAN 200-MM ALONG THE CONTOUR BEFORE APPLYING TOPSOIL
17. PROVIDING MATERIALS ARE AVAILABLE, SPREAD TOPSOIL TO A MINIMUM DEPTH OF 75mm IN REVEGETATION AREAS ON SLOPES OF 4(H):1(V) OR LESS AND TO A DEPTH OF 40 TO 60mm IN REVEGETATION AREAS STEEPER THAN 4:1.
18. LEAVE TOPSOIL IN A SCARIFIED OR ROUGH CONDITION ONCE REPLACED TO HELP MOISTURE INFILTRATION AND REDUCE SOIL EROSION.
19. ENSURE SOIL IS THOROUGHLY SOAKED TO A DEPTH OF 75mm (RAIN OR IRRIGATION) IMMEDIATELY BEFORE PLANTING.
20. HANDLE TOPSOIL ONLY WHEN IT IS MOIST (NOT WET OR DRY) TO AVOID DECLINE OF SOIL STRUCTURE
21. THE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING:
    - RECORDS OF ALL RAINFALL
    - CONDITION OF SOIL AND WATER MANAGEMENT STRUCTURES
    - ANY APPLICATION OF FLOCCULATING AGENTS TO SEDIMENT BASIN
    - VOLUMES OF ALL WATER DISCHARGED FROM SEDIMENT BASINS
    - ANY ADDITIONAL REMEDIAL WORKS REQUIRED.
22. THE LOG BOOK SHALL BE MAINTAINED ON A WEEKLY BASIS AND BE MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. THE ORIGINAL LOG BOOK SHALL BE ISSUED TO THE PROJECT MANAGER AT THE COMPLETION OF WORKS
23. ALL ROAD EMBANKMENTS TO BE STABILISED AS PER LANDSCAPE ARCHITECTS DETAILS
24. A SELF AUDITING PROGRAM SHOULD BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHOULD BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE AND IMMEDIATELY FOLLOWING RAINFALL
25. UNDERTAKE THE SELF AUDIT BY:
    - WALKING AROUND THE SITE SYSTEMATICALLY (E.G. CLOCKWISE)
    - RECORDING THE CONDITION OF EVERY BMP EMPLOYED
    - RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH BMP
    - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
    - FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER/SITE OPERATOR FOR THEIR INFORMATION
26. IN PARTICULAR, INSPECT:
    - LOCATIONS WHERE VEHICLES ENTER AND LEAVE THE SITE
    - ALL INSTALLED EROSION AND SEDIMENT CONTROL MEASURES, ENSURING THEY ARE OPERATING CORRECTLY
    - AREAS THAT MIGHT SHOW WHETHER SEDIMENT OR OTHER POLLUTANTS ARE LEAVING THE SITE OR HAVE POTENTIAL TO DO SO
    - ALL DISCHARGE POINTS, TO ASSESS WHETHER THE EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO THE RECEIVING WATERS
27. A SITE INSPECTION USING THE CHECK SHEET WILL BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE, AND IMMEDIATELY FOLLOWING RAINFALL EVENTS GREATER THAN 5mm IN 24 HOURS.
28. FOR FURTHER SEDIMENT & CONTROL NOTES AND DETAILS REFER DRAWING No.002



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

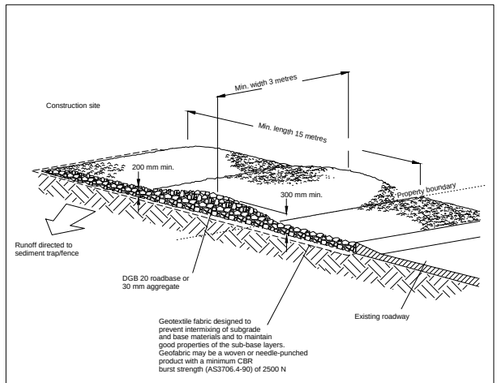
SEDIMENT FENCE SD 6-8



Construction Notes

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

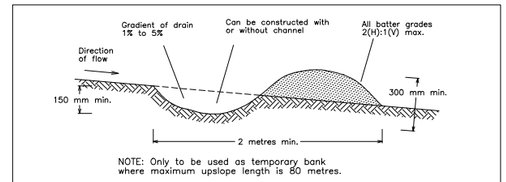
STRAW BALE FILTER SD 6-7



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

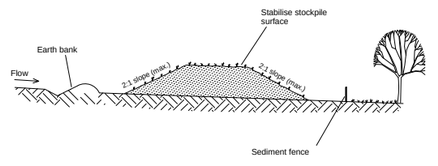
STABILISED SITE ACCESS SD 6-14



Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES SD 4-1

STATE SIGNIFICANT DEVELOPMENT APPLICATION

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04	JM	PB	CB	TT		24/10/2012	REVISED TO SUIT CLIENT'S COMMENTS
First Issue	JM Drawn	PB Design	CB Check	TT Appd.		Date	Revision Details

0 5 10 15 20 25 30 35 40 45 50

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Approval:
BY: TOBY TAMES
BE (Hons) GradDipMgt CPEng MIEAust
Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SEDIMENT & EROSION CONTROL DETAILS

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
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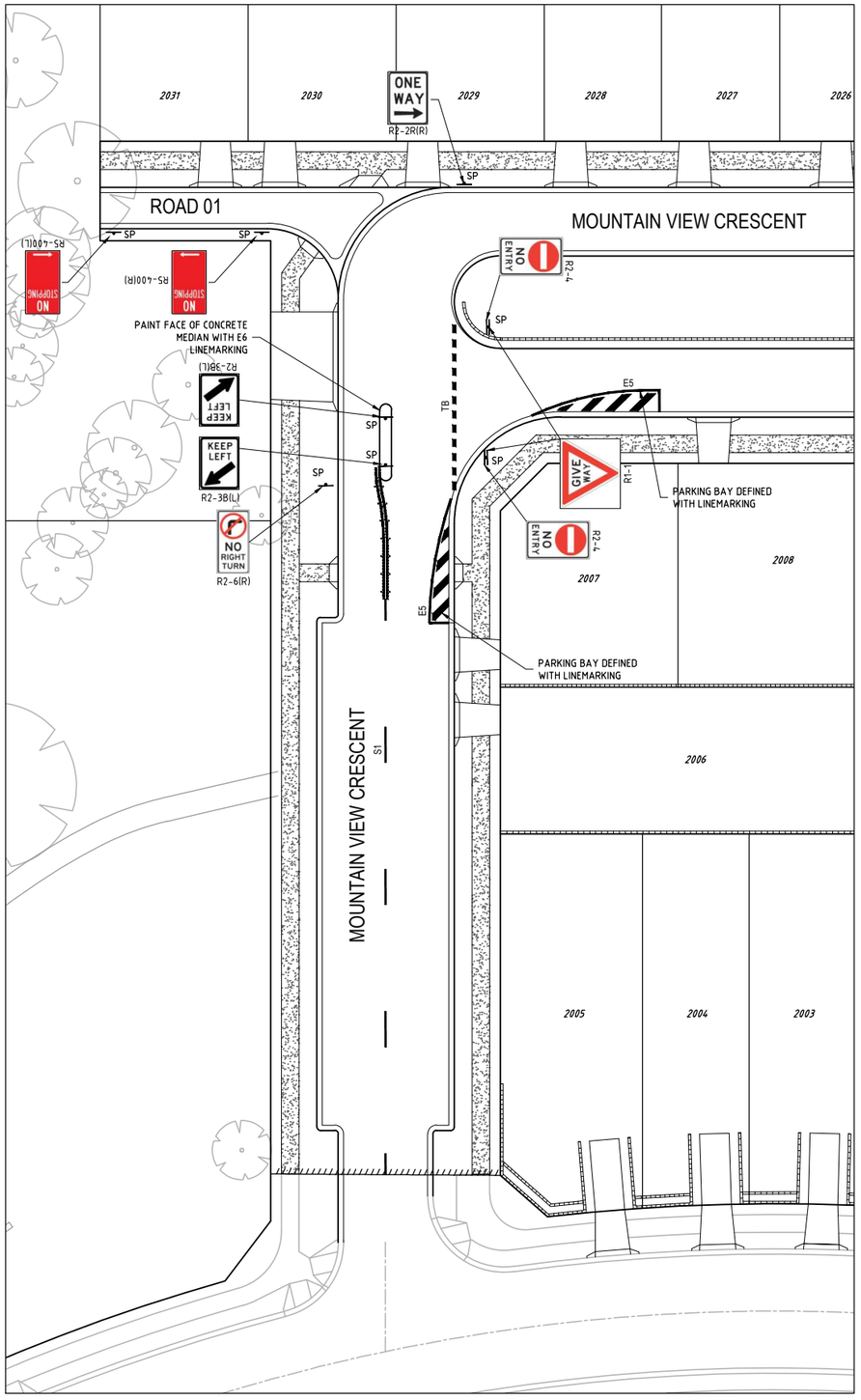
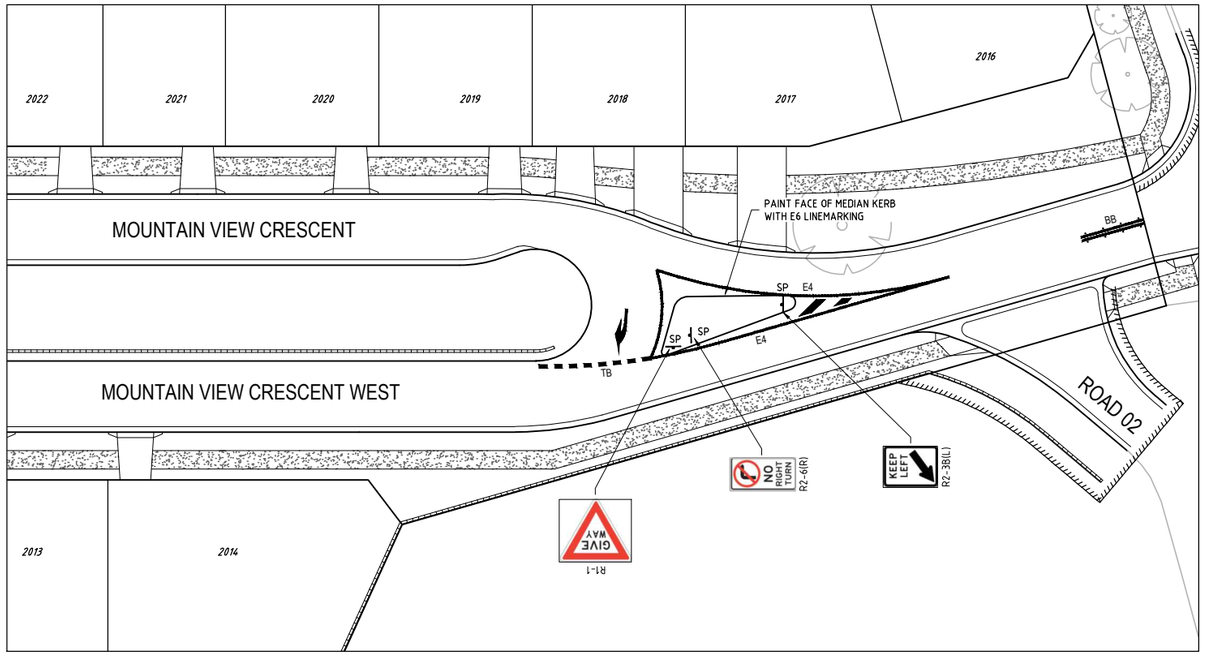


SIGN POST & LINEMARKING PLAN 1



SIGN POST & LINEMARKING PLAN 2

SIGN POSTING LEGEND

- REGULATORY SIGN R1-2
- ONE WAY REGULATORY SIGN R2-2R(R)
- KEEP LEFT REGULATORY SIGN R2-3B(L)
- NO ENTRY REGULATORY SIGN R2-4
- NO RIGHT HAND TURN REGULATORY SIGN R2-6(R)
- NO STOPPING REGULATORY SIGN R5-400 (L)

NOTES:
1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENRITH CITY COUNCIL STANDARDS.
2. ALL PAVEMENT MARKING TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS 1742.2.
3. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.
4. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.
5. PROVIDE RETRO-REFLECTORISED PAVEMENT MARKERS TO AUSTRALIAN STANDARDS 1742.2.
6. ALL LINEMARKING TO BE WHITE IN COLOUR.

LINE MARKING LEGEND

LINE TYPE	USE	DIMENSIONS (m) (N.T.S.) (FOR DIMENSIONS SHOWN * SEE MARKER SPACING COLUMN.)	COLOUR	RAISED MARKER TYPE	MARKER SPACING (*) (m) NORMAL SPACING (A)	MARKER SPACING (*) (m) ALTERNATIVE SPACING (B)
BB	1. REPLACES DIVIDING (SEPARATION) LINE IF RESTRICTED SIGHT DISTANCE FOR BOTH DIRECTIONS OR 2. APPROACH TO MEDIAN ISLAND OR 3. APPROACHES TO A PEDESTRIAN CROSSING	0.10, 0.025 MIN 0.05 MAX, *	WHITE	YY	12	12
TB	GIVE WAY LINE (USED WITH SIGNS)	0.6, 0.6, 0.6, 0.6, 0.6, 0.6, 0.6, 0.6, 0.6, 0.30	WHITE	NOT REQUIRED	-	-
S1	DIVIDING (SEPARATION) LINE ON 2 LANE ROAD	3, 9, 3, 9, 0.10, *	WHITE	YY	24	12
E4	OUTLINE OF TRAFFIC ISLAND OR FREEWAY RAMP GORE	0.15, *, Y, R, 0.025 MIN 0.05 MAX	WHITE	Y R	12	12
E5	OUTLINE OF PAINTED MEDIAN	0.025 MIN 0.05 MAX, 0.15	WHITE	YY	12	12
E6	PAINTED ON INCLINED FACE OF KERB	0.2	WHITE	N/A	N/A	N/A

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0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
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Approval:
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Manager - Urban Development
SIGN:
DATE: 26/10/12

Client: LANDCOM

Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: SIGN POSTING & LINEMARKING PLAN

Project No.:	Stage:	Milestone:	Dwg No.:	Revision:
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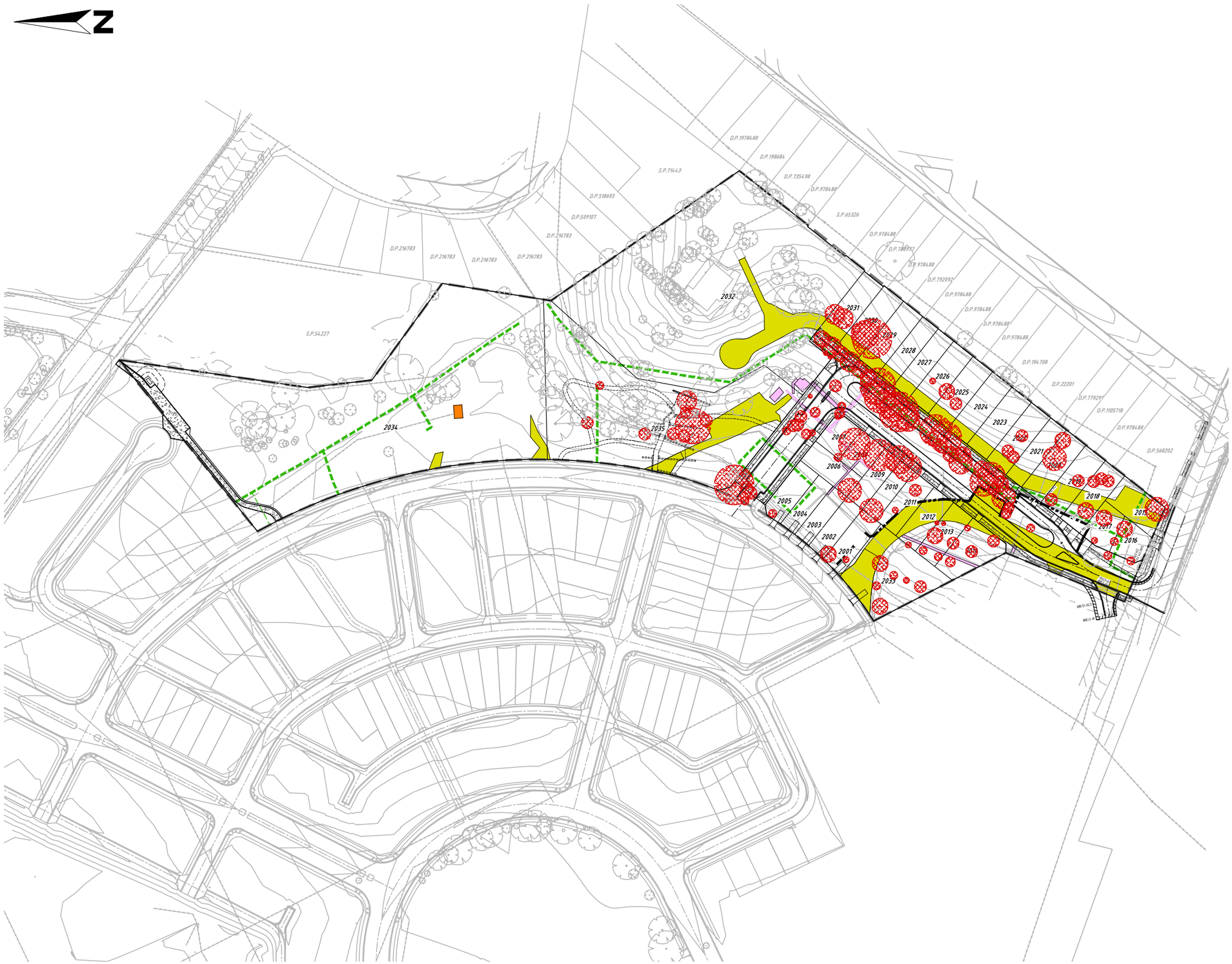

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Manager - Urban Development
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Project: NORTH PENRITH - STAGE 2A
X12016-PA

BROWN Smart Consulting

Drawing Title: DEMOLITION PLAN

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