


DEVELOPMENT AREAS	
GROSS SITE AREA	214 498 m ²
SOUTHERN BASIN	1 758 m ²
INTERNAL ROAD WORKS	8 462 m ²
NET DEVELOPABLE SITE AREA	204 278 m ²



DEVELOPMENT AREAS	
LOT 1 AREA	25 829 m ²
LOT 2 AREA	34 871 m ²
LOT 3 AREA	41 997 m ²
LOT 4 AREA	39 747 m ²
LOT 5 AREA	26 138 m ²
LOT 6 AREA	35 696 m ²
COMBINED LOT AREA	204 278 m ²

BEL BULK EARTHWORK LEVELS
 RL ROAD LEVELS

 **NSW GOVERNMENT**
 Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Section 96 (1A) (1) (2) Modification Application
 No. 2 granted on the 6/8/15
 in respect to MP SSD 5169
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 Sheet No. 1 of 33




SYDNEY
 LEVEL3
 1C Homebush Bay Drive
 Rhodes
 NSW 1670
 TEL: 02 9767 2000 FAX: 02 9767 2933

HORSLEY DRIVE BUSINESS PARK
CORNER OF HORSLEY DRIVE & COWPASTURE ROAD


MASTER PLAN

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	SCALE SCALE 1:1500 @ A1	
	JOB MP - WSPT - FS - 011	
	DATE 14.04.15	REV ST F



DWG NO.	CONTENT:
L00	TITLE PAGE
L01	LANDSCAPE CONCEPT MASTERPLAN & PRECEDENT IMAGERY
L02	LANDSCAPE SECTIONS
L03	PLANTING SCHEDULE

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HORSLEY DRIVE BUSINESS PARK

CRN HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW



Western Sydney Parklands

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Habitation
Studio 25/13-29 Nichols St
Surry Hills, 2010

T: (02) 9360 7771
www.habitation.com.au
ABN: 49 060 492 643

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DATE	REVISION	PURPOSE
29.05.12	REV A	FOR INFORMATION
05.06.12	REV B	FOR INFORMATION
06.06.12	REV C	FOR INFORMATION
07.06.12	REV D	FOR INFORMATION
26.09.12	REV E	FOR INFORMATION
23.07.14	REV F	FOR INFORMATION
27.08.14	REV G	FOR INFORMATION
27.03.15	REV H	FOR INFORMATION
26.06.15	REV I	S96 APPLICATION



PRECEDENT IMAGERY

MASS PLANTING UNDER TREES (GRASSES & NATIVES)

OSD BASIN WITH PLANTING

EXISTING SIGN ETC. (TO RETAIN)

CONCEPT MASTERPLAN
 1:1000 @ A1

-  FEATURE TREE - tall, evergreen (e.g. Araucaria bidwillii)
-  ENTRY TREE - flowering (e.g. Brachychiton acerifolius)
-  BOUNDARY TREE - (e.g. Tristaniopsis Laurina 'Luscious')
-  AVENUE TREE - (e.g. Eucalyptus spp.)

HORSLEY DRIVE BUSINESS PARK

CRN HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW



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Project No: 14_005 Drawing No: L001
 Drawn: SMC Checked/Date: DV

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 Surry Hills, 2010
 T: (02) 9360 7771
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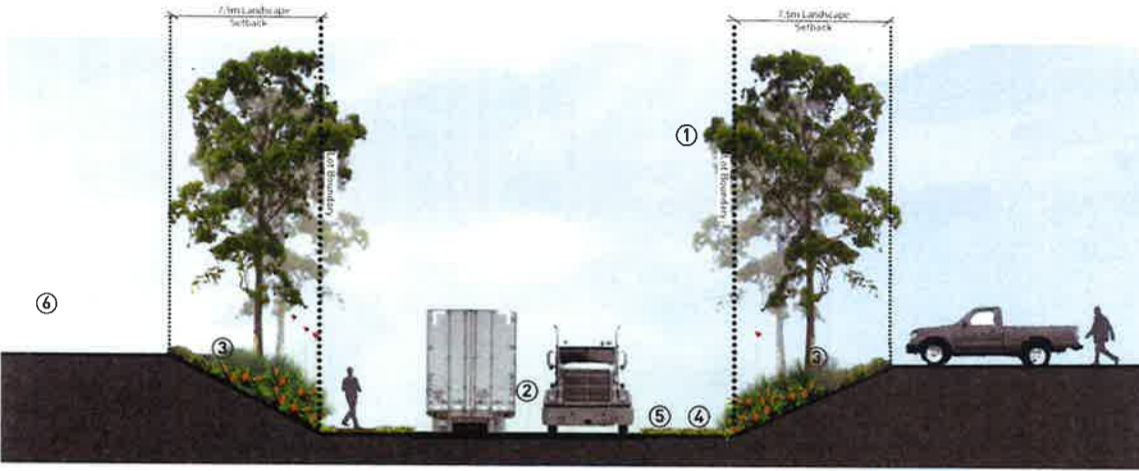
DATE	REVISION	PURPOSE
29.05.12	REV A	FOR INFORMATION
05.06.12	REV B	FOR INFORMATION
06.06.12	REV C	FOR INFORMATION
07.06.12	REV D	FOR INFORMATION
26.09.12	REV E	FOR INFORMATION
23.07.14	REV F	FOR INFORMATION
27.08.14	REV G	FOR INFORMATION
28.08.14	REV H	FOR INFORMATION
26.06.15	REV I	596 APPLICATION



KEY:

1. Brachychiton acerifolium entry feature trees
2. Entry gateway lighting feature
3. Planted slopes. Flowering shrubs and groundcover species.
4. Footpath
5. Lawn verge
6. Mass planted native grasses.

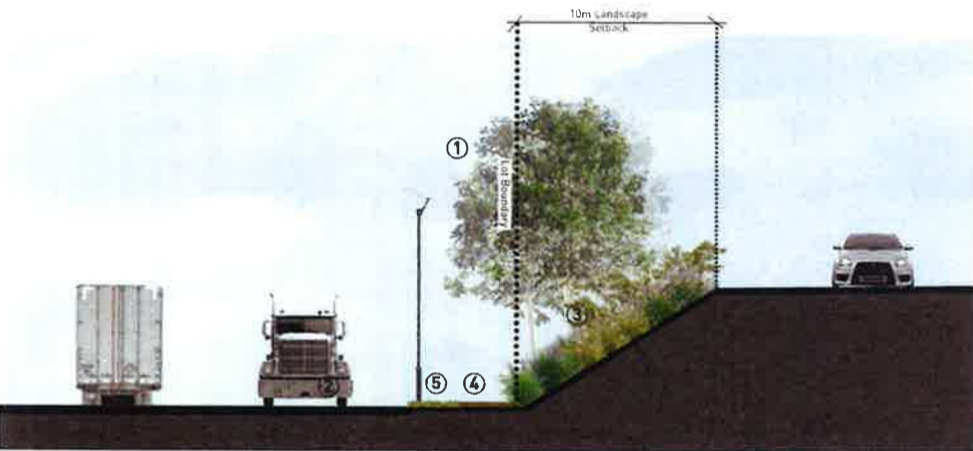
SECTION AA - Entry
1:200



KEY:

1. Tall native street trees (e.g. Cci, Aco, Ema or Epil)
2. Two way access road.
3. Planted bank. Flowering shrubs and groundcover species.
4. Footpath
5. Lawn verge

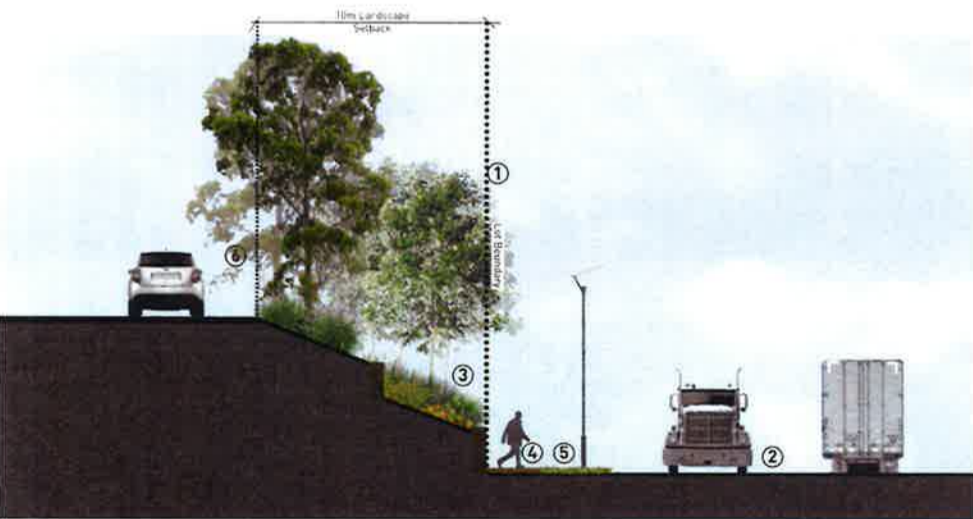
SECTION BB - Access Road
1:200



KEY:

1. Boundary tree planting (e.g. Tta)
2. Horsley Road.
3. Planted bank. Flowering shrubs and groundcover species.
4. Footpath
5. Lawn verge


SECTION CC - Horsley Road
1:200



KEY:

1. Boundary tree planting (e.g. Tta)
2. Cowpasture Road.
3. Retaining walls with planted embankment (flowering shrubs and groundcover species.)
4. Footpath
5. Lawn verge
6. Native carpark trees

SECTION DD - Cowpasture Road
1:200



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HORSLEY DRIVE BUSINESS PARK

CRN HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW

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Project No: 14_029 Drawing No: L002
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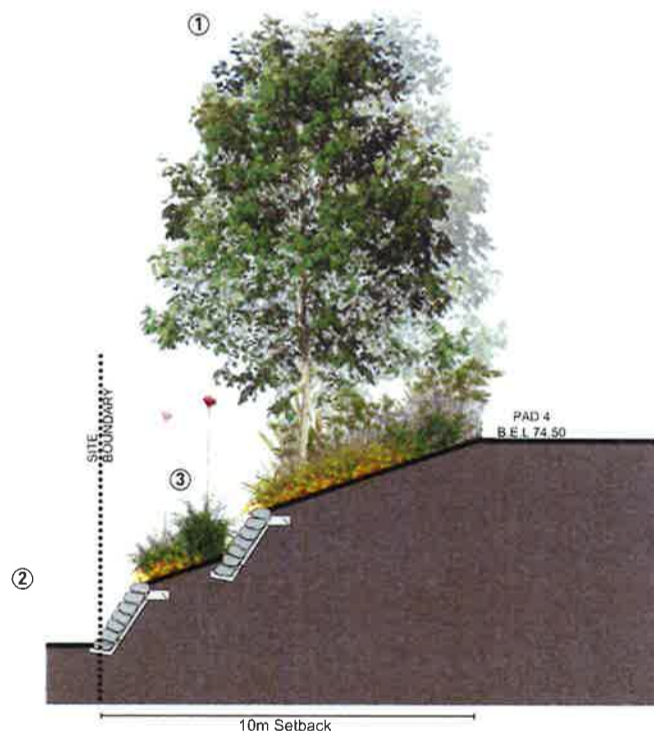
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Studio 25/13-29 Nichols St
Surry Hills, 2010
T: (02) 9360 7771
www.habitation.com.au
ABN: 49 060 492 443




SECTION EE - Bioretention Basin
1:100

- KEY:
- 1. Tall native street trees (e.g., Cci, Aco, Ema or Epi)
 - 2. Bioretention Basin
 - 3. Planted bank. Flowering shrubs and groundcover species
 - 4. Boulder Wall Around Basin
 - 5. Reinforced Earth Wall
 - 6. Boundary tree planting (e.g., Tla)



SECTION FF - Retaining Walls Horsley Drive
1:100

- KEY:
- 1. Boundary tree planting (e.g., Tla)
 - 2. Horsley Drive
 - 3. Boulder retaining walls with planted embankment (flowering shrubs and groundcover species.)



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HORSLEY DRIVE BUSINESS PARK

CRN HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW

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Project No: 14_029 Drawing No: L002
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Studio 25/13-29 Nichols St
Surry Hills, 2010
T: (02) 9360 7771
www.habitation.com.au
ABN: 49 060 492 643

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23.07.14	REV F	FOR INFORMATION
27.08.14	REV G	FOR INFORMATION
26.06.15	REV I	S96 APPLICATION

PLANTING SCHEDULE

CODE	SPECIES	COMMON NAME	ORIGIN	HEIGHT	DENSITY	POT SIZE	NATIVE SPECIES
GROUNDCOVERS							
Cgl	Carpobrotus glaucescens	Pigface or Noon Flower	Native	0.1m	5/m2	Virotube	
Dco	Dianella congesta	Beach Flax Lily	Native	1m	5/m2	Virotube	
ES	Evolvulus pilosa 'Sapphire'	Blue Evolvulus	Native	0.3m	3/m2	Virotube	
Gri	Gazania rigens	Gazania	Native	0.3m	2/m2	Virotube	
GBR	Grevillea 'Bronze Rambler'		Native	0.3m	3/m2	150mm	
Hsc	Hibbertia scandens	Snake Vine	Native	0.3m	5/m2	200mm	
Hvi	Hardenbergia violacea	False Sarsaparilla	Native	0.3m	3/m2	Virotube	
Kru	Kennedia rubicunda	Dusky Coral Pea	Native	0.3m	4/m2	Virotube	
LEG	Liriope muscari 'Evergreen Giant'	Giant Turf Lily	Exotic	0.6m	3/m2	150mm	
LSW	Liriope muscari 'Stripy White'		Exotic	0.6m	4/m2	150mm	
Mac	Myoporum acuminatum	Coastal Boobialla	Native	3m	3/m2	Virotube	
Mel	Myoporum ellipticum	Myoporum	Native	1m	3/m2	Virotube	
Mpa	Myoporum parvifolium	Creeping Boobialla	Native	0.15m	3/m2	Virotube	
GRASSES							
Bar	Baumea articulata	Jointed Twig Rush	Native	1m	3/m2	150mm	
Dco	Dianella congesta	Coastal Flax Lily	Native	0.5	3/m2	150mm	
Dbr	Dianella brevipedunculata	Blue Flax Lily	Native	0.8	3/m2	150mm	
Dcb	Dianella caerulea 'Breeze'	Flax Lily	Native	0.8	3/m2	150mm	
Dct	Dianella caerulea 'Little Jess'	Dwarf Flax Lily	Native	0.3	5/m2	150mm	
Dss	Dianella 'Silver Streak'	Stripy Flax Lily	Native	0.5	3/m2	150mm	
Dre	Dianella revoluta	Flax Lily	Native	1m	4/m2	150mm	
INO	Isolopis nodosa	Knobby Club Rush	Native	0.7m	5/m2	200mm	
LT	Lomandra longifolia 'Tanika'	Mat Rush	Native	1m	5/m2	150mm	
LT	Lomandra longifolia 'Tanika'	Mat Rush	Native	1m	5/m2	150mm	
Pla	Poa labillardieri	Tussock Grass	Native	0.6m	5/m2	150mm	
PC	Poa poliformis 'Courtney'	Tussock Grass	Native	3.6m	5/m2	150mm	
Tau	Themeda australis	Kangaroo Grass	Native	0.75m	3/m2	200mm	
SHRUBS / SUCCULENTS							
Aca	Alpinia caerulea	Native Ginger	Native	2m	2/m2	300mm	
Aat	Agave attenuata	Agave	Exotic	3.6m	1/m2	300mm	
Bsp	Banksia spinulosa	Hairpin Banksia	Native	6m	2/m2	200mm	
Bsp	Bursaria spinulosa	Blackthorn	Native	1.5-2m	2/m2	300mm	
Cap	Carex appressa	Tall Sedge, Tussock Sedge	Native	0.8m	3/m2	300mm	
Cre	Cycas revoluta	Cycad	Native	1m	2/m2	300mm	
Cmi	Clivia miniata	Kaffir Lily	Exotic	0.5m	3/m2	300mm	
Csp	Cordyline Sp.	Slender Palm Lily	Native	1.5m	2/m2	300mm	
Dvi	Dodonaea viscosa	Sticky Hop Bush	Native	1-3m	2/m2	300mm	
Dex	Doryanthes excelsa	Gymea Lily	Native	1.5m	2/m2	300mm	
Hli	Hymenocallis littoralis	Spider Lily	Exotic	0.6m	2/m2	300mm	
Lpe	Leptospermum petersonii	Lemon-Scented Tea Tree	Native	3-4m	1/m2	300mm	
Msp	Macrozamia spp.	Native Cycad	Native	2m	1/m2	300mm	
Wir	Westringia fruticosa	Coastal Rosemary	Native	1.5m	3/m2	300mm	
TREES							
Asm	Acmena smithii	Lilly Pilly	Native	10-15m	-	Mature	
Ahe	Araucaria bidwillii	Bunya Pine	Native	25m	As shown	Mature	
Aco	Angophora costata	Smooth-barked Apple	Native	20m	-	Mature	
Bac	Brachychiton acerifolium	Illawarra Flame Tree	Native	8 to 10m	As shown	Mature	
Cac	Callistemon citrinus	Lemon-scented Bottlebrush	Native	5-8m	-	Mature	
Cco	Cyathea cooperii	Scaly Tree Fern	Native	4m	-	Mature	
Can	Cupaniopsis anacardioides	Tuckeroo	Native	7m	As shown	Mature	
Cci	Corymbia citriodora	Lemon-scented Gum	Native	15-20m	As shown	Mature	
Epi	Eucalyptus pilularis	Blackbutt	Native	20m	As shown	Mature	
Ema	Eucalyptus maculata	Spotted gum	Native	20m	As shown	Mature	
Gfe	Glochidion ferdinandii	Cheese Tree	Native	15m	-	Mature	
Hpe	Harpullia pendula	Tulipwood	Native	10-20m	-	Mature	
Lin	Lagerstroemia indica	Crepe Myrtle	Exotic	6-8m	-	Mature	
Lco	Lophostemon confertus	Brush Box	Native	10-15	-	Mature	
Mli	Melaleuca linariifolia	Narrow-leaved Paperbark	Native	5-10m	-	Mature	
Pce	Prunus cerasifera 'Nigra'	Purple flowering Cherry Plum	Exotic	4-5m	-	Mature	
PCC	Pyrus calleryana 'Capital'	Capital Pear	Exotic	11m	-	Mature	
POV	Pyrus ussuriensis var. ovoidea	Ussurian Pear	Exotic	12-13m	-	Mature	
Sau	Syzygium australe	Brush Cherry	Native	8m	-	Mature	
Tla	Tristania laurina	Water Gum	Native	15m	As shown	Mature	





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WSURVSD BASIN PRECEDENT IMAGES BY
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Sheet No. 5 of 33



HORSLEY DRIVE BUSINESS PARK
CRN HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW



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Studio 25/13-29 Nichols St
Surry Hills, 2010
T: (02) 9360 7771
www.habitation.com.au
ABN: 49 060 492 643

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CRN HORSLEY DRIVE & COWPASTURE ROAD


WETHERILL PARK NSW

SITE WORKS DRAWING LIST:

DRAWING NO.	DRAWING TITLE
Co11492.05-DA10	DRAWING LIST & GENERAL NOTES
Co11492.05-DA20	EROSION & SEDIMENT CONTROL PLAN
Co11492.05-DA25	EROSION & SEDIMENT CONTROL DETAILS - SHEET 2
Co11492.05-DA31	BULK EARTHWORKS PLAN - SHEET 1
Co11492.05-DA32	BULK EARTHWORKS PLAN - SHEET 2
Co11492.05-DA33	BULK EARTHWORKS SECTIONS - SHEET 1
Co11492.05-DA34	BULK EARTHWORKS SECTIONS - SHEET 2
Co11492.05-DA40	CONCEPT STORMWATER CATCHMENTS PLAN
Co11492.05-DA41	CONCEPT CIVIL WORKS PLAN - SHEET 1
Co11492.05-DA42	CONCEPT CIVIL WORKS PLAN - SHEET 2
Co11492.05-DA43	BIO-RETENTION BASIN PLAN
Co11492.05-DA45	CONCEPT STORMWATER DETAILS - SHEET 1
Co11492.05-DA46	CONCEPT STORMWATER DETAILS - SHEET 2
Co11492.05-DA50	ACCESS ROAD DETAILS
Co11492.05-DA61	RETAINING WALL PLAN - SHEET 1
Co11492.05-DA62	RETAINING WALL PLAN - SHEET 2
Co11492.05-DA65	RETAINING WALL DETAILS
Co11492.05-DA66	RETAINING WALL ELEVATIONS - SHEET 1
Co11492.05-DA67	RETAINING WALL ELEVATIONS - SHEET 2
Co11492.05-DA68	RETAINING WALL ELEVATIONS - SHEET 3

ROADWORKS FUNCTIONAL LAYOUT DRAWING LIST:

DRAWING NO.	DRAWING TITLE
Co11492.05-SK01	ROUNDBOUT LAYOUT & GENERAL ALIGNMENT PLAN
Co11492.05-SK02	ROUNDBOUT TURNING PATHS PLAN



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Sheet No. 7 of 33

GENERAL NOTES:

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERTRESSED. TEMPORARY BRACINGS SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

SITE PREPARATION NOTES:

- ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT P5M2343-004R PROVIDED BY PELL'S SULLIVAN MEYNIK DATED FEB 2014.
- EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY LAND PARTNERS BUILT ENVIRONMENT CONSULTANTS TITLED SY073101000 DATED 01 JUNE 2012.
- STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND BLEND INTO BATTER TOPSOIL MATERIAL OR STORE AS DIRECTED.
- COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
- TOP 100mm ROCK BELOW BULK EARTHWORKS LEVEL (BEL) IN AREAS OF CUT TO BE RIPPED AND RECOMPACTED IN ACCORDANCE WITH GEOTECHNICAL ADVICE AS 'SITE WON FILL'.
- IN AREAS OF FILL, THE TOP 500mm IS TO COMPRISE OF SELECT CRUSHED ROCK, SITE WON FROM AREAS OF CUT IN ROCK.
- PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
- AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT.
- SITE WON FILL TO BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
- IMPORTED FILL SHALL BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
- MAXIMUM PARTICLE SIZE TO BE THE SMALLER OF 150mm OR HALF THE (LOOSE) LAYER THICKNESS AND/OR TWO THIRDS THE LAYER THICKNESS AFTER COMPACTION.
- ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
- PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
- EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
- MATCH EXISTING LEVELS AT BATTER INTERFACE.
- CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING Ø300 TO BE UPVC GRADE SN8.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING M12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 32 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 UPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED UPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT / LANDSCAPED INTERFACES. TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- ALL PIPE GRADES 1 IN 100 MINIMUM UN.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.D.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.D. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

SURVEY NOTE:

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY SY073101000 BY LAND PARTNERS SURVEYORS 6/4/12. COORDINATES BASED ON MGA COORDINATES AS NOMINATED ON DRAWING 73101-3D-DETAIL BY LAND PARTNERS DATED 6/4/12

SAFETY NOTE:

EARTHWORKS TO NORTHERN EXTENT OF SITE ARE LOCATED WITHIN AN ELECTRICAL EASEMENT & ASSOCIATED HIGH VOLTAGE TRANSMISSION LINES. ALL WORKS WITHIN THIS ZONE TO BE PERFORMED IN ACCORDANCE WITH THE RELEVANT SERVICE PROVIDERS GUIDELINES. THE CONTRACTOR IS TO ENSURE ALL NECESSARY OH&S MEASURES ARE ALLOWED FOR AND IMPLEMENTED DURING WORKS IN THIS ZONE

ELECTRONIC INFORMATION NOTES:

- THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
- THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
- THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

EROSION CONTROL NOTES:

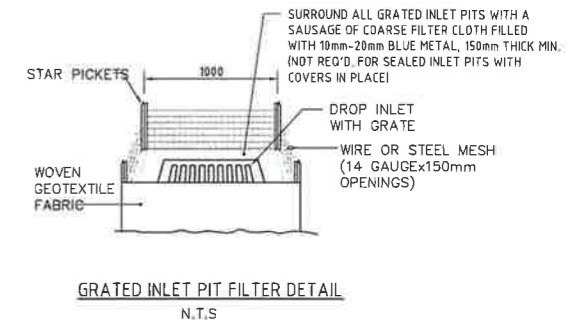
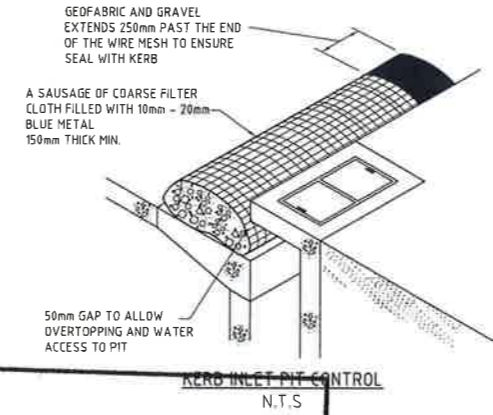
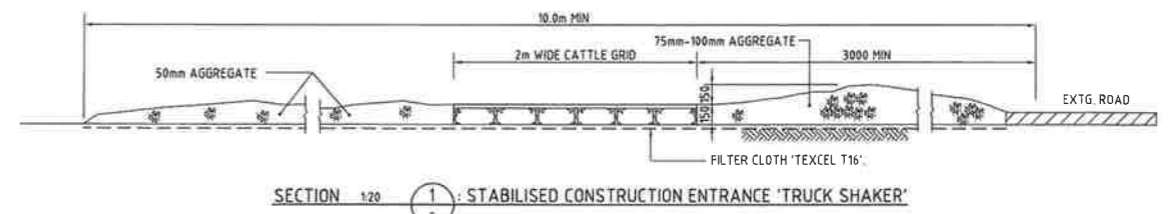
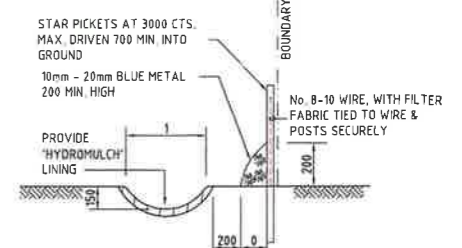
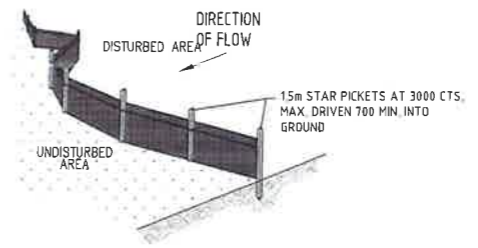
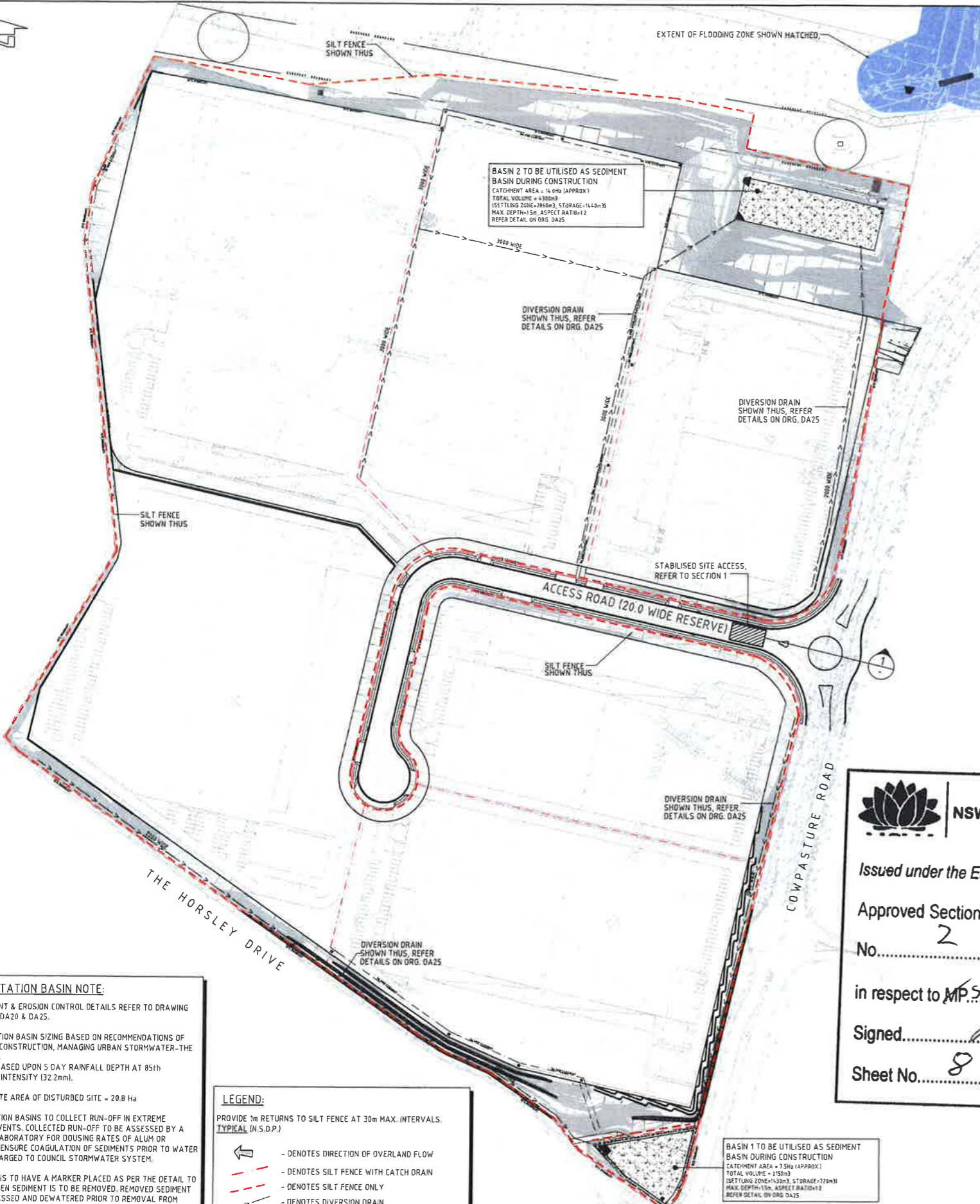
ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

- SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
- HAY BALE BARRIERS AND GEOTEXTILE FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
- ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
- ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
- ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
- ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
- ALL STOCKPILE STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
- ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
- ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
- ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
- THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWN AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

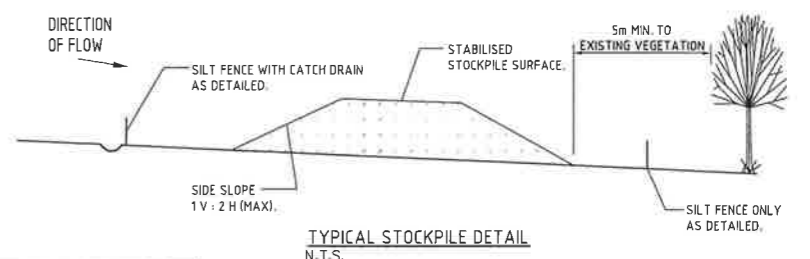


 LOCALITY PLAN
NOT TO SCALE

FOR SECTION 96 APPLICATION



NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.



STOCKPILE NOTES
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, SUITABLY STABILISE OR COVER THE STOCKPILES.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.

SEDIMENTATION BASIN NOTE:
FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C0114.92.05-DA20 & DA25.
SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER - THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (32.2mm).
APPROXIMATE AREA OF DISTURBED SITE = 20.8 Ha
SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.
EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.
ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.
NOTES:
1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
SOIL TYPE ASSESSED FROM GEOTECHNICAL REPORT PROVIDED BY PSM TITLED PSM 1869-009R DATED 10 MAY 2012.

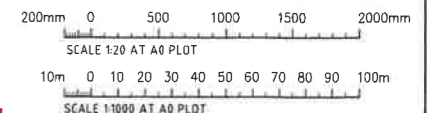
LEGEND:
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (IN S.O.P.)
← - DENOTES DIRECTION OF OVERLAND FLOW
- - - - - DENOTES SILT FENCE WITH CATCH DRAIN
- - - - - DENOTES SILT FENCE ONLY
- - - - - DENOTES DIVERSION DRAIN
□ - S.G.P., SINGLE GRATED GULLY PIT
□ - S.J.P., SEALED JUNCTION PIT
□ - K.I.P., KERB INLET PIT
- - - - - FINISHED PAVEMENT CONTOUR (MAJOR) 1.00m INTERVALS
- - - - - FINISHED PAVEMENT CONTOUR (MINOR) 0.25m INTERVALS

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in respect to MP 5510 5169
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Sheet No. 8 of 33

NOTES:
ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.
MINIMISE DISTURBED AREAS.
ROADS & FOOTPATHS TO BE SWEEPED DAILY.
1.2m TURF TO BE PLACED BEHIND KERBS.
DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

REFER TO DRAWING C0114.92.05-DA10 FOR EROSION & SEDIMENT CONTROL NOTES. ALL EROSION CONTROL TO BE COMPLETED PRIOR TO COMMENCEMENT OF SITE WORKS.

EROSION & SEDIMENT CONTROL PLAN
1:1000



FOR SECTION 96 APPLICATION



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in respect to MP 550 5169

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Sheet No. 10 of 33

SAFETY NOTE:
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IN AREAS OF FILL, THE TOP 500mm IS TO COMPRISE OF SITE WON FILL SELECT ROCK AS PER SITE PREP NOTE 6.

WAREHOUSE 3
BEL 72.00
+/- 1000mm

WAREHOUSE 2
BEL 72.00
+/- 1000mm

WAREHOUSE 1
BEL 72.00
+/- 1000mm

WAREHOUSE 4
BEL 74.50
+/- 1000mm

BASIN 2
BEL 60.25

PROVIDE 1V:3H MAX BATTER

PROVIDE 1V:3H MAX BATTER

RETAINING WALL REFER DRG DA61

RETAINING WALL REFER DRG DA61

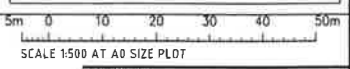
RETAINING WALL REFER DRG DA61

PROVIDE 1V:3H MAX BATTER

COMPASTURE ROAD

LEGEND:
REFER TO DRAWING DA32 FOR LEGEND

NOTE
REFER TO DRAWING DA31 FOR EARTHWORKS VOLUMES. REFER TO DRAWING DA10 FOR SITE PREPARATION NOTES.



BULK EARTHWORKS PLAN - SHEET 1
SCALE 1:500

BREAKLINE-REFER TO DRG DA32 FOR CONTINUATION

FOR SECTION 96 APPLICATION

FOR SECTION 96 AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS

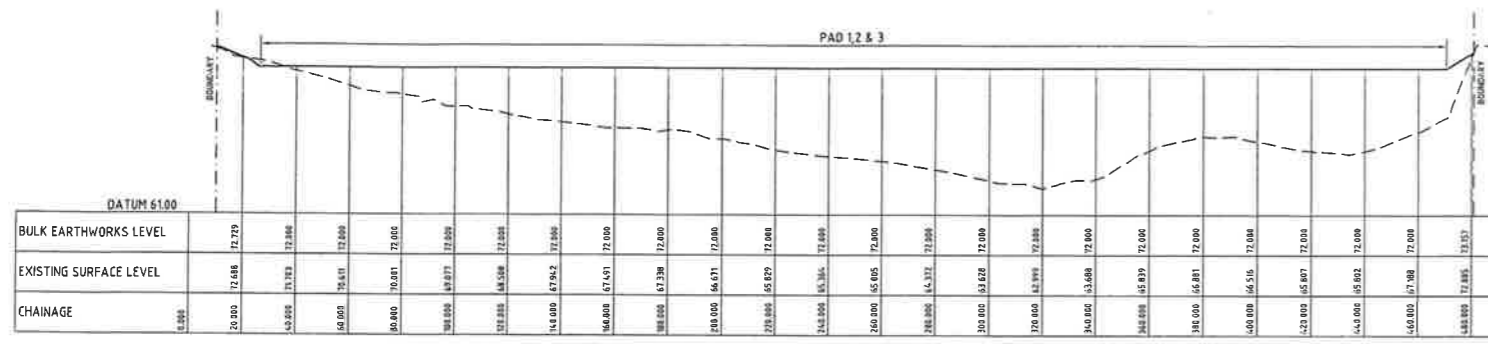


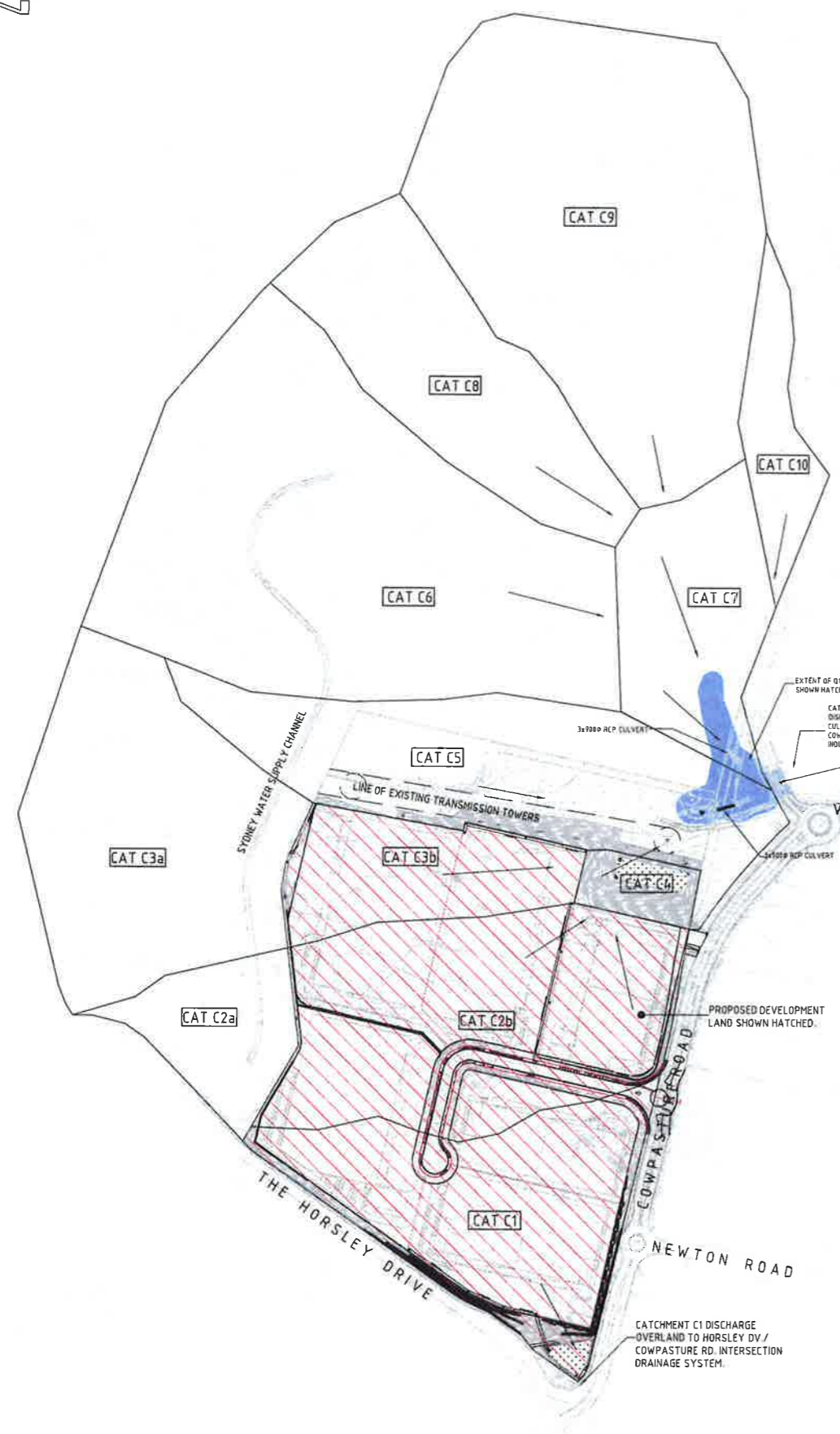
PROJECT
HORSELY DV. BUSINESS PARK
CNR THE HORSELY DV. & COMPASTURE RD
WETHERILL PARK, NSW

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Parramatta, Sydney NSW 2150
Tel: (02) 961-1999 Fax: (02) 961-3111
email: costin@costinroe.com.au

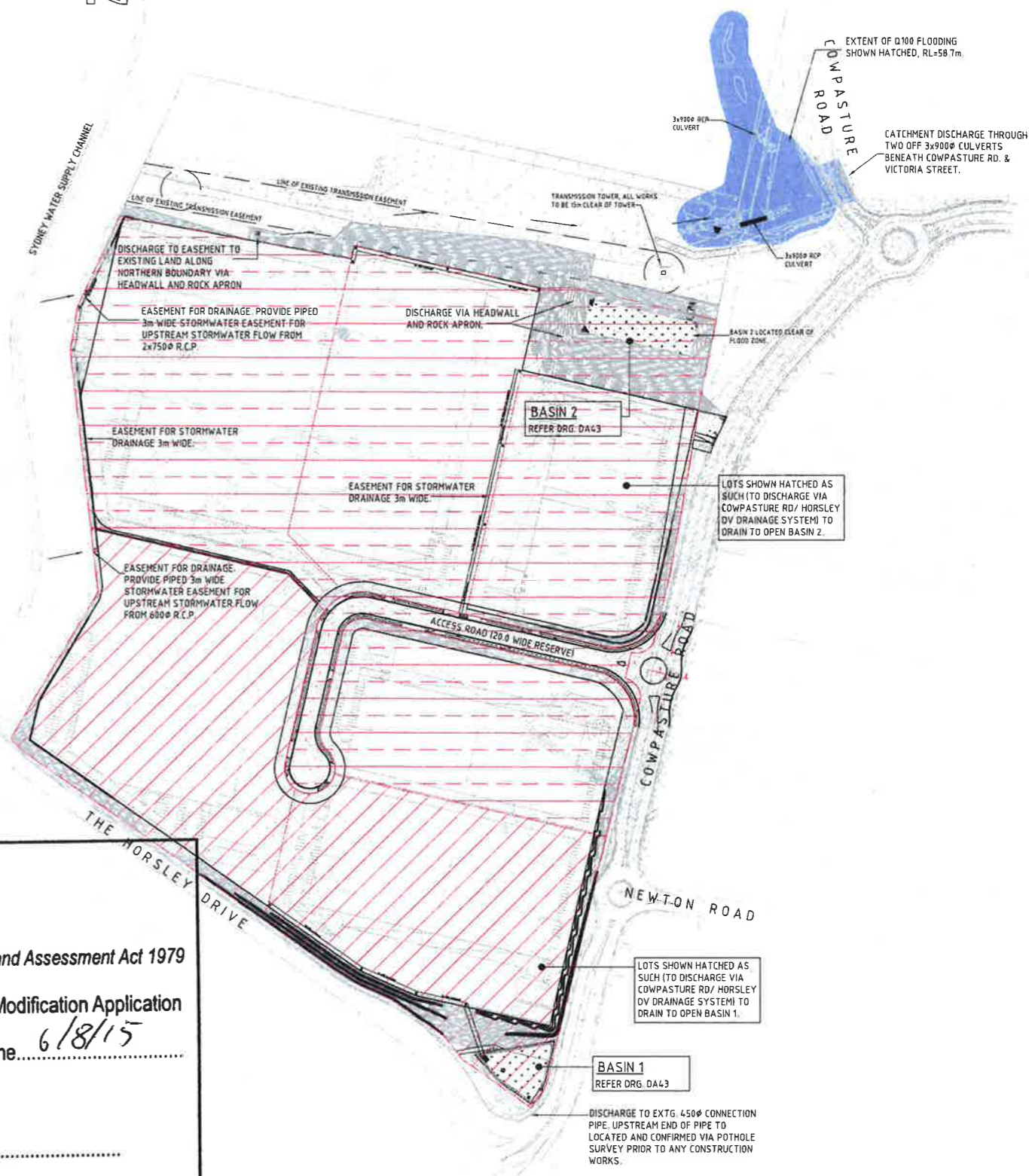


DRAWING TITLE
BULK EARTHWORKS PLAN
SHEET 1
DRAWING NO.
Co11492.05-DA31





EXISTING CATCHMENT PLAN
SCALE 1:2500



STORMWATER MANAGEMENT PLAN
1:1500

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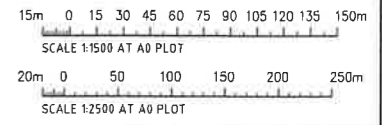
Sheet No. 14 of 33

EXISTING CATCHMENT SCHEDULE

No.	AREA (Ha)	Tc (MINS)
CAT C 1	7.56	7
CAT C 2	12.83	16
CAT C 3	13.23	16
CAT C 4	0.96	12
CAT C 5	8.94	13
CAT C 6	17.92	16
CAT C 7	4.69	12
CAT C 8	6.77	13
CAT C 9	16.20	16
CAT C 10	2.06	6
TOTAL	91.16	

SUB-CATCHMENT SCHEDULE

No.	AREA (Ha)
CAT C 2a	2.67
CAT C 2b	10.16
CAT C 3a	9.51
CAT C 3b	3.72



FOR SECTION 96 APPLICATION



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in respect to MP 42 5169

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Sheet No. 15 of 33

EXISTING 2x750 ϕ CULVERTS
TO BE EXTENDED TO PITS

WAREHOUSE 3
BEL 72.00
+/-1000mm

WAREHOUSE 2
BEL 72.00
+/-1000mm

WAREHOUSE 1
BEL 72.00
+/-1000mm

WAREHOUSE 4
BEL 74.50
+/-1000mm

REFER DRG DA43 FOR BIORETENTION BASIN PLAN

BIO-BASIN 2
FSL 61.00

COWPASTURE ROAD

LEGEND:
REFER TO DRAWING DA42 FOR LEGEND

NOTE:
REFER TO DRAWING DA42 FOR PIT SCHEDULE &
DRAWING DA10 FOR STORMWATER NOTES

Scale bar: 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE PLOT

FOR SECTION 96 APPLICATION

CONCEPT CIVIL WORKS PLAN - SHEET 1
SCALE 1:500

BREAKLINE-REFER TO DRG DA42 FOR CONTINUATION

FOR SECTION 96 AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS
	22/12/14	1							



PROJECT
HORSELY DV. BUSINESS PARK
CNR THE HORSELY DV. & COWPASTURE RD
WETHERILL PARK, NSW

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Parramatta, Sydney, NSW 2000
Tel: (02) 961-7000 Fax: (02) 961-7011
Email: mail@costinroe.com.au

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DRAWING TITLE
CONCEPT CIVIL WORKS PLAN
SHEET 1
DRAWING NO. Co11492.05-DA41

WAREHOUSE 4
BEL 74.50
+/-1000mm

WAREHOUSE 5
BEL 74.50
+/-1000mm

WAREHOUSE 6
BEL 74.50
+/-1000mm


DRAINAGE CATCHMENT
BOUNDARY REFER TO
DRAWING DA40

825Ø STUB CONNECTION
FOR WAREHOUSE 4

675Ø STUB CONNECTION
FOR WAREHOUSE 6

STORMWATER OUTLET
REFER DETAIL ON DA45

REFER DRG DA43 FOR BIORETENTION BASIN PLAN



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Sheet No. 16 of 33













PIT SCHEDULE

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A1	74.50	S.J.P	1200x1200	
PIT A2	74.50	S.J.P	1200x1200	
PIT A3	74.50	S.J.P	1200x1200	
PIT A4	74.50	S.J.P	1200x1200	
PIT A5	NOT USED	S.J.P	1200x1200	
PIT A6	61.80	B.I.P	1500x1500	
PIT A7	NOT USED	S.J.P	1200x1200	
PIT B1	73.77	K.I.P	900x600	2400 LINTEL
PIT B2	73.70	K.I.P	900x600	2400 LINTEL
PIT B3	73.00	K.I.P	900x600	2400 LINTEL
PIT B4	72.58	K.I.P	900x600	2400 LINTEL
PIT B5	71.95	K.I.P	900x600	2400 LINTEL
PIT B6	72.00	S.J.P	1200x1200	
PIT B7	72.00	S.J.P	1200x1200	
PIT B8	72.00	S.J.P	1200x1200	
PIT B9	61.10	S.J.P	900x900	
PIT B10	63.00	S.J.P	2400x1200	
PIT B11	73.05	K.I.P	900x600	2400 LINTEL
PIT B12	71.95	K.I.P	900x600	2400 LINTEL
PIT B13	74.10	K.I.P	900x600	2400 LINTEL
PIT B14	74.10	K.I.P	900x600	2400 LINTEL
PIT C1	72.00	S.J.P	1200x1200	
PIT C2	72.00	S.J.P	1200x1200	
PIT C3	72.00	S.J.P	1200x1200	
PIT C4	72.00	S.J.P	1200x1200	
PIT E1	74.10	S.J.P	900x900	
PIT E2	74.80	S.J.P	900x900	
PIT E3	74.10	S.J.P	900x900	
PIT E4	72.10	S.J.P	900x900	
PIT E5	72.60	S.J.P	2400x1200	
PIT E6	75.00	S.J.P	1200x1200	

STORMWATER DRAINAGE NOTES:
REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS SURVEYORS DATED 12.04.12.

-  - SGGP, SINGLE GRATED GULLY PIT
-  - S.J.P, SEALED JUNCTION PIT
-  - K.I.P, KERB INLET PIT
-  - DRAINAGE LINE
-  - SUBSOIL LINE
-  - OVERLAND FLOW PATH
-  - EXISTING DRAINAGE LINE
-  - FINISHED PAVEMENT SPOT HEIGHT
-  - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
-  - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
-  - EXISTING SURFACE CONTOUR
-  - EXISTING SURFACE SPOT HEIGHT

CONCEPT CIVIL WORKS PLAN - SHEET 2
SCALE 1:500

FOR SECTION 96 APPLICATION

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE PLOT

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE



PROJECT
HORSELY DV. BUSINESS PARK
CNR THE HORSELY DV. & COWPASTURE RD
WETHERILL PARK, NSW

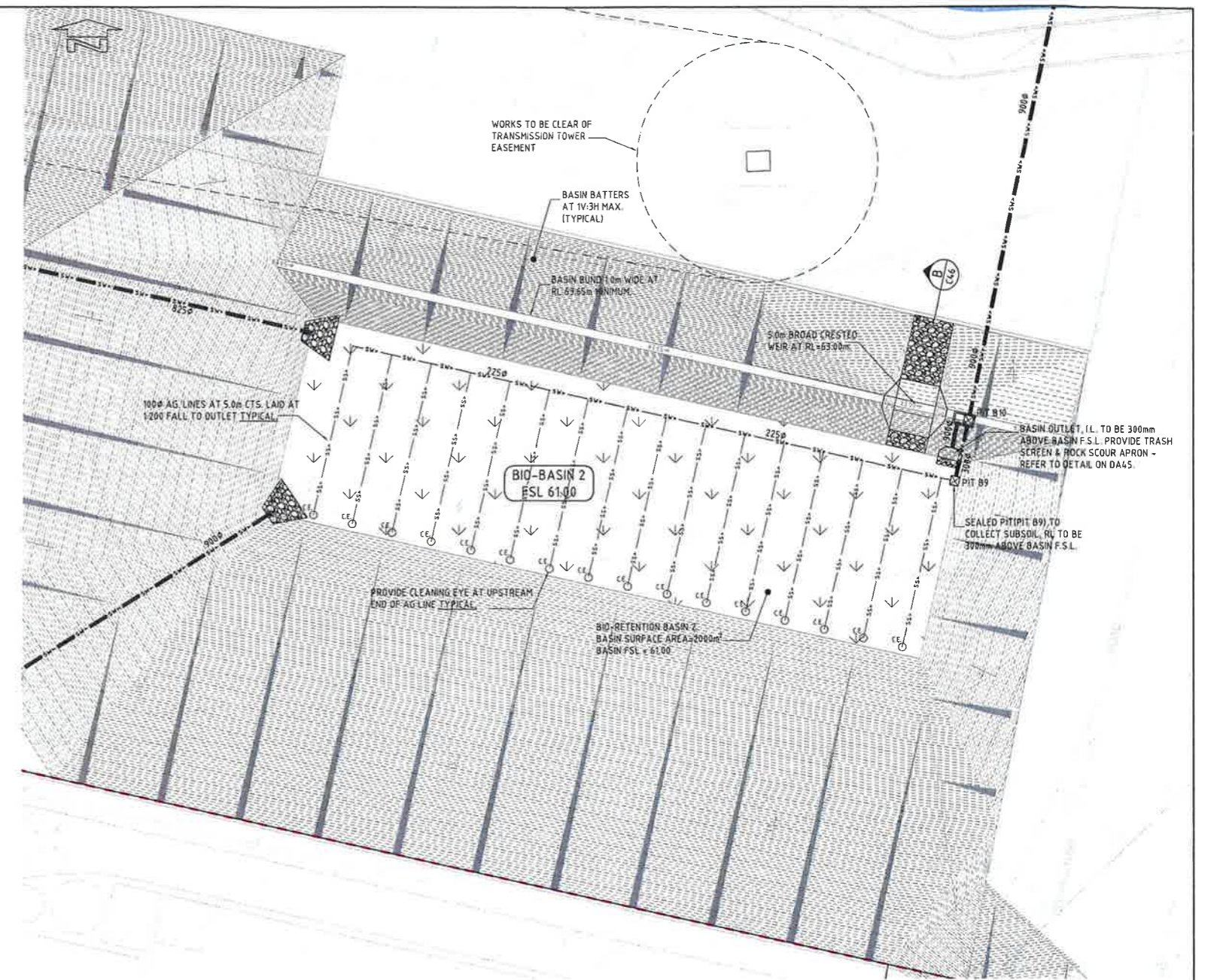
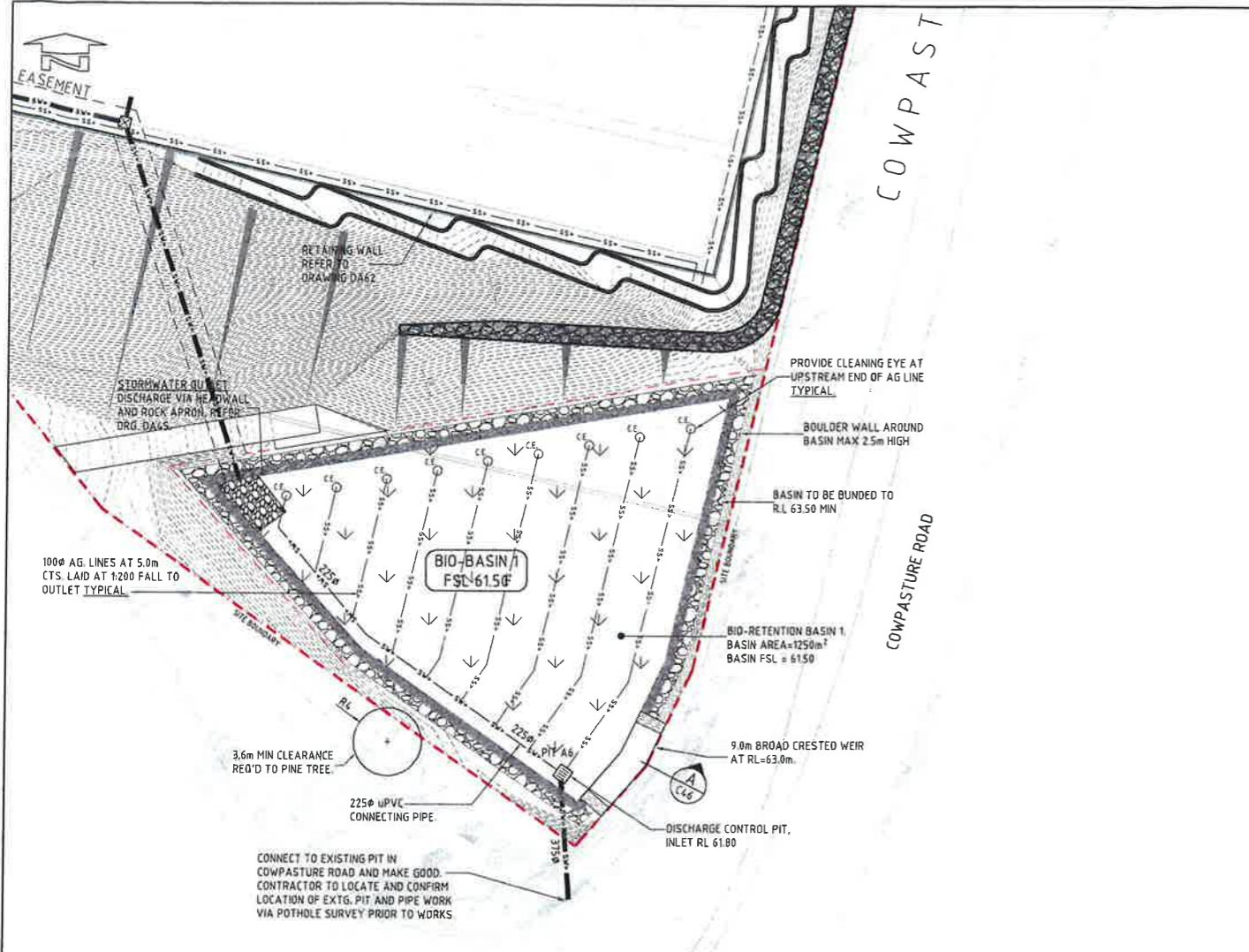


Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Macdonell Street
Yahlabully, Sydney NSW 2000
Tel: (61) 021-999 744 Fax: (61) 021-999 3111
email: mail@costinroec.com.au

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DRAWING TITLE
CONCEPT CIVIL WORKS PLAN
SHEET 2

PROJECT NO.
C011492.05-DA42



NSW GOVERNMENT Planning

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No. 2 granted on the 6/8/15

in respect to MP 5169

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Sheet No. 17 of 33

BASIN 1 - WATER QUALITY DETAILS

STORMWATER TREATMENT MEASURE: BIORETENTION

STORAGE PROPERTIES

EXTENDED DETENTION DEPTH: 300mm

STORAGE SURFACE AREA: 1200sqm MIN.

FILTER & MEDIA PROPERTIES

FILTRATION AREA: 1200sqm MIN

SAT. HYDRAULIC CONDUCTIVITY: 100mm/hr

FILTER DEPTH: 600mm

REFER TO DRG. DA45 FOR BIORETENTION NOTES AND DETAILS.

BASIN 1 - HYDROLOGIC DETAILS

ARI (yrs)	Storm Duration (hrs)	Flow (m ³ /s)			Water Level (m)	Storage (m ³)
		Pre - Devel.	Post Devel. (un - attenuated)	Post Devel. (with attenuation)		
2	0.5	0.343	1.91	0.325	62.35	1100
2	2	0.678	1.94	0.349	65.50	1380
100	0.5	1.75	3.85	1.465	63.20	2300
100	2	2.60	3.91	2.716	63.30	2450

BASIN 2 - WATER QUALITY DETAILS

STORMWATER TREATMENT MEASURE: BIORETENTION

STORAGE PROPERTIES

EXTENDED DETENTION DEPTH: 300mm

STORAGE SURFACE AREA: 2000sqm MIN.

FILTER & MEDIA PROPERTIES

FILTRATION AREA: 2000sqm MIN

SAT. HYDRAULIC CONDUCTIVITY: 100mm/hr

FILTER DEPTH: 500mm

REFER TO DRG. DA45 FOR BIORETENTION NOTES AND DETAILS.

BASIN 2 - HYDROLOGIC DETAILS

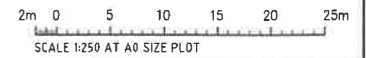
ARI (yrs)	Storm Duration (hrs)	Flow (m ³ /s)			Water Level (m)	Storage (m ³)
		Pre - Devel.	Post Devel. (un - attenuated)	Post Devel. (with attenuation)		
2	0.5	0.56	3.45	0.55	61.90	2150
2	2	1.13	3.43	0.63	62.20	2800
100	0.5	2.96	6.97	1.14	63.10	5750
100	2	4.36	7.03	2.19	63.35	6050

STORMWATER DRAINAGE NOTES:
REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

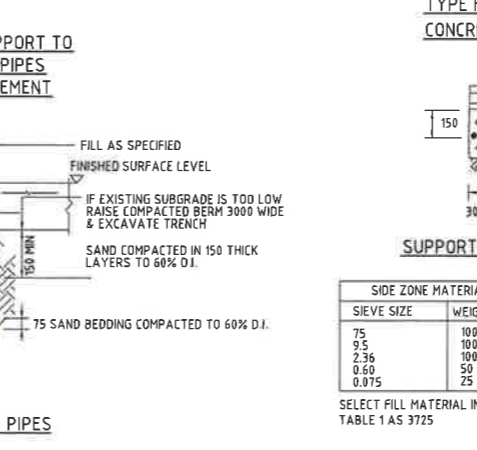
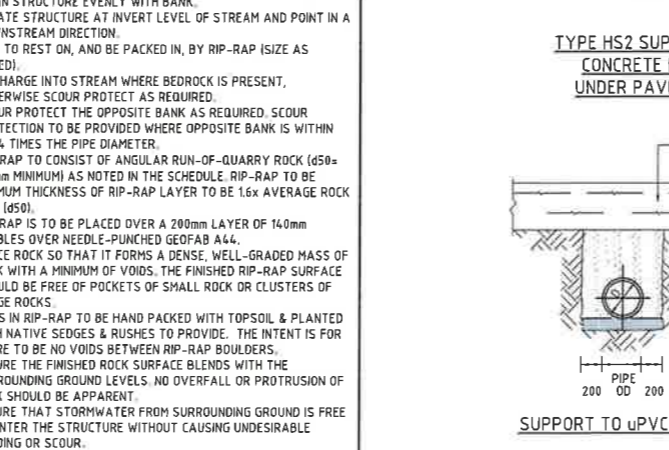
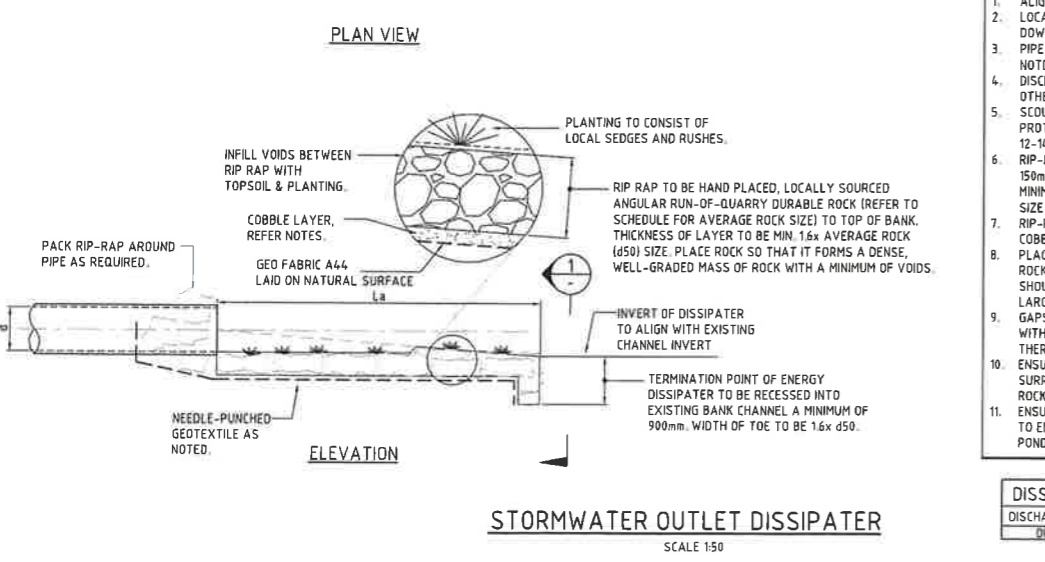
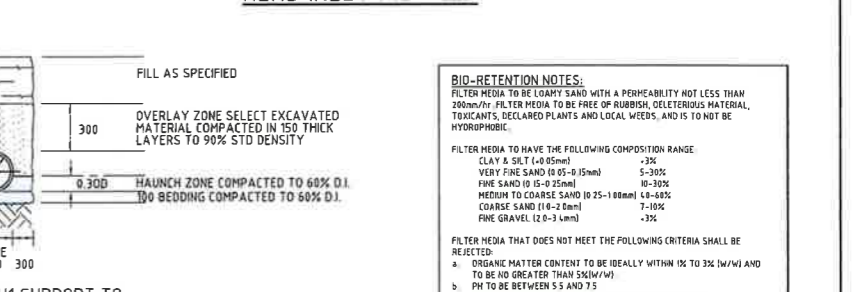
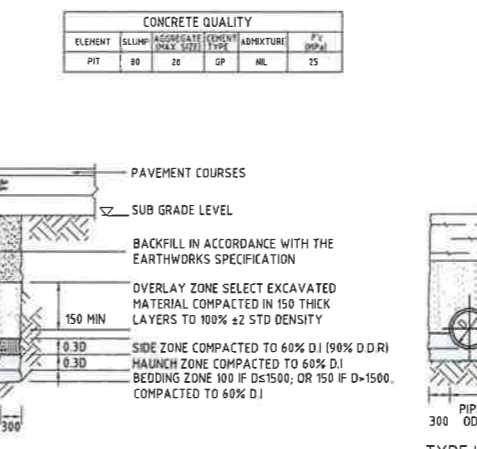
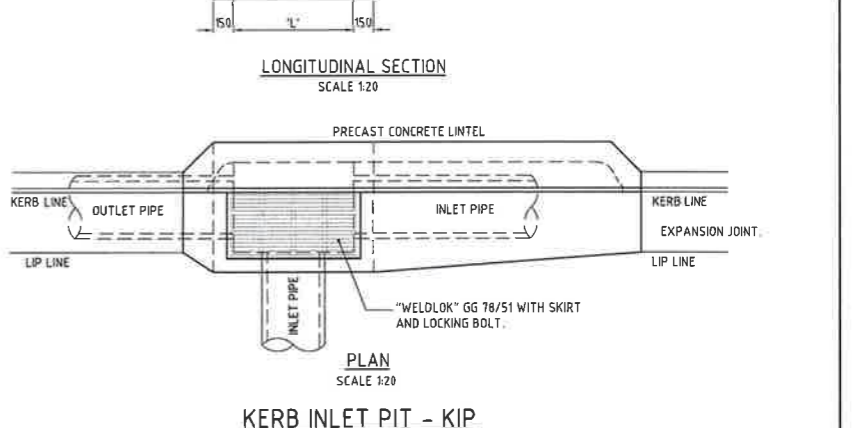
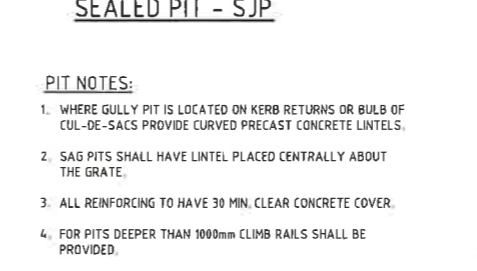
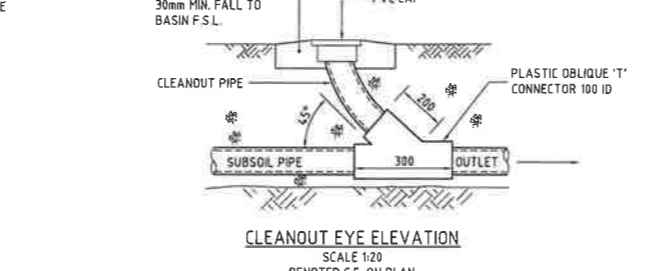
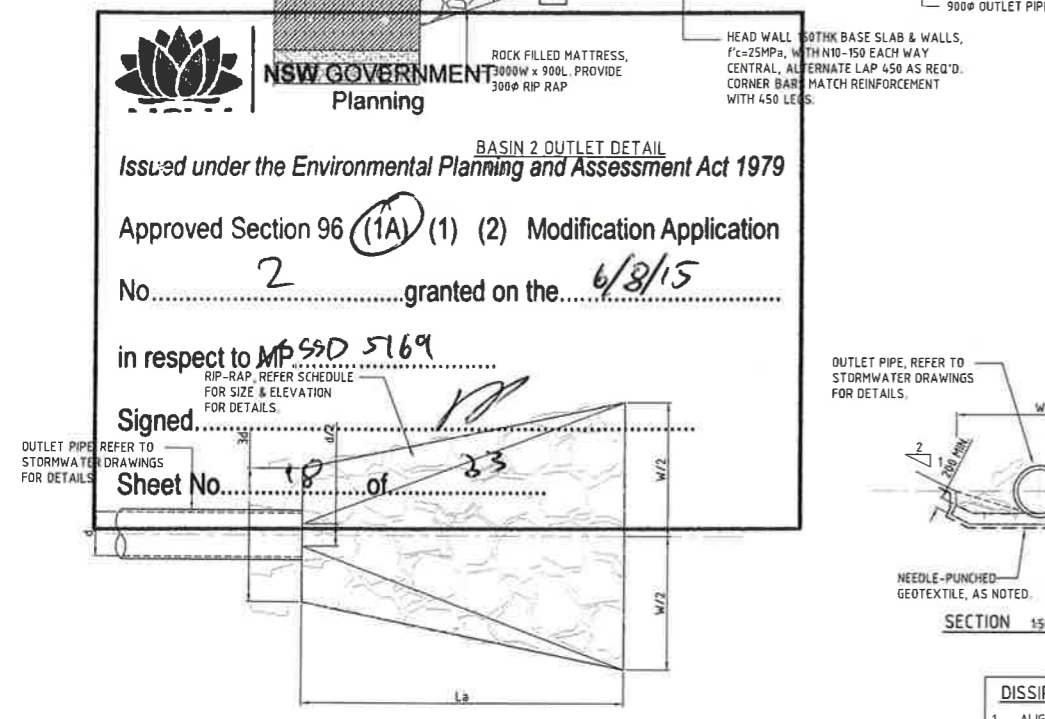
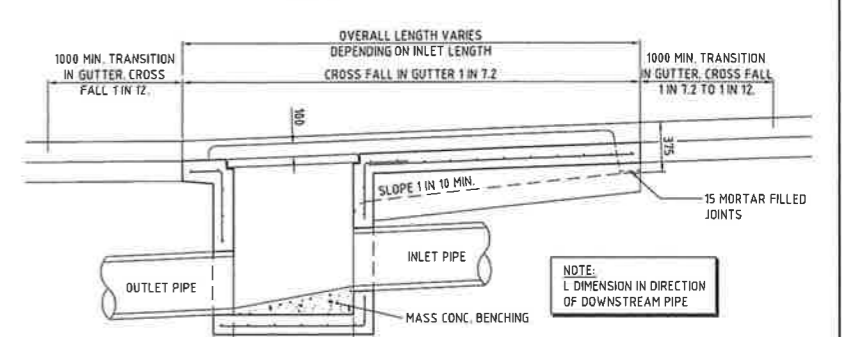
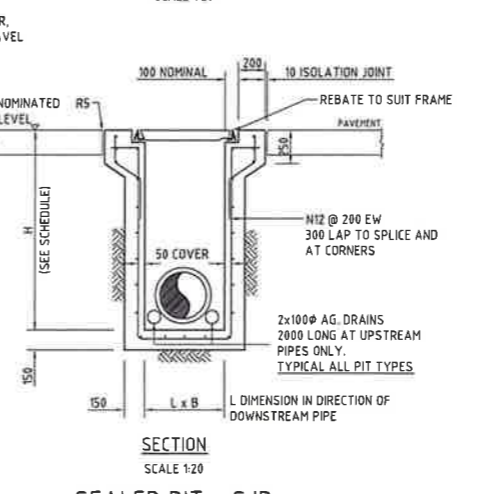
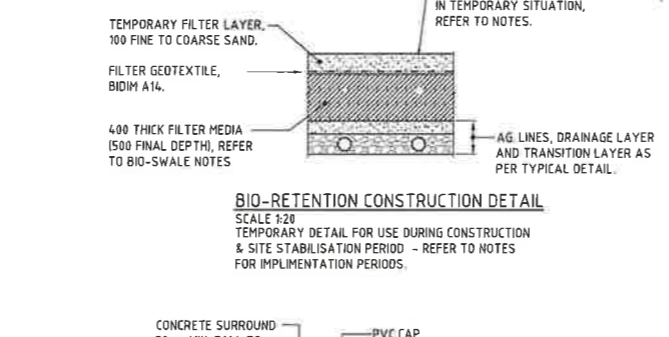
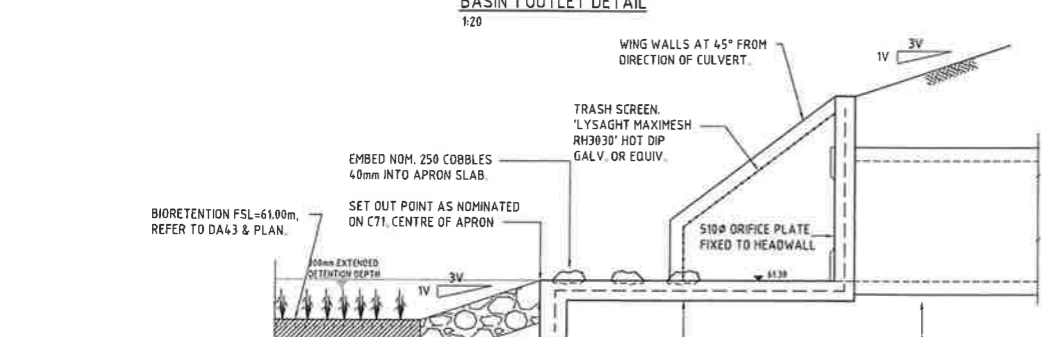
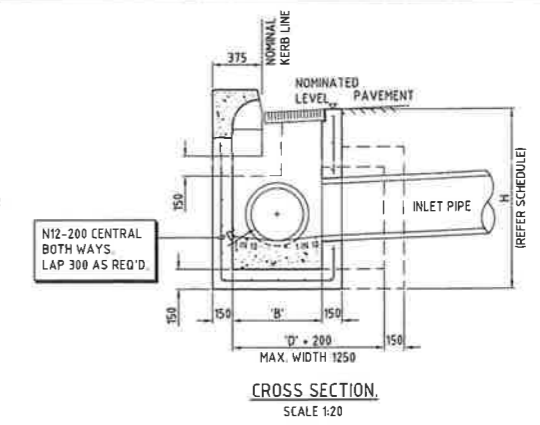
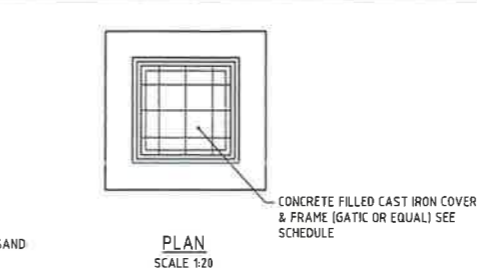
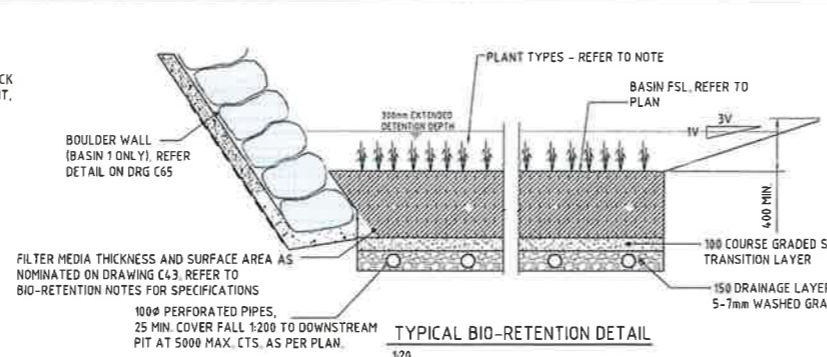
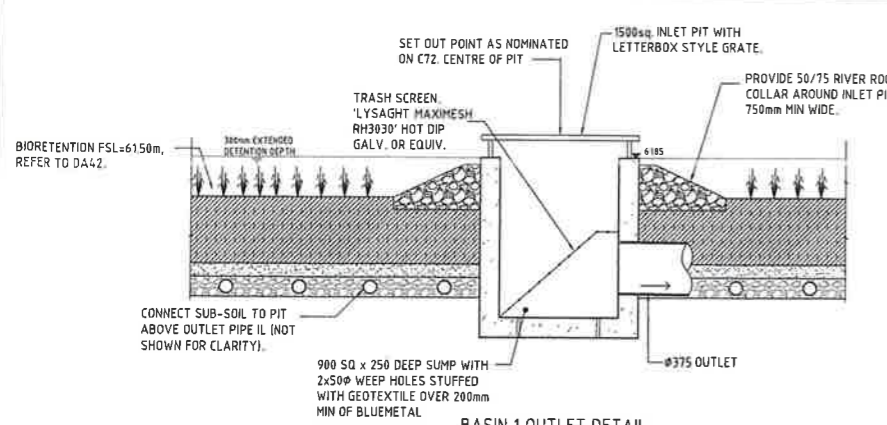
LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LAND PARTNERS SURVEYORS DATED 12.04.12.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- DRAINAGE LINE
- SUBSOIL LINE
- EXISTING SURFACE CONTOUR
- EXISTING SURFACE SPOT HEIGHT



FOR SECTION 96 APPLICATION



BIO-RETENTION NOTES:

FILTER MEDIA TO BE LOOSE SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:

CLAY & SILT (<0.075mm)	<3%
VERY FINE SAND (0.075-0.15mm)	5-30%
FINE SAND (0.15-0.25mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.0mm)	48-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.0mm)	<3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:

- ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (w/w) AND TO BE NO GREATER THAN 5% (w/w)
- PH TO BE BETWEEN 5.5 AND 7.5
- PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

PROVIDE 180mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTE/HAIR OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH THE AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAYER WITH A GEOTEXTILE LAYER (REFER TO DETAIL) FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION. THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL.

PRIOR TO PLANTING, THE TOP 150mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMENDED WITH APPROPRIATE ORGANIC MATTER, FERTILISERS AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW.

TABLE 1: AMENDMENT FOR ANELOCATING TOP 150mm OF BIORETENTION FILTER MEDIA	
CONSTITUT	QUANTITY (kg/m² OF FILTER AREA)
GRANULATED POLYURETHANE FINES	10
SUPERPHOSPHATE	1
POTASSIUM SULPHATE	1
POTASSIUM SULPHATE	1
TRAK ECHOSEED FINE	1
FERTILISER (NPK 15:15:15)	1
LIME	20

DISSIPATER NOTES:

- ALIGN STRUCTURE EVENLY WITH BANK.
- LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
- PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
- DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
- SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
- RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (d50=150mm MINIMUM) AS NOTED IN THE SCHEDULE. RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1.6x AVERAGE ROCK SIZE (d50).
- RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOTEXTILE.
- PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
- GAPS IN RIP-RAP TO BE HAND PACKED WITH TOPSOIL & PLANTED WITH NATIVE SEDGES & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP BOULDERS.
- ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERFALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
- ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.

DISSIPATER SCHEDULE

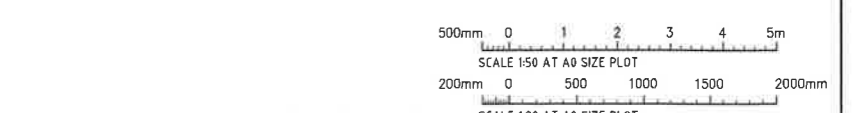
DISCHARGE POINT	d	La	W	RIP-RAP
OUTLET	900/2825	5000	3000	600

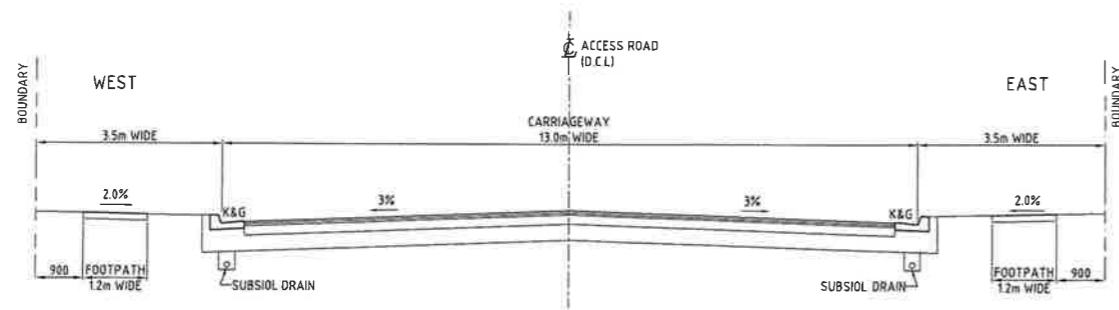
PIPE LAYING DETAILS

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
75	100 TO 50
9.5	100 TO 30
2.36	50 TO 15
0.60	25 TO 0
0.075	

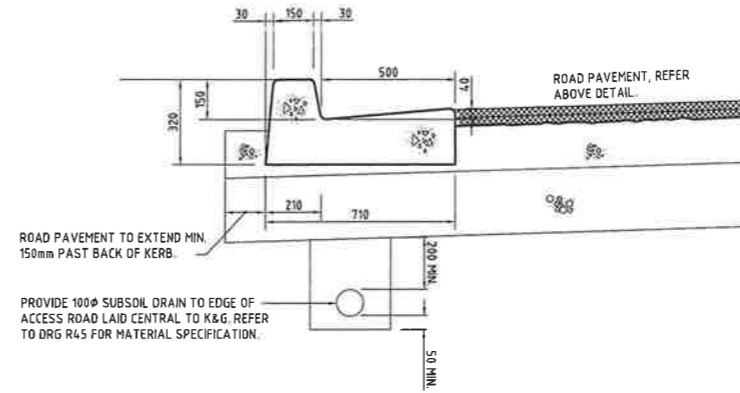
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

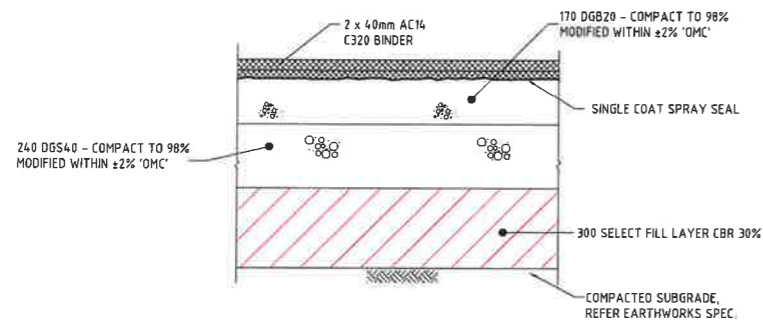




TYPICAL CROSS SECTION - ACCESS ROAD
SCALE 1:50

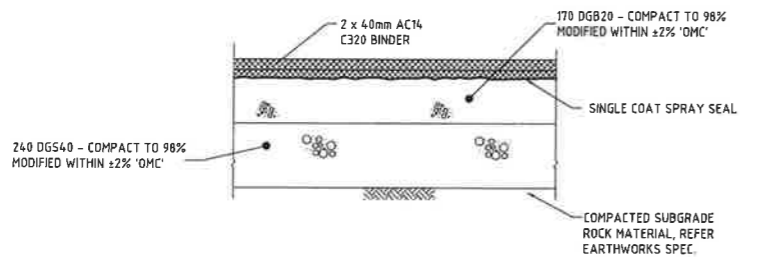


KERB & GUTTER TYPE 'SA'
SCALE 1:10



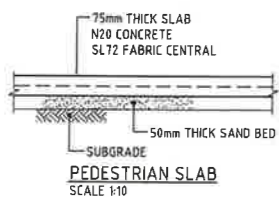
ACCESS ROAD PAVEMENT DETAIL

SCALE 1:10
DESIGN TRAFFIC 1x10⁷ ESA's
DESIGN CBR VALUE OF 3%

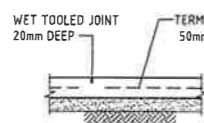


ALTERNATE ACCESS ROAD PAVEMENT DETAIL - SUBGRADE IN ROCK

SCALE 1:10
DESIGN TRAFFIC 1x10⁷ ESA's
DESIGN CBR VALUE OF 10%



PEDESTRIAN SLAB
SCALE 1:10



WET TOOLED JOINT
SCALE 1:10

NOTE: PROVIDE SAWCUT JOINTS AT 2000 MAX. CTS.



BUTT JOINT
SCALE 1:10

NOTE: PROVIDE EXPANSION JOINTS AT 6000 MAX. CTS.

PEDESTRIAN SLAB DETAILS



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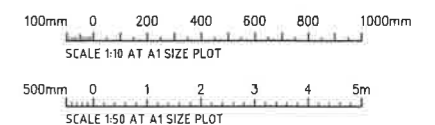
Approved Section 96 (1A) (1) (2) Modification Application

No. 2 granted on the 6/8/15

in respect to MP 550 5169

Signed [Signature]

Sheet No. 20 of 33



FOR SECTION 96 APPLICATION

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
FOR SECTION 96 FOR INFORMATION ONLY	22/11/15	A			

CLIENT	australand	PROJECT	HORSLEY DV. BUSINESS PARK CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW
DESIGNER	CostinRoe Consulting Engineers	CHECKED	CostinRoe Consulting Engineers

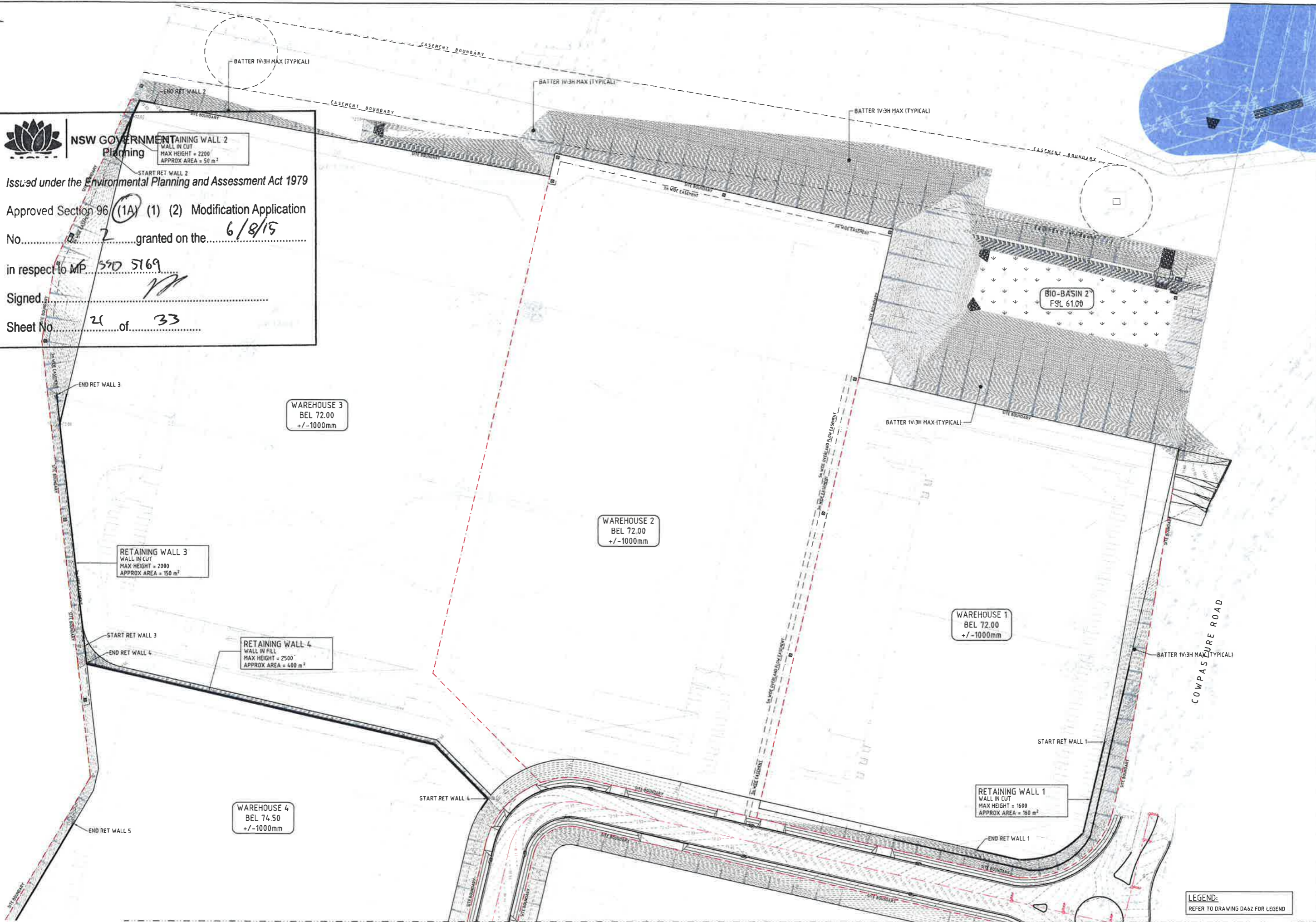
CostinRoe Consulting Engineers Level 1, 8 Windsor Street North Sydney NSW 1585 Tel: (02) 9551-4999 Fax: (02) 9551-2721 email: mail@costinroe.com.au	Value in Engineering and Management
-----------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------

DRAWING TITLE	ACCESS ROAD DETAILS
DRAWING NO.	Co114.92.05-DA50
CODE	B

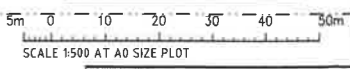


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Planning

ISSUED under the Environmental Planning and Assessment Act 1979
 Approved Section 96 (1A) (1) (2) Modification Application
 No. 2 granted on the 6/8/15
 in respect to MP 350 5169
 Signed: [Signature]
 Sheet No. 21 of 33



LEGEND:
 REFER TO DRAWING DA62 FOR LEGEND



RETAINING WALL PLAN - SHEET 1
 SCALE 1:500

BREAKLINE-REFER TO DRG DA62 FOR CONTINUATION

FOR SECTION 96 APPLICATION

FOR SECTION 96 AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS

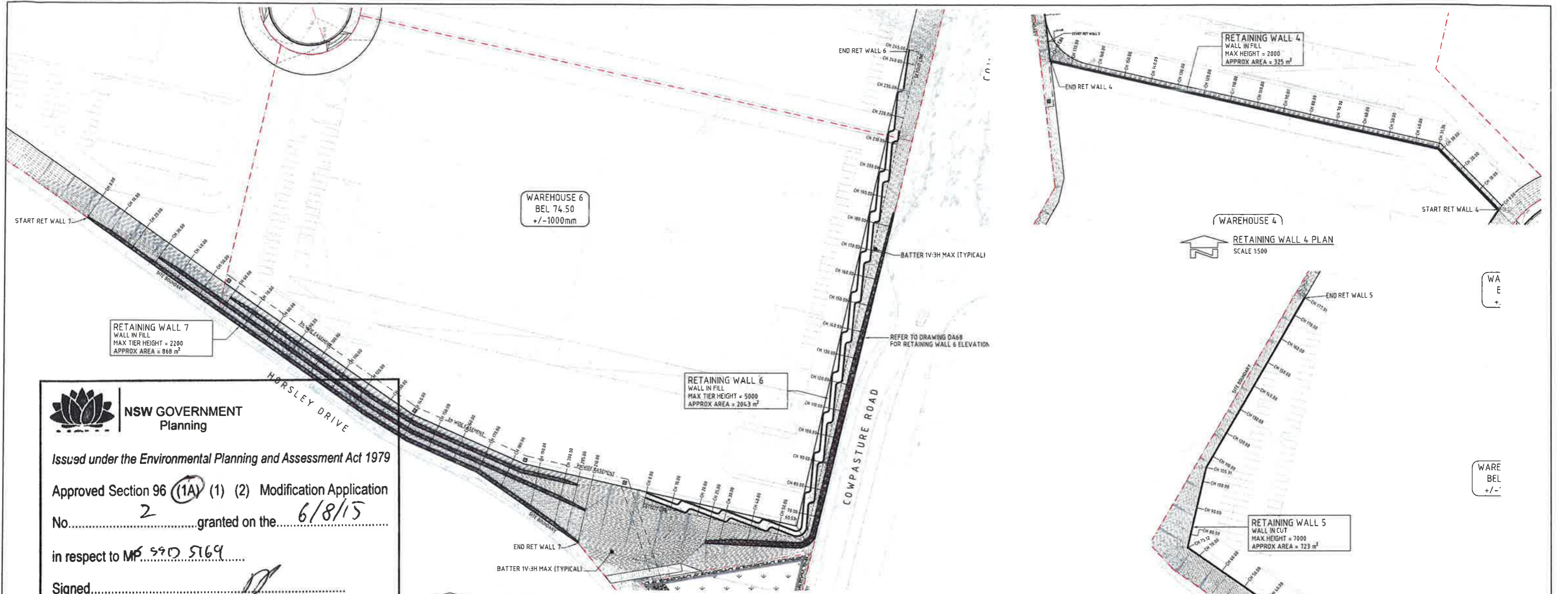


PROJECT
HORSLEY DV. BUSINESS PARK
 CNR THE HORSELY DV & COWPASTURE RD
 WETHERILL PARK, NSW

Costin Roe Consulting Pty Ltd.
 Consulting Engineers
 Level 1, 8 Winton Street
 Macquarie Park, Sydney NSW 2000
 Tel: (02) 9051-7000 Fax: (02) 9041-2011
 email: mail@costinroe.com.au

CostinRoe Consulting
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DRAWING TITLE
RETAINING WALL PLAN SHEET 1
 DRAWING NO.
Co11492.05-DA61



WAREHOUSE 6
BEL 74.50
+/-1000mm

RETAINING WALL 4
WALL IN FILL
MAX HEIGHT = 2000
APPROX AREA = 325 m²

RETAINING WALL 7
WALL IN FILL
MAX TIER HEIGHT = 2200
APPROX AREA = 868 m²

RETAINING WALL 6
WALL IN FILL
MAX TIER HEIGHT = 5000
APPROX AREA = 2043 m²

RETAINING WALL 4 PLAN
SCALE 1:500

RETAINING WALL 5
WALL IN CUT
MAX HEIGHT = 7000
APPROX AREA = 723 m²

RETAINING WALL 5 PLAN
SCALE 1:500

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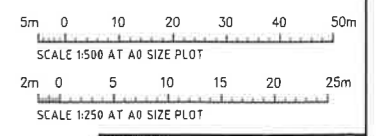
Sheet No. 25 of 33

DEVELOPED ELEVATION - RETAINING WALL 4
SCALE 1:250 WALL S.A. = 325sqm

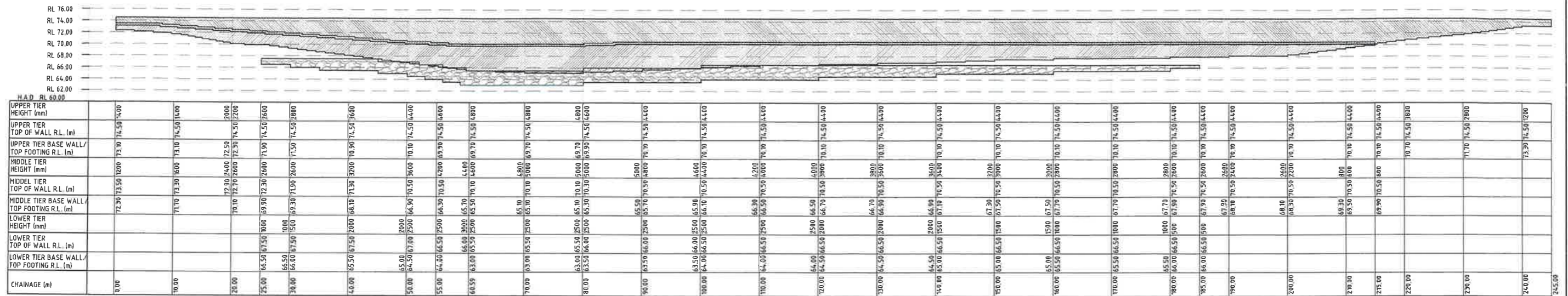
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RL 78.00	
RL 76.00	
RL 74.00	
RL 72.00	
RL 70.00	
H.A.D. RL 68.00	
HEIGHT (mm)	
TOP OF WALL R.L. (m)	
BASE WALL / TOP FOOTING R.L. (m)	
CHAINAGE (m)	

DEVELOPED ELEVATION - RETAINING WALL 5
SCALE 1:250 WALL S.A. = 723sqm

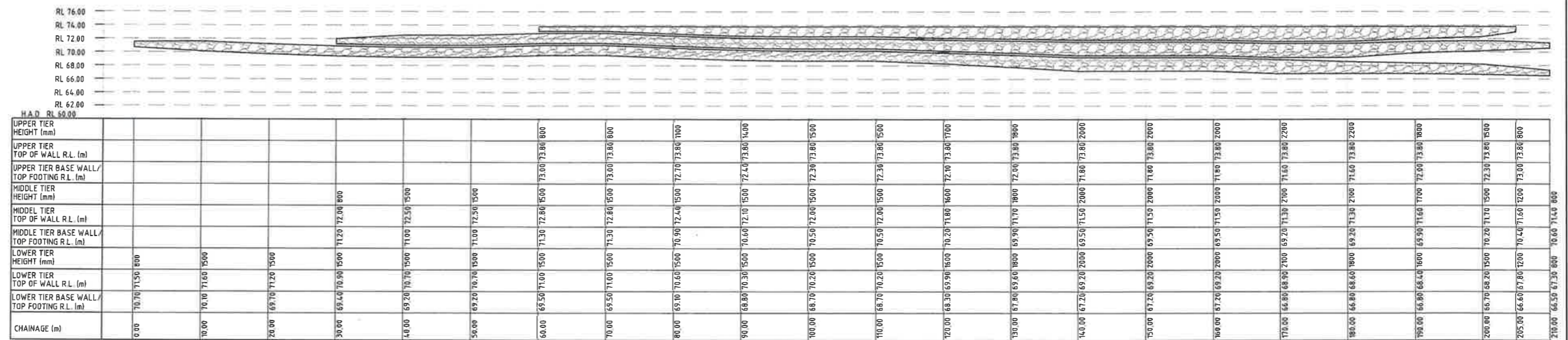
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RL 82.00	
RL 80.00	
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RL 76.00	
RL 74.00	
H.A.D. RL 72.00	
HEIGHT (mm)	
TOP OF WALL R.L. (m)	
BASE WALL / TOP FOOTING R.L. (m)	
CHAINAGE (m)	



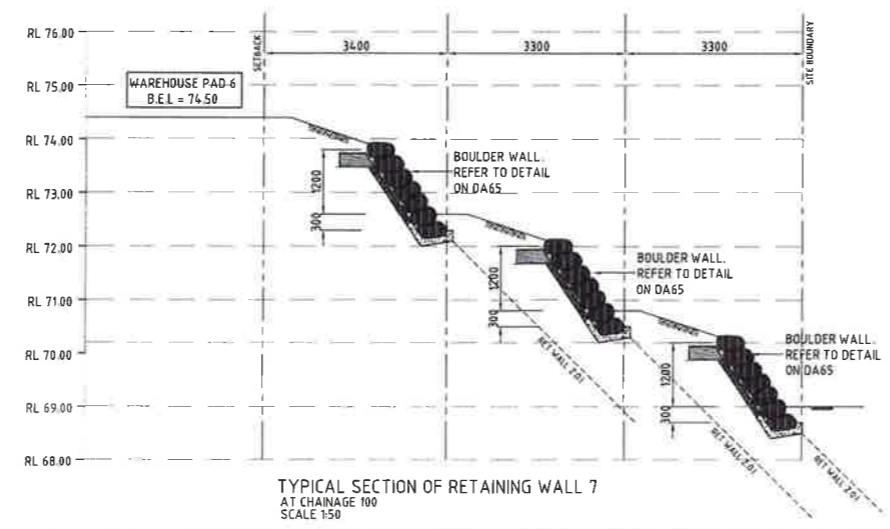
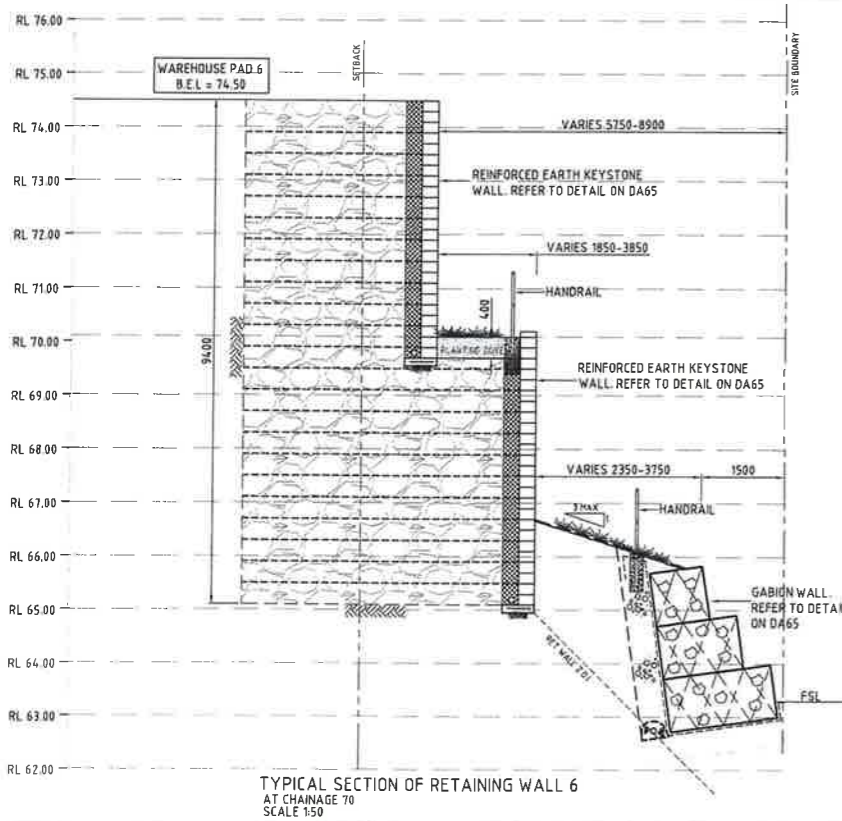
FOR SECTION 96 APPLICATION



DEVELOPED ELEVATION - RETAINING WALL 6
 SCALE 1:250
 UPPER TIER WALL S.A. = 996 sqm
 MIDDLE TIER WALL S.A. = 737 sqm
 LOWER TIER WALL S.A. = 310 sqm



DEVELOPED ELEVATION - RETAINING WALL 7
 SCALE 1:250
 UPPER TIER WALL S.A. = 235 sqm
 MIDDLE TIER WALL S.A. = 296 sqm
 LOWER TIER WALL S.A. = 337 sqm



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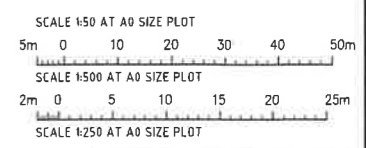
Issued under the Environmental Planning and Assessment Act 1979

Approved Section 96 (1A) (1) (2) Modification Application No. 2 granted on the 6/8/15

in respect to MP 5912 5169

Signed [Signature]

Sheet No. 26 of 33



FOR SECTION 96 APPLICATION



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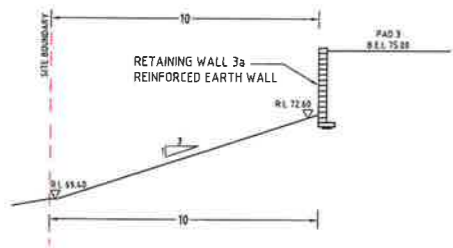
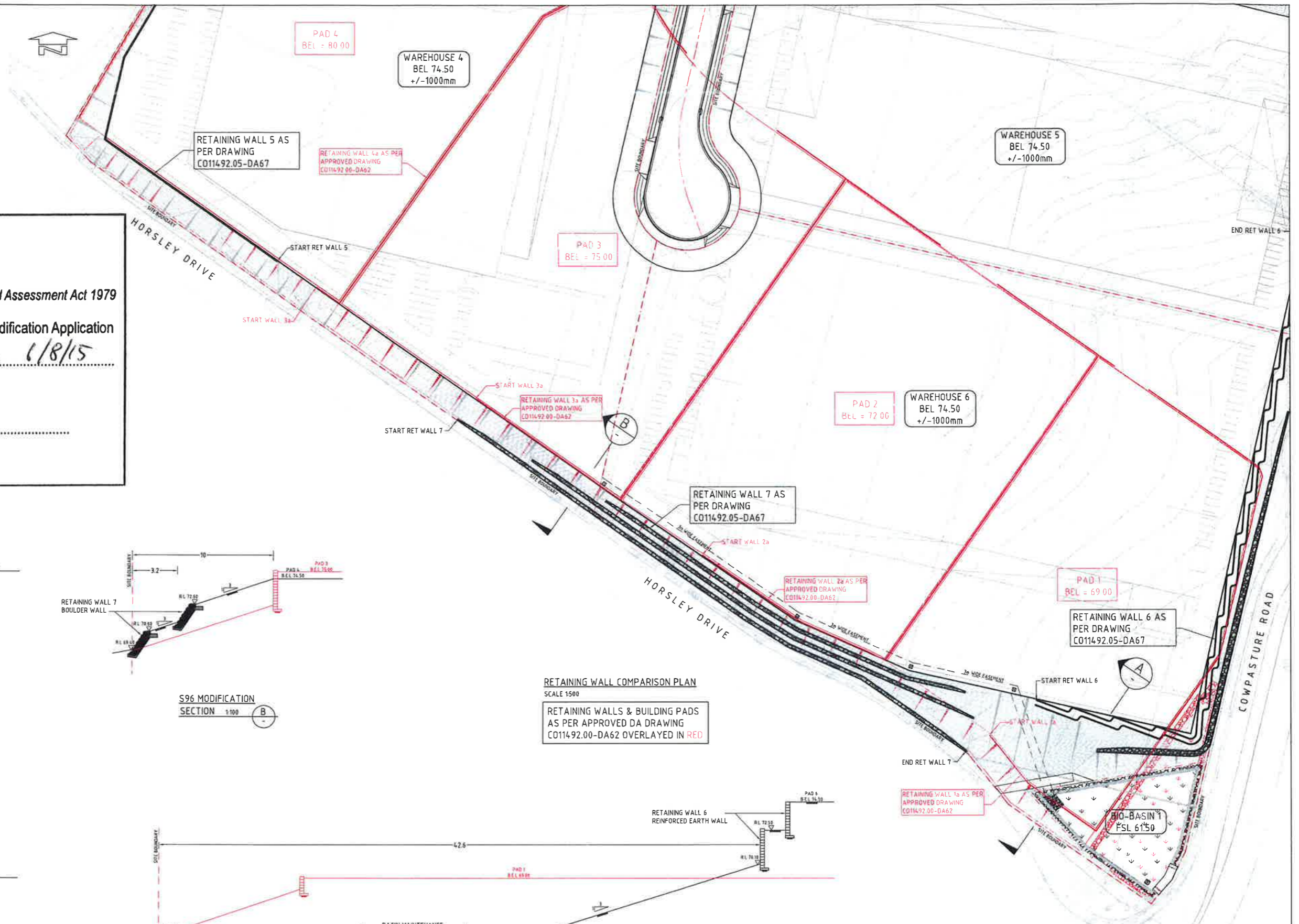
Approved Section 96 (1A) (1) (2) Modification Application

No. 2 granted on the 1/8/15

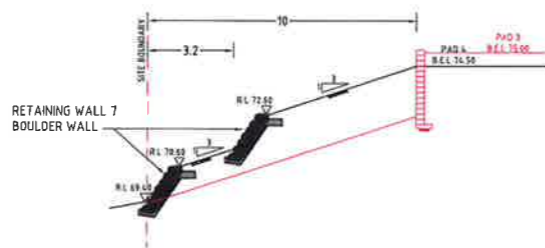
in respect to MP 890 5169

Signed [Signature]

Sheet No. 27 of 33

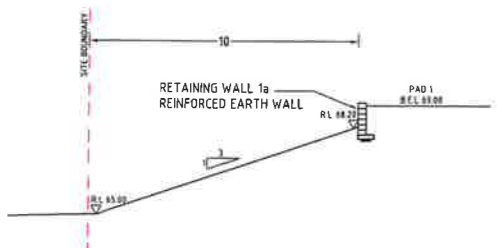


DA APPROVED SECTION 1:100 B

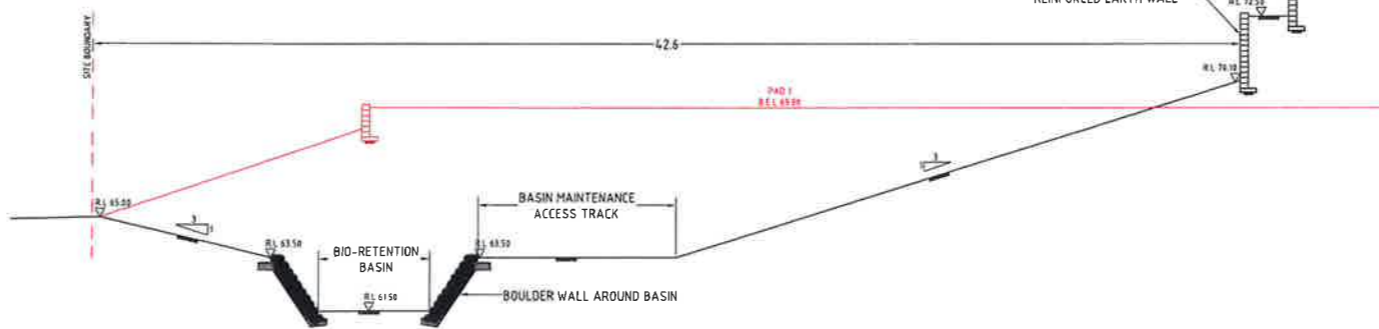


S96 MODIFICATION SECTION 1:100 B

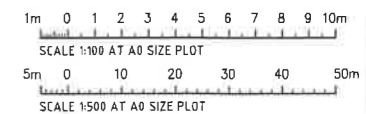
RETAINING WALL COMPARISON PLAN
SCALE 1:500
RETAINING WALLS & BUILDING PADS
AS PER APPROVED DA DRAWING
CO114.92.00-DA62 OVERLAYED IN RED



DA APPROVED SECTION 1:100 A



S96 MODIFICATION SECTION 1:100 A



FOR INFORMATION ONLY

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE

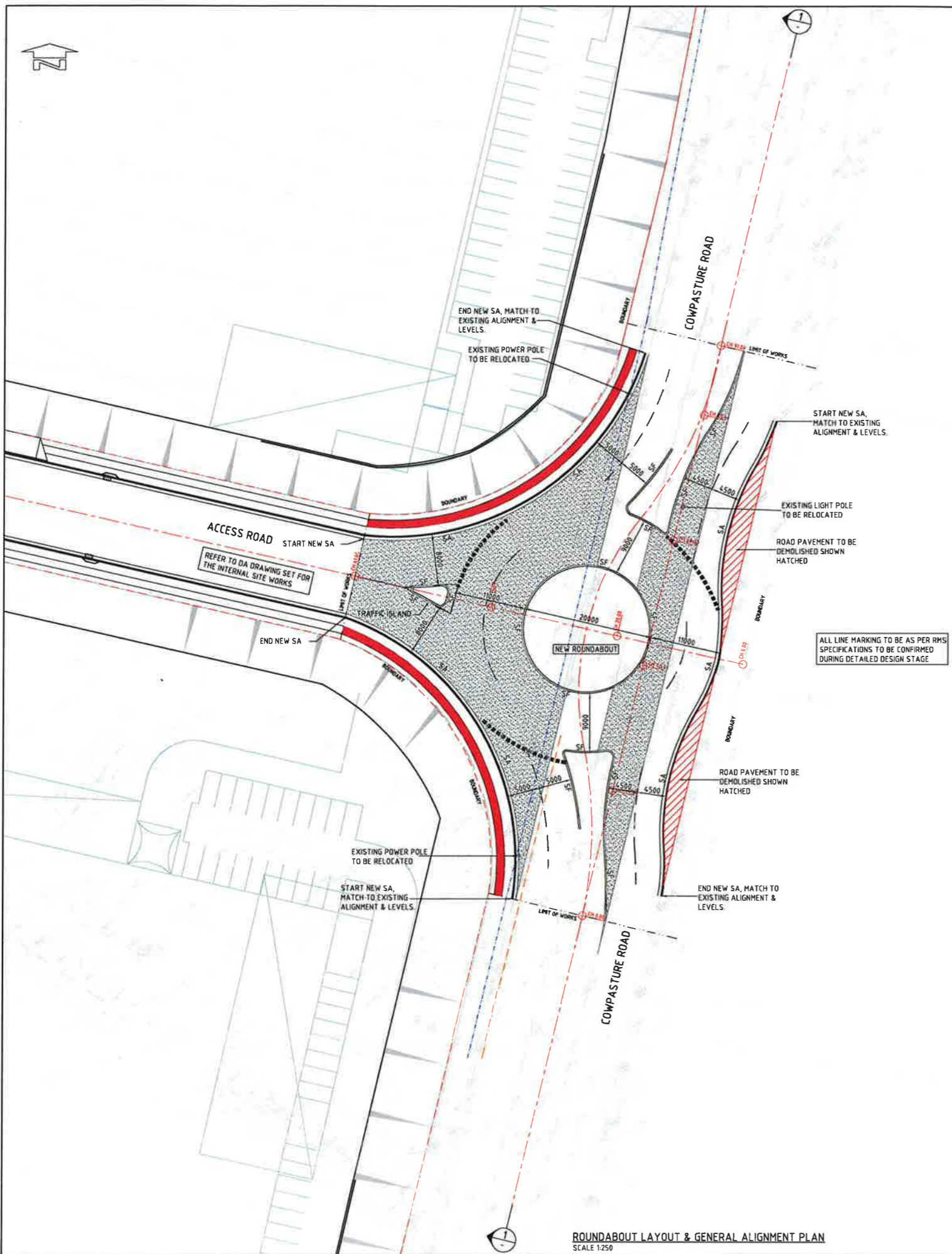


PROJECT
HORSELY DV. BUSINESS PARK
CNR THE HORSELY DV. & COWPASTURE RD
WETHERILL PARK, NSW

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Wetherill Street
Wetherill Park, Sydney NSW 2000
Tel: (02) 8251-1888 Fax: (02) 8251-2000
email: mail@costinroe.com.au

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DRAWING TITLE
RETAINING WALL COMPARISON
PLAN AND SECTIONS
DRAWING NO
Co114.92.05-DA69



LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LBOXALL SURVEYORS DATED 8/9/14.

- SA - KERB TYPE 'SA'
- SF - KERB TYPE 'SF'
- - - - - EXISTING UNDERGROUND ELECTRICAL
- - - - - EXISTING WATER MAIN
- - - - - EXISTING CONTOUR
- - - - - EXISTING SPOT HEIGHT
- [Hatched Area] - EXTENT OF NEW ROAD PAVEMENT
- [Red Area] - EXTENT OF NEW FOOTPATH

ROUNDABOUT NOTES:
ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH NSW ROAD AND MARITIME SERVICE (FORMER RTA) REQUIREMENTS.

LINEMARKING NOTES:
ALL LINEMARKING TO CONFORM TO RMS (FORMER RTA) DA SPECIFICATION R141. REFER TO THIS DOCUMENT FOR LINE TYPES, DIMENSIONS & PAVER SPACING.
RMP'S TO BE PROVIDED IN CONJUNCTION WITH LINEMARKING AS PER RMS (FORMER RTA) DA SPECIFICATION R142.
REMOVE ALL EXISTING LINEMARKING AS REQUIRED TO ALLOW FOR PARKING OF NEW INTERSECTION LAYOUTS.

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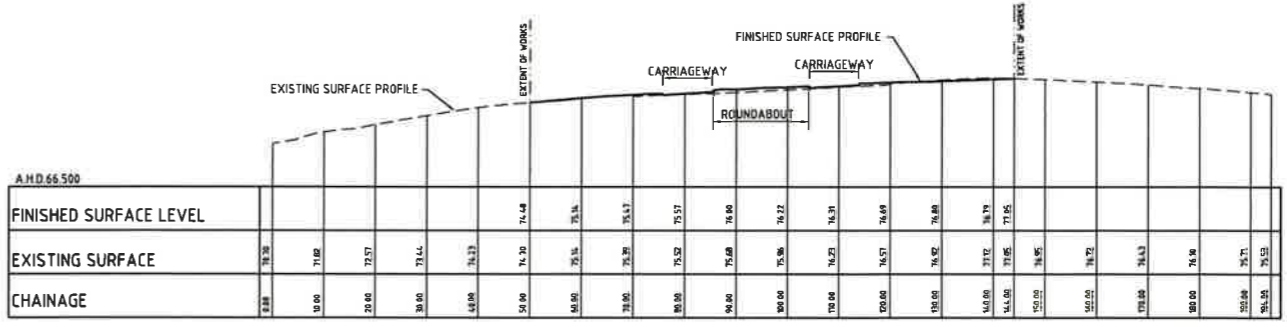
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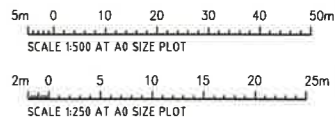
in respect to MP S/D 5169

Signed [Signature]

Sheet No. 28 of 33

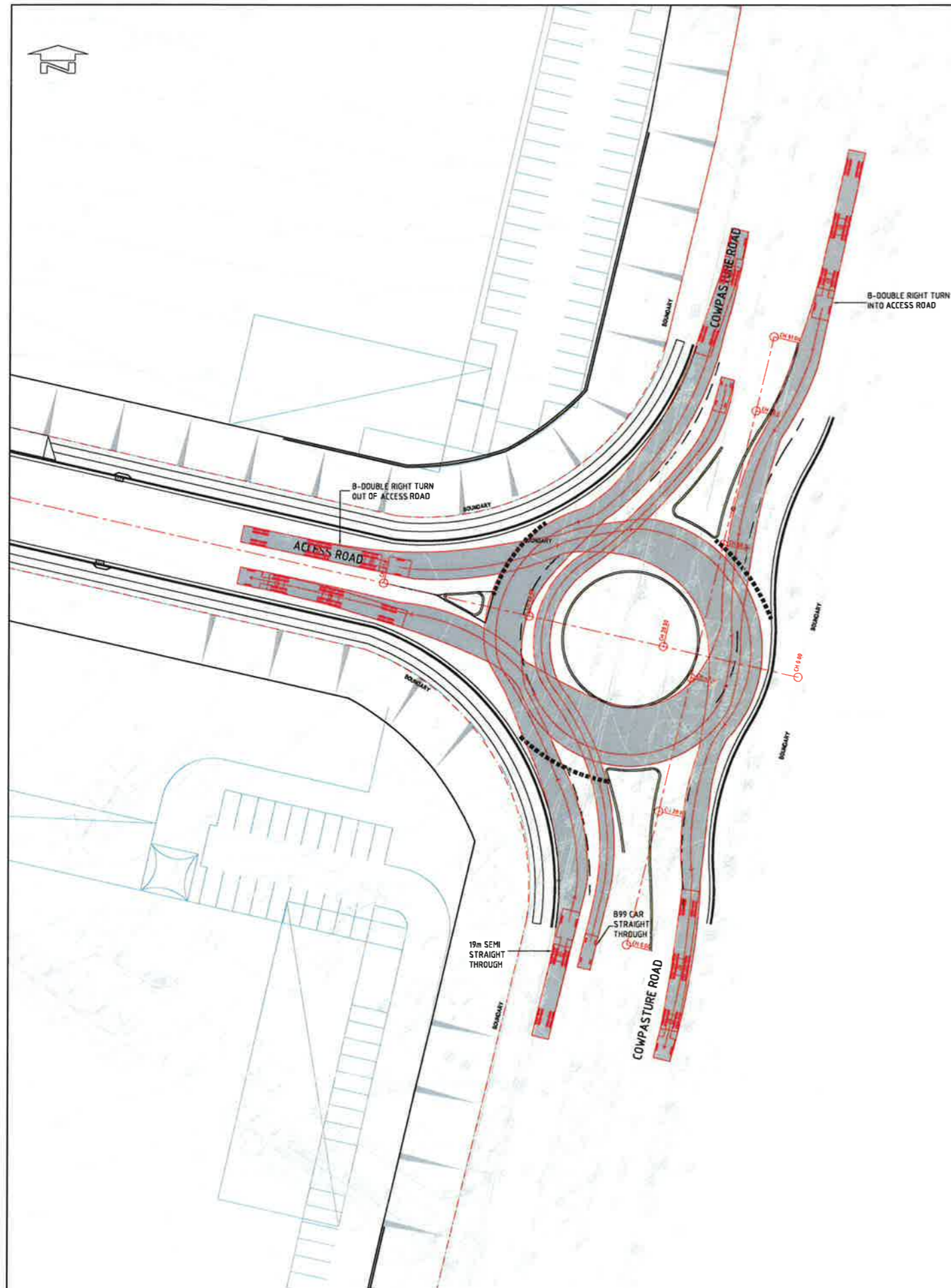


COWPASTURE RD LONGSECTION 1
SCALE 1500 HORIZONTAL
SCALE 1:250 VERTICAL



ROUNDABOUT LAYOUT & GENERAL ALIGNMENT PLAN
SCALE 1:250

FOR SECTION 96 APPLICATION



ROUNDBABOUT TURNING PATHS PLAN
SCALE 1:250



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No. 2 granted on the 6/8/15

in respect to MP 550 5169

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Sheet No. 29 of 33

FOR SECTION 96 AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE



PROJECT
HORSELY DV. BUSINESS PARK
(NR THE HORSELY DV. & COWPASTURE RD
WETHERILL PARK, NSW

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Woodside Street
Wetherill Park, Sydney NSW 2000
Tel (02) 961-1999 Fax (02) 961-2781
email: mail@costinroe.com.au ©

FOR SECTION 96 APPLICATION
CestinRoe Consulting
Value in Engineering and Management

DRAWING TITLE:
ROUNDBABOUT TURNING PATHS
PLAN
Drawing No: Co114.92.05-SK02
Scale: A



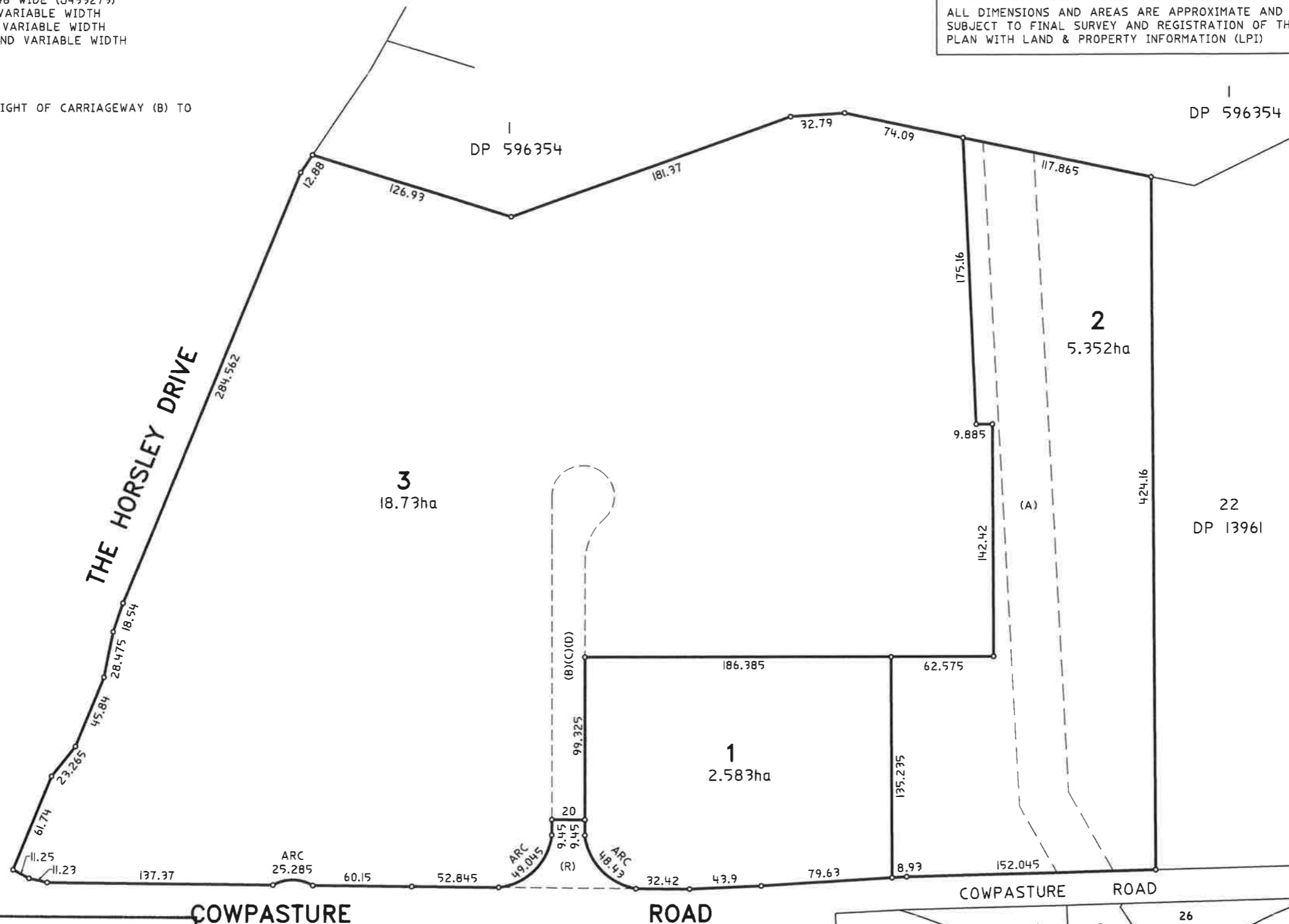
- (A) EASEMENT FOR TRANSMISSION LINE 30.48 WIDE (J459279)
- (B) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH
- (C) EASEMENT FOR SERVICES 20 WIDE AND VARIABLE WIDTH
- (D) EASEMENT TO DRAIN WATER 20 WIDE AND VARIABLE WIDTH

(R) ROAD WIDENING

NOTE: IT IS INTENDED TO DEDICATE THE RIGHT OF CARRIAGEWAY (B) TO COUNCIL AT STAGE 4.

ALL DIMENSIONS AND AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY AND REGISTRATION OF THE PLAN WITH LAND & PROPERTY INFORMATION (LPI)

M.G.A.



NSW GOVERNMENT Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Section 96 (1A) (1) (2) Modification Application

No. 2 granted on the 6/8/15

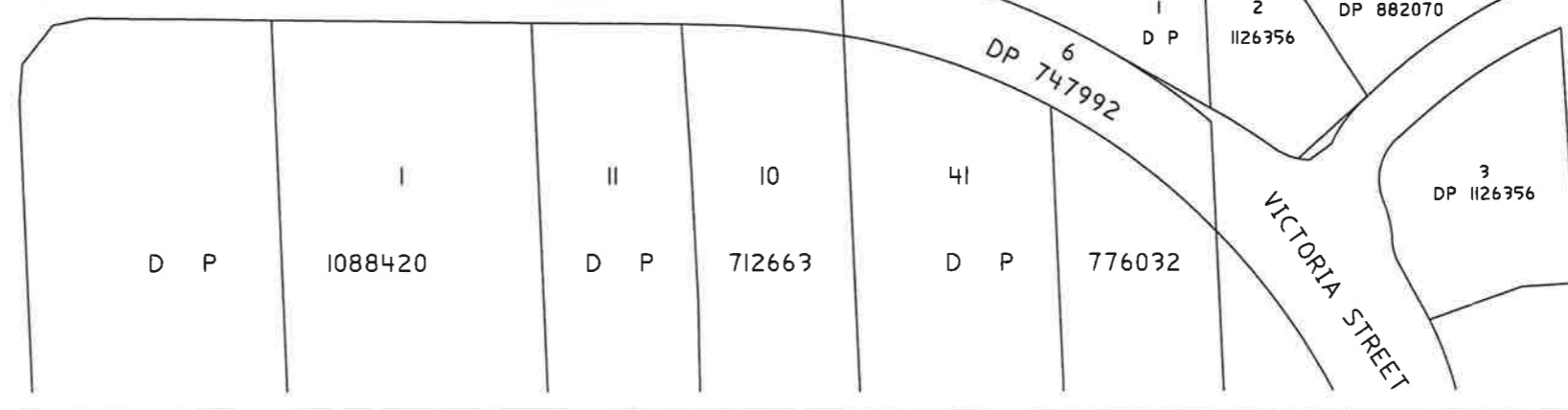
in respect to MP 520 5169

Signed [Signature]

Sheet No. 30 of 33

COWPASTURE ROAD

ROAD



Surveyor: SHAWN MAURICE LECLERC
 Date of Survey: 2-2015
 Surveyor's Ref: 10067-006-(A)

PLAN OF SUBDIVISION OF LOT C IN DPI03755, LOTS 23, 24, 25, 28B, 30, 30A, 30B, 32 & 32A IN DPI3961, LOTS 1, 2, 3, 4 & 5 IN DPI098128, LOT 100 IN DP879680, LOT 10 IN DP879209 AND LOT 1 IN DPI036933

L.G.A.: FAIRFIELD
 Locality: WETHERILL PARK
 Subdivision No:
 Lengths are in metres. Reduction Ratio 1: 2000

Registered

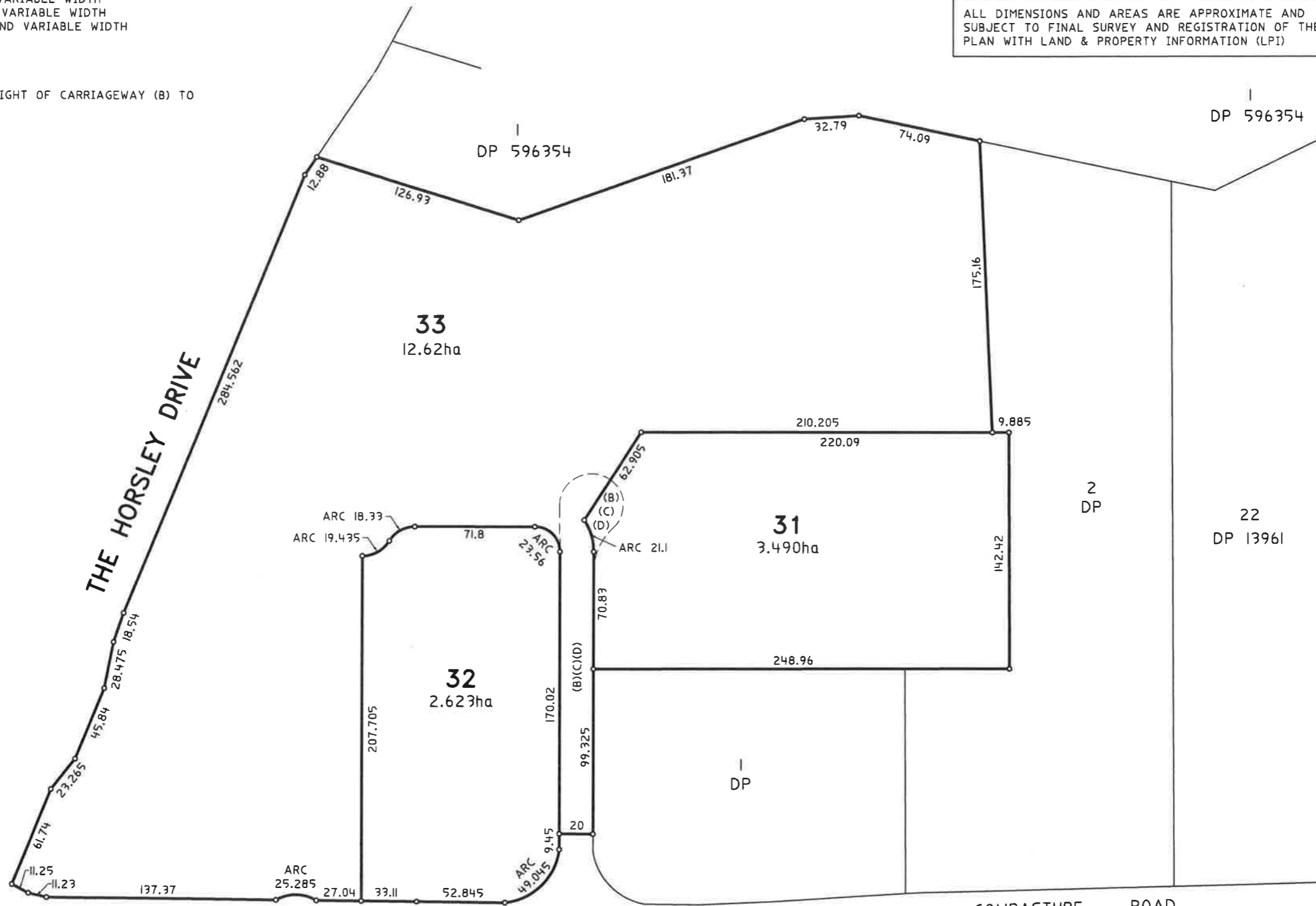
DRAFT - STAGE 1

- (B) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH
- (C) EASEMENT FOR SERVICES 20 WIDE AND VARIABLE WIDTH
- (D) EASEMENT TO DRAIN WATER 20 WIDE AND VARIABLE WIDTH

ALL DIMENSIONS AND AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY AND REGISTRATION OF THE PLAN WITH LAND & PROPERTY INFORMATION (LPI)

M.G.A.

NOTE: IT IS INTENDED TO DEDICATE THE RIGHT OF CARRIAGEWAY (B) TO COUNCIL AT STAGE 4.



NSW GOVERNMENT
Planning

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No. 2 granted on the 6/8/15

in respect to MP 550 5169

Signed [Signature]

Sheet No. 31 of 33

COWPASTURE ROAD

ROAD

COWPASTURE ROAD

26
DP 882070

1
D P

2
DP 1126356

6
DP 747992

VICTORIA STREET

3
DP 1126356

D P

1088420

D P

712663

D P

776032

Surveyor: SHAWN MAURICE LECLERC
Date of Survey: 2-2015
Surveyor's Ref: 10067-007-(A)

PLAN OF SUBDIVISION OF LOT 3 IN DP

L.G.A.: FAIRFIELD
Locality: WETHERILL PARK
Subdivision No:
Lengths are in metres. Reduction Ratio 1: 2000

Registered

DRAFT - STAGE 2

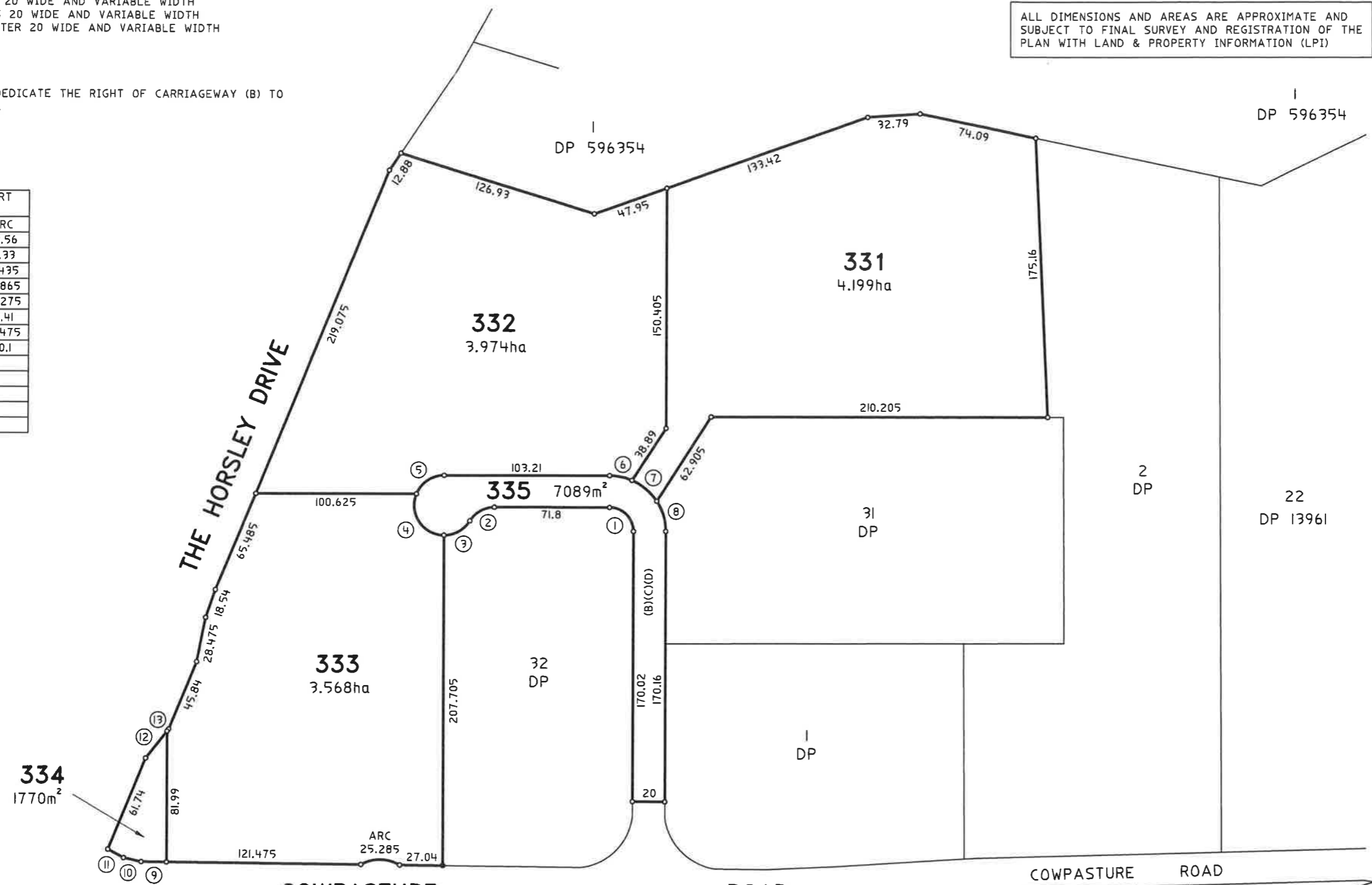
- (B) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH
- (C) EASEMENT FOR SERVICES 20 WIDE AND VARIABLE WIDTH
- (D) EASEMENT TO DRAIN WATER 20 WIDE AND VARIABLE WIDTH

ALL DIMENSIONS AND AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY AND REGISTRATION OF THE PLAN WITH LAND & PROPERTY INFORMATION (LPI)

M.G.A.

NOTE: IT IS INTENDED TO DEDICATE THE RIGHT OF CARRIAGEWAY (B) TO COUNCIL AT STAGE 4.

SCHEDULE OF SHORT LINES & ARCS		
No.	LINE	ARC
1		23.56
2		18.33
3		19.495
4		36.865
5		22.275
6		14.41
7		20.475
8		20.1
9	15.895	
10	11.23	
11	11.25	
12	21.58	
13	1.685	



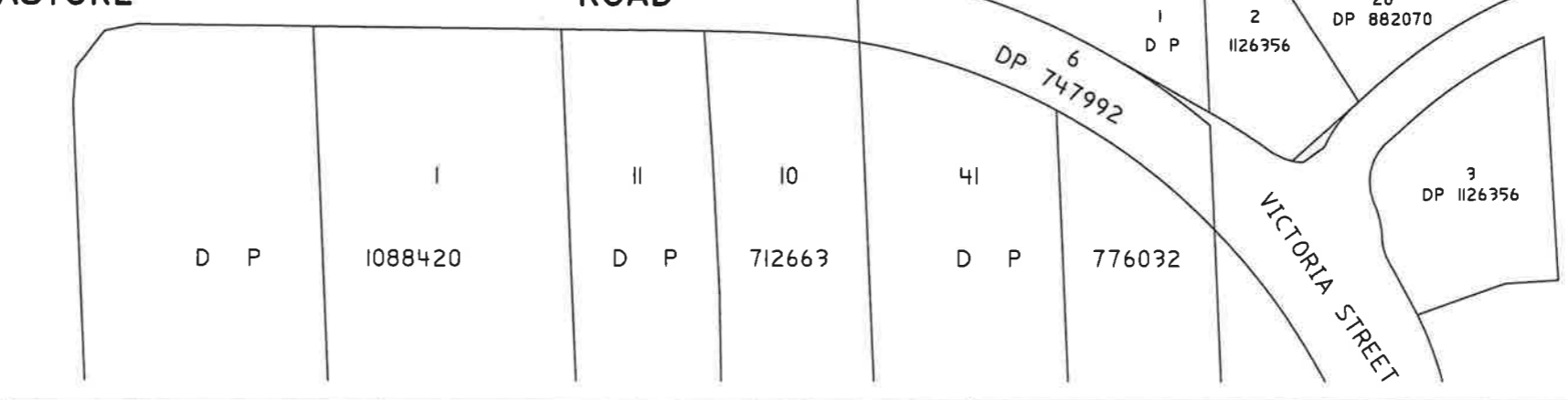
NSW GOVERNMENT Planning

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Approved Section 96 (1A) (1) (2) Modification Application No. 2 granted on the 6/8/15 in respect to MP 550 5169

Signed: *[Signature]*

Sheet No. 32 of 33



Surveyor: SHAWN MAURICE LECLERC	PLAN OF SUBDIVISION OF LOT 33 IN DP	L.G.A.: FAIRFIELD	Registered
Date of Survey: 2-2015		Locality: WETHERILL PARK	
Surveyor's Ref: 10067-008-(A)		Subdivision No:	
		Lengths are in metres. Reduction Ratio 1: 2000	

DRAFT - STAGE 3

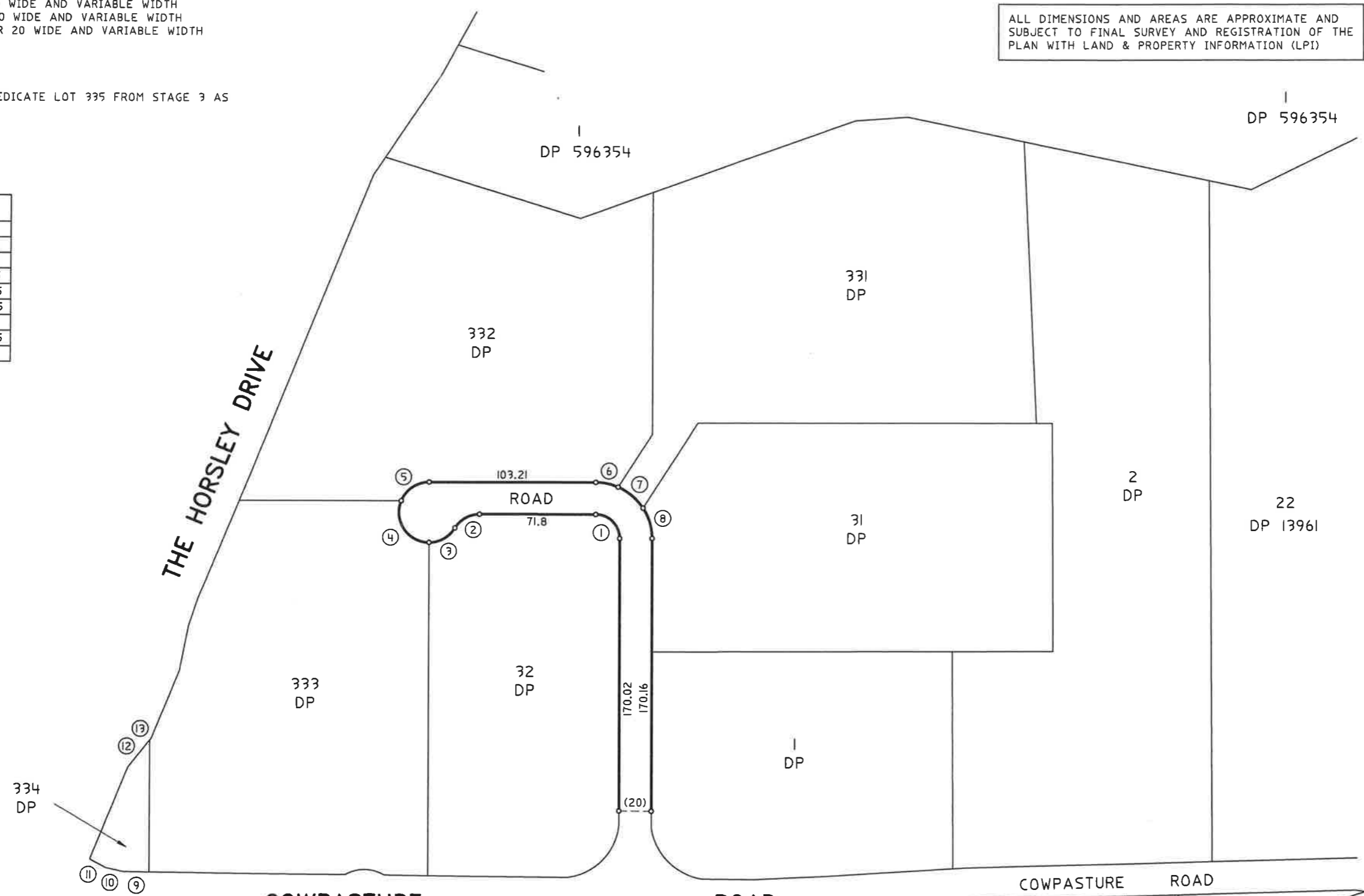
- (B) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH
- (C) EASEMENT FOR SERVICES 20 WIDE AND VARIABLE WIDTH
- (D) EASEMENT TO DRAIN WATER 20 WIDE AND VARIABLE WIDTH

ALL DIMENSIONS AND AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY AND REGISTRATION OF THE PLAN WITH LAND & PROPERTY INFORMATION (LPI)

M.G.A.

NOTE: IT IS INTENDED TO DEDICATE LOT 335 FROM STAGE 3 AS PUBLIC ROAD.

SCHEDULE OF SHORT LINES & ARCS		
No.	LINE	ARC
1		23.56
2		18.33
3		19.435
4		36.865
5		22.275
6		14.41
7		20.475
8		20.1



NSW GOVERNMENT Planning

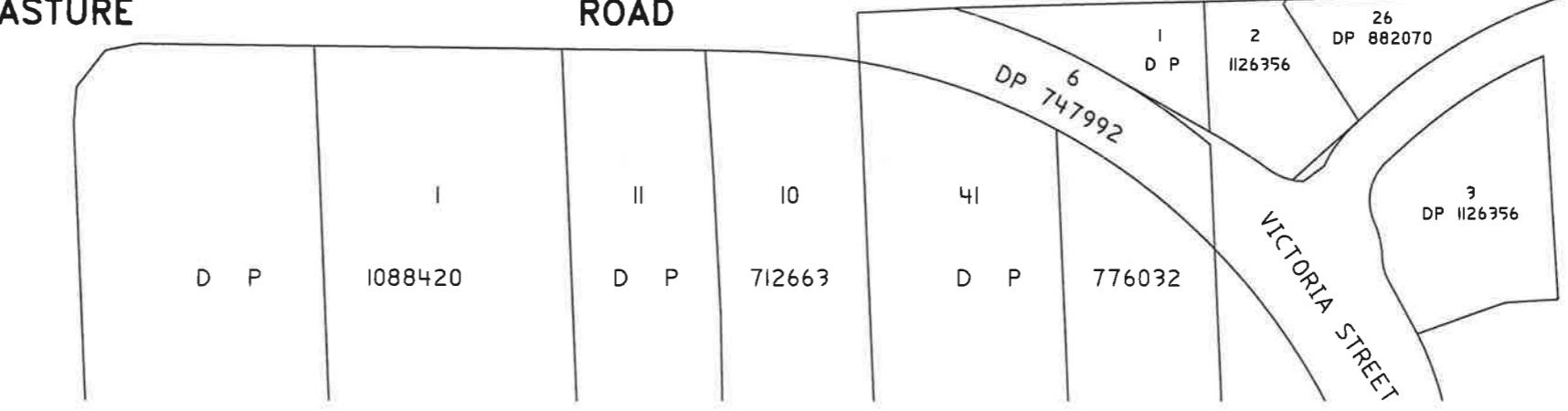
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Approved Section 96 (1A) (1) (2) Modification Application No. 2 granted on the 6/8/15

in respect to MP 550 5169

Signed.....

Sheet No. 33 of 33



Surveyor: SHAWN MAURICE LECLERC	PLAN OF SUBDIVISION OF LOT 335 IN DP FOR DEDICATION OF PUBLIC ROAD	L.G.A.: FAIRFIELD	Registered
Date of Survey: 2-2015		Locality: WETHERILL PARK	
Surveyor's Ref: 10067-009-(A)		Subdivision No:	
		Lengths are in metres. Reduction Ratio 1: 2000	

DRAFT - STAGE 4