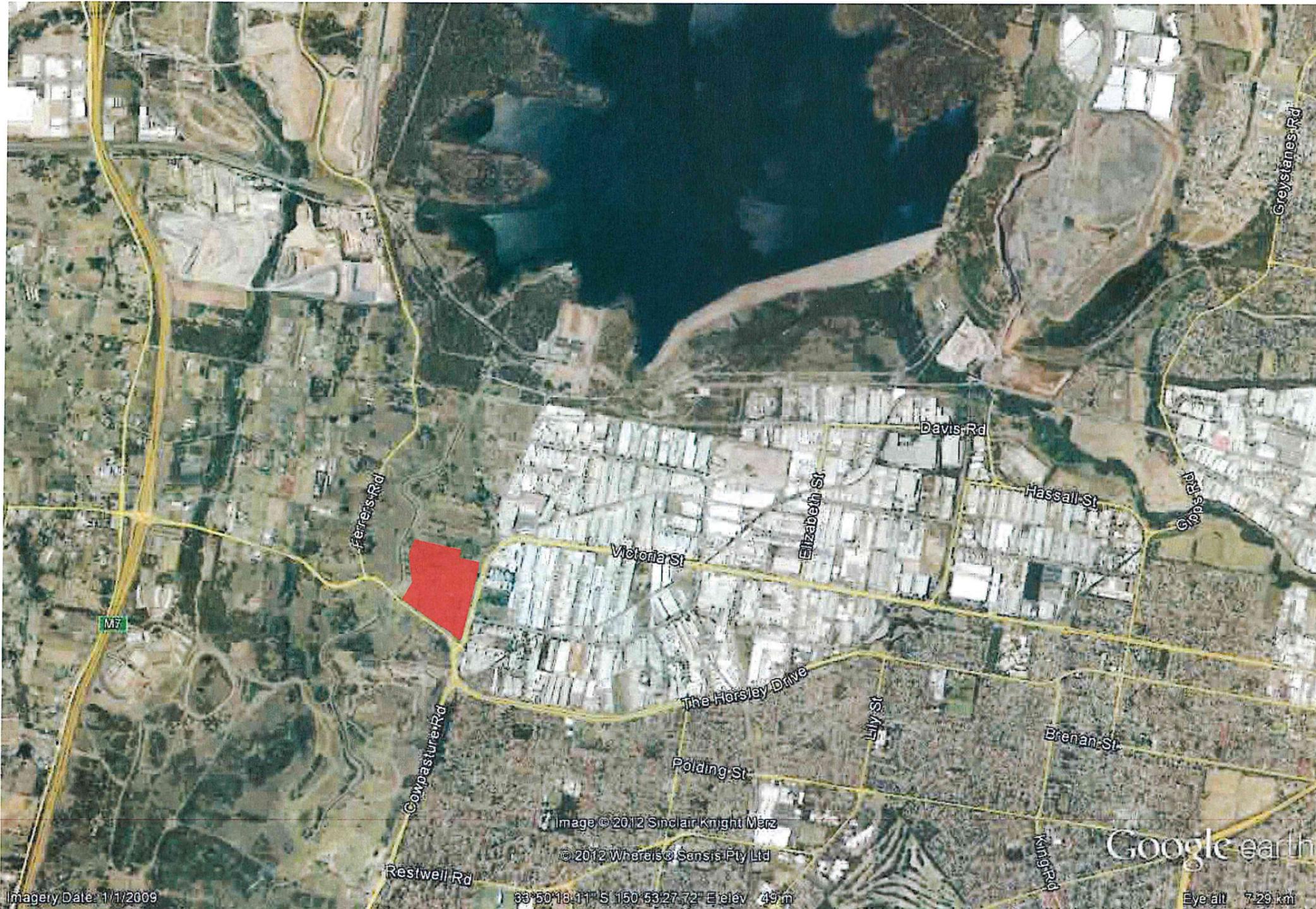




# Western Sydney Parklands



 **NSW GOVERNMENT**  
Planning

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Approved Application No. SSD 5169

granted on the 8/1/13

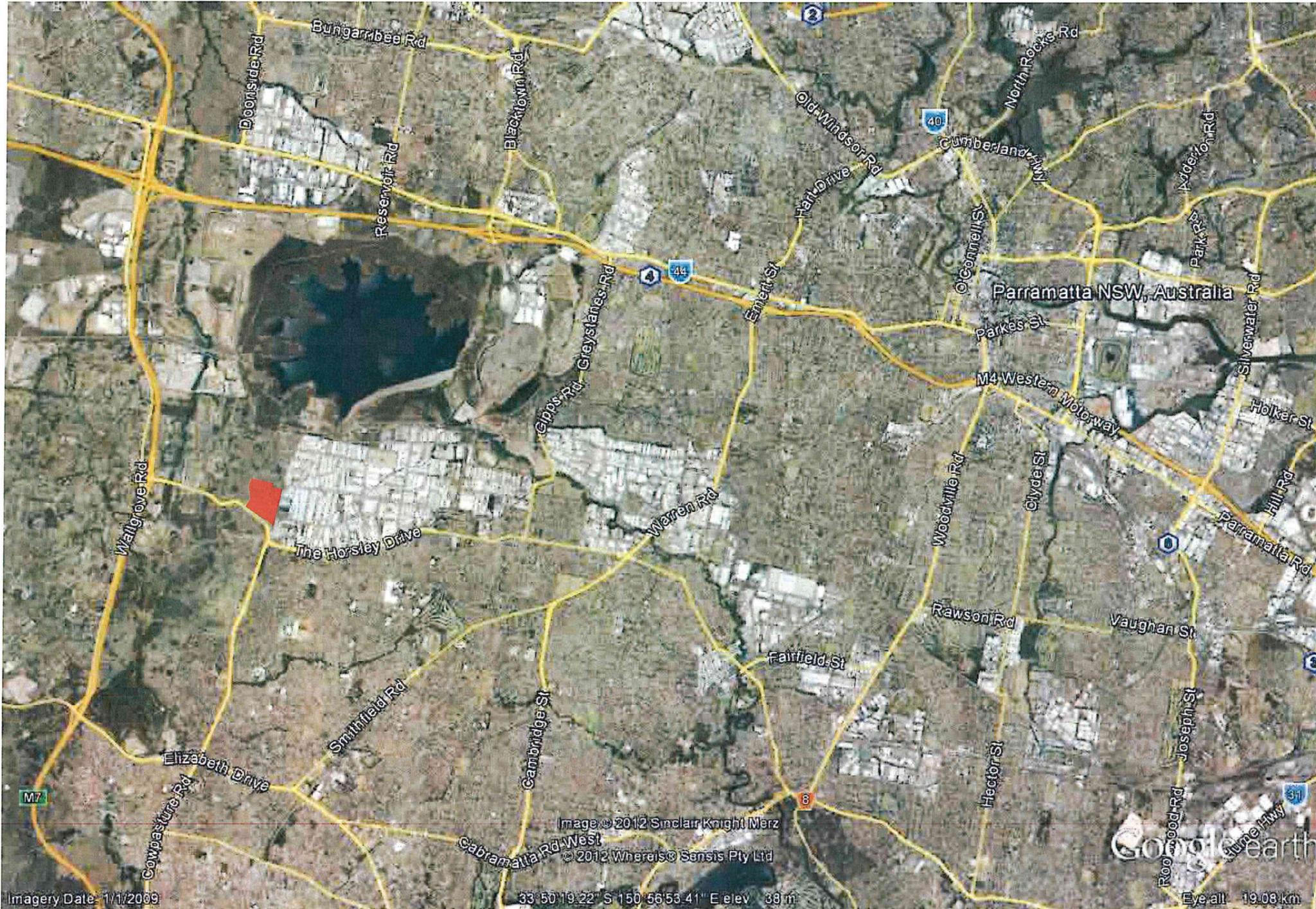
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Sheet No. 1 of 42





# Western Sydney Parklands



	NSW GOVERNMENT Planning
Issued under the Environmental Planning and Assessment Act 1979	
Approved Application No. <u>SSD 5169</u>	
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Sheet No. <u>2</u> of <u>42</u>	



# Western Sydney Parklands




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Sheet No. 3 of 42

### STAGE 1 - PROPOSED DEVELOPMENT SITE AREAS

LOT No.	SITE AREA
LOT 1-1	13 550 m <sup>2</sup>
LOT 1-2	16 410 m <sup>2</sup>
LOT 1-3	18 760 m <sup>2</sup>
OSD BASIN	1 780 m <sup>2</sup>
ACCESS ROAD	6 994 m <sup>2</sup>
<b>SUBTOTAL</b>	<b>57 494 m<sup>2</sup></b>

### STAGE 2 - PROPOSED DEVELOPMENT SITE AREAS

LOT No.	SITE AREA
LOT 2-1	19 350 m <sup>2</sup>
LOT 2-2	20 000 m <sup>2</sup>
LOT 2-3	10 290 m <sup>2</sup>
LOT 2-4	25 370 m <sup>2</sup>
<b>SUBTOTAL</b>	<b>75 010 m<sup>2</sup></b>

### STAGE 3 - PROPOSED DEVELOPMENT SITE AREAS

LOT No.	SITE AREA
LOT 3-1	15 490 m <sup>2</sup>
LOT 3-2	31 800 m <sup>2</sup>
LOT 3-3	9 895 m <sup>2</sup>
LOT 3-4	9 923 m <sup>2</sup>
LOT 3-5	9 969 m <sup>2</sup>
ACCESS ROAD	6 789 m <sup>2</sup>
<b>SUBTOTAL</b>	<b>83 866 m<sup>2</sup></b>

### DEVELOPMENT DATA

TOTAL SITE AREA	216 370 m <sup>2</sup>
TOTAL ACCESS ROAD	13 783 m <sup>2</sup>
OSD BASIN	1 780 m <sup>2</sup>
DEVELOPABLE SITE AREA (INCLUDING LANDSCAPE AREA)	200 807 m <sup>2</sup>

NOTE:  
DRAINAGE CHANNEL EXCLUDED FROM TOTAL SITE AREA

**TOTAL** **216 370 m<sup>2</sup>**



Western Sydney  
Parklands Trust



project  
**HORSLEY DRIVE BUSINESS PARK**  
 CNR HORSLEY DRIVE & COWPASTURE ROAD, WETHERILL PARK, NSW



CONCEPTARCHITECTURE P/L  
 CONCEPTARCHITECTURE P/L  
 4/4 66 124 889 075  
 # 0143 522 516  
 P.O. BOX 3476, PHOENIX NSW 2118

title  
**CONCEPT  
 LOT PLAN**

date 23.05.2012 scale 1:1500 @ A1  
 drawing no. HY-HW-MP-004 rev A



Western Sydney Parklands



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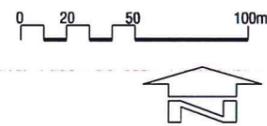
Sheet No. 4 of 42

**LEGEND**

-  2M CONTOURS
-  BOUNDARY LINE
-  LOW POINT
-  HIGH POINT
-  FALL



# Western Sydney Parklands



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 Sheet No. 5 of 42

### LEGEND

- STAGE 1
- STAGE 2
- STAGE 3

DEVELOPMENT DATA	
TOTAL SITE AREA	216 370 m <sup>2</sup>
TOTAL ACCESS ROAD	13 783 m <sup>2</sup>
OSD BASIN	1 780 m <sup>2</sup>
DEVELOPABLE SITE AREA (INCLUDING LANDSCAPE AREA)	200 807 m <sup>2</sup>

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<b>SUBTOTAL</b>	<b>83 866 m<sup>2</sup></b>

**TOTAL** **216 370 m<sup>2</sup>**



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



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

DATE	REVISION	PURPOSE
29.05.12	REV A	FOR INFORMATION
06.06.12	REV B	SSD APPLICATION
06.06.12	REV C	SSD APPLICATION
07.06.12	REV D	SSD APPLICATION
26.09.12	REV E	SSD APPLICATION

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Approved Application No. SSD 5169

granted on the 8/1/13

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Sheet No. 6 of 42

landscape architecture  
 environmental planning  
 urban design  
 public art

**habitation**

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

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

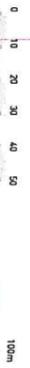



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DATE	REVISION	PURPOSE
29.05.12	REV A	FOR INFORMATION
05.06.12	REV B	SSD APPLICATION
06.06.12	REV C	SSD APPLICATION
07.06.12	REV D	SSD APPLICATION
26.09.12	REVE	SSD APPLICATION




 CONCEPT MASTERPLAN  
 1:1000 @ A1


 0 10 20 30 40 50 100m

-  FEATURE TREE - hill, evergreen (e.g. *Acacia bidwillii*)
-  ENTRY TREE - flowering (e.g. *Brachycthon acerifolia*)
-  BOUNDARY TREE - (e.g. *Tritanopsis laurina* - *Luscous*)
-  AVENUE TREE - (e.g. *Eucalyptus* spp.)



Western Sydney Parklands

**HORSLEY DRIVE BUSINESS PARK**  
 600N HORSLEY DRIVE & COWPASTURE ROAD WETHERILL PARK NSW

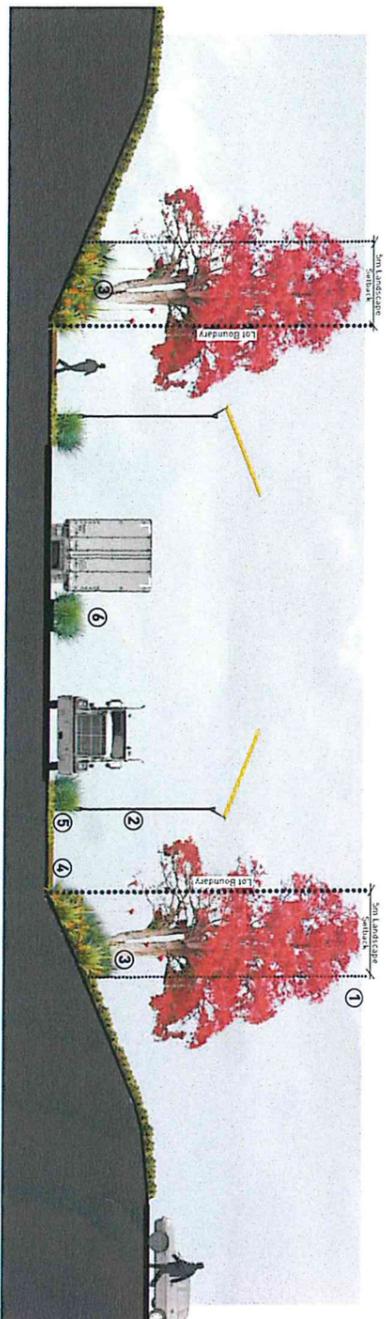
NOTES:  
 1. This landscape architect's work is subject to Copyright. Documents should not be used contrary to the purpose of the issue without written permission from Habitation.  
 2. Never scale off drawings. Use figured dimensions only. Drawings indicate scope of works and general setout. These are not shop drawings.  
 Project No: 12\_005  
 Drawing No: L01  
 Drawn: SMC  
 Checked/Date: DV

landscape architecture  
 environmental planning  
 urban design  
 public art

**habitation**

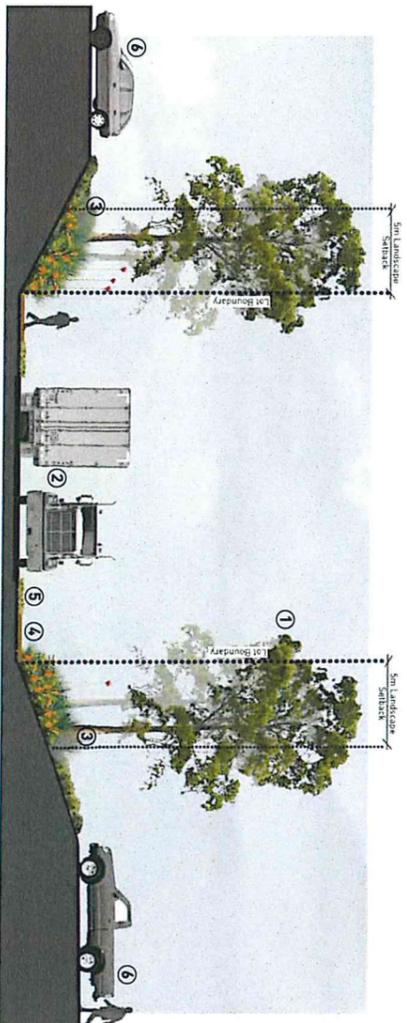
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 www.habitation.com.au  
 ABN: 49 946 492 443

DATE	REVISION	PURPOSE
29.05.12	REV A	FOR INFORMATION
05.06.12	REV B	SSD APPLICATION
06.06.12	REV C	SSD APPLICATION
07.06.12	REV D	SSD APPLICATION
26.09.12	REV E	SSD APPLICATION



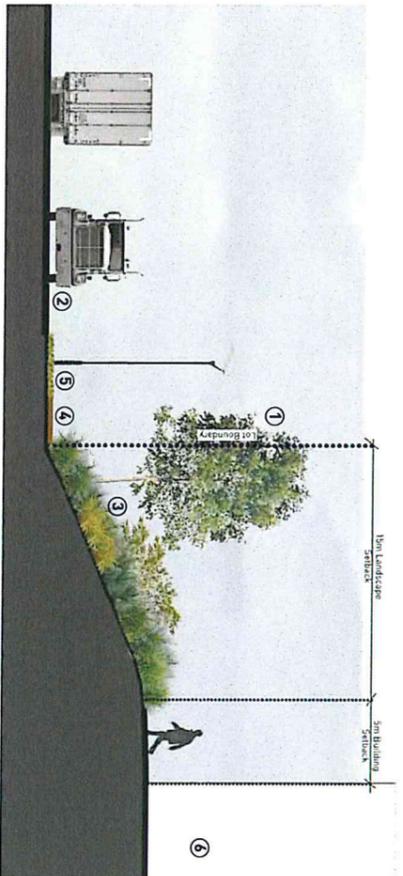
- KEY:
1. Brachychiton acerifolium entry feature trees
  2. Entry gateway lighting feature
  3. Planted slopes, Flowering shrubs and groundcover species.
  4. Footpath
  5. Lawn Verge
  6. Mass planted native grasses.

SECTION AA - Entry  
1:200



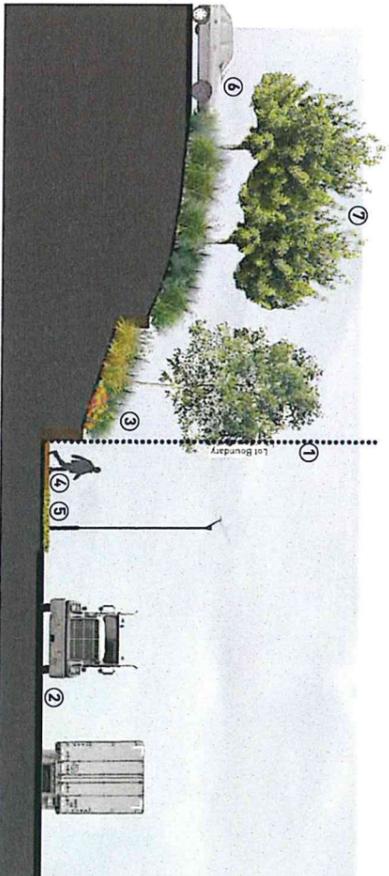
- KEY:
1. Tall native street trees (e.g. Ccl. Acc, Ema or Epi)
  2. Two way access road.
  3. Planted bank, Flowering shrubs and groundcover species.
  4. Footpath
  5. Lawn verge
  6. Carpark - indicative location only.

SECTION BB - Access Road  
1:200



- KEY:
1. Boundary tree planting (e.g. Tial)
  2. Horsley Road.
  3. Planted bank, Flowering shrubs and groundcover species.
  4. Footpath
  5. Lawn Verge
  6. Building - indicative location only.

SECTION CC - Horsley Road  
1:200



- KEY:
1. Boundary tree planting (e.g. Tial)
  2. Compasture Road.
  3. Retaining walls with planted banks (flowering shrubs and groundcover species.)
  4. Footpath
  5. Lawn Verge
  6. Carpark - indicative location only.
  7. Native carpark trees

SECTION DD - Compasture Road  
1:200



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Sheet No. 8 of 92



Western Sydney Parklands



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urban design  
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Project No: 12\_005  
Drawing No: L02  
Drawn: SMC  
Checked/Date: DV

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# HORSLEY DRIVE BUSINESS PARK

## CRN HORSLEY DRIVE & COWPASTURE ROAD

### WETHERILL PARK NSW

**DRAWING LIST:**

DRAWING NO.	DRAWING TITLE
Co114.92.00-DA10	DRAWING LIST & GENERAL NOTES
Co114.92.00-DA20	EROSION & SEDIMENT CONTROL PLAN
Co114.92.00-DA25	EROSION & SEDIMENT CONTROL DETAILS - SHEET 1
Co114.92.00-DA26	EROSION & SEDIMENT CONTROL DETAILS - SHEET 2
Co114.92.00-DA31	BULK EARTHWORKS PLAN - SHEET 1
Co114.92.00-DA32	BULK EARTHWORKS PLAN - SHEET 2
Co114.92.00-DA33	BULK EARTHWORKS SECTIONS - SHEET 1
Co114.92.00-DA34	BULK EARTHWORKS SECTIONS - SHEET 2
Co114.92.00-DA35	BULK EARTHWORKS SECTIONS - SHEET 3
Co114.92.00-DA36	BULK EARTHWORKS SECTIONS - SHEET 4
Co114.92.00-DA37	BULK EARTHWORKS SECTIONS - SHEET 5
Co114.92.00-DA38	BULK EARTHWORKS SECTIONS - SHEET 6
Co114.92.00-DA40	CONCEPT CIVIL MASTERPLAN
Co114.92.00-DA41-1	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 1
Co114.92.00-DA41-2	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 2
Co114.92.00-DA41-3	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 3
Co114.92.00-DA41-4	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 4
Co114.92.00-DA41-5	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 5
Co114.92.00-DA41-6	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 6
Co114.92.00-DA41-7	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 7
Co114.92.00-DA41-8	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 8
Co114.92.00-DA41-9	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 9
Co114.92.00-DA41-10	CONCEPT STORMWATER & FINISHED LEVEL PLAN - SHEET 10
Co114.92.00-DA45	CONCEPT STORMWATER DETAILS - SHEET 1
Co114.92.00-DA46	CONCEPT STORMWATER DETAILS - SHEET 2
Co114.92.00-DA50	ACCESS ROAD SECTIONS AND DETAILS
Co114.92.00-DA60	RETAINING WALL LAYOUT PLAN - SHEET 1
Co114.92.00-DA61	RETAINING WALL LAYOUT PLAN - SHEET 2
Co114.92.00-DA65	RETAINING WALL DETAILS
Co114.92.00-DA70	STORMWATER CATCHMENT PLAN

**GENERAL NOTES:**

- G1 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.
- G2 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.
- G3 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.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G6 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:**

- 1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT AND NOTES PROVIDED BY AUSWIDE GEOTECHNICAL PTY LTD TITLED PRELIMINARY - STAGE 2 GEOTECHNICAL INVESTIGATION, DATED 28 MAY 2012, REF: AW26406.
- 2. EXISTING LEVELS ARE BASED ON SURVEY INFORMATION PROVIDED BY LANDPARTNERS BUILT ENVIRONMENT CONSULTANTS DATED 1 JUNE 2012, REF: SY073101.000.
- 3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
- 4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-50mm.
- 5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
- 6. 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.
- 7. SITE WON FILL TO BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT. NOTE THAT FILL COMPACTED GREATER THAN 103% STANDARD SHALL BE REJECTED AND WILL REQUIRE REMOVAL AND REPLACEMENT. FILL PLACED WITH MOISTURE GREATER THAN 2% FROM OMC SHALL BE REJECTED AND SHALL BE REMOVED AND REPLACED.
- 8. IMPORTED FILL SHALL BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
- 9. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
- 10. AT COMPLETION OF EARTHWORKS SITE SHALL BE CLEARED AND MADE READY FOR INSTALLATION OF EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
- 11. EXCESS SOIL, IF ANY, TO BE MOUNDED AROUND SITE AS OUTLINED IN BULK EARTHWORKS PLAN.
- 12. EXISTING ROCK SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.

**STORMWATER DRAINAGE NOTES:**

- 1. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLAN.
- 2. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- 3. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- 4. ALL STORMWATER PIPES 375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- 5. ALL PIPES UP TO AND INCLUDING 300φ TO BE uPVC GRADE SN8.
- 6. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTRED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- 7. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- 8. 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.
- 9. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED φ100 uPVC TO EACH SIDE OF PIPE.
- 10. ALL SUBSOIL DRAINAGE LINES SHALL BE φ100 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.
- 11. ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
- 12. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- 13. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- 14. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNO.
- 15. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT. PROVIDE CLEANING EYES AT GROUND LEVEL. PIPE LENGTHS NOMINATED ON PLAN OR LONG SECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

**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.
- 1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
  - 2. HAY BALE BARRIERS AND GEOFABRIC 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.
  - 3. 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.
  - 4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
  - 5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
  - 6. 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.
  - 7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
  - 8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
  - 9. 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.
  - 10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
  - 11. 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.
  - 12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR TO PREVENT WIND AND WATER EROSION.
  - 13. 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.
  - 14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE CONTRACT ADMINISTRATOR. 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.
  - 15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE CONTRACT ADMINISTRATOR FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
  - 16. 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.
  - 17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS 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.
  - 18. THE CONTRACTOR SHALL INCORPORATE THE MEASURES ON THIS PLAN WITHIN THE CONTRACTORS CONSTRUCTION MANAGEMENT PLAN.



**LOCALITY PLAN**  
NOT TO SCALE

**NSW GOVERNMENT**  
Planning

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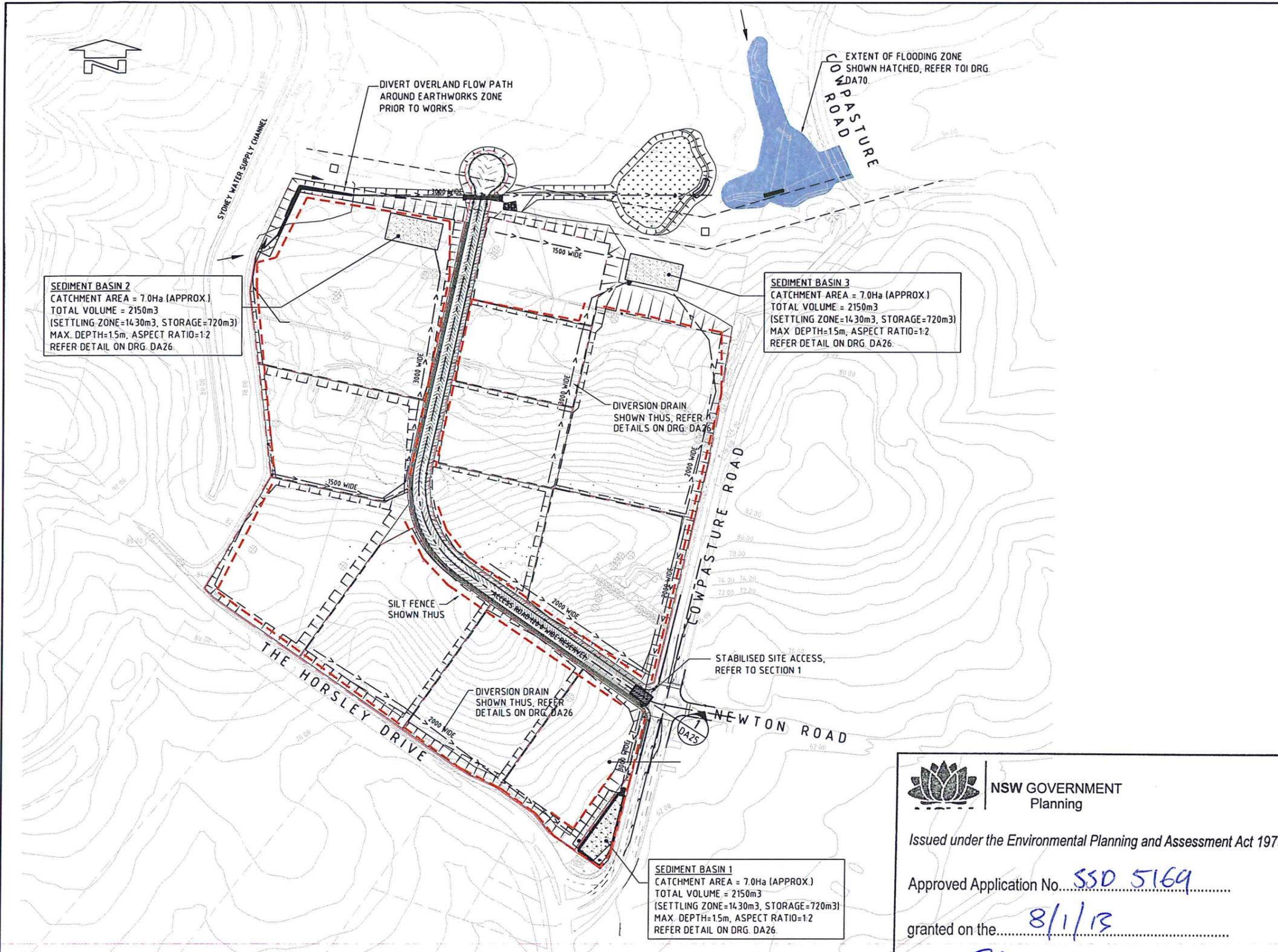
Approved Application No. SSD 2013/010

granted on the 8/1/13

Signed [Signature]

Sheet No. 10 of 42

FOR DEVELOPMENT APPLICATION



**LEGEND:**  
 PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- DENOTES DIRECTION OF OVERLAND FLOW
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES DIVERSION DRAIN
- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- FINISHED PAVEMENT CONTOUR (MAJOR) 1.00m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.25m INTERVALS

**SEDIMENTATION BASIN NOTE:**

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C011492.00-DA25 & DA26.

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:**

- ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
- 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.

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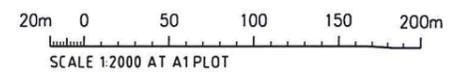
Approved Application No. SSD 5169

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Sheet No. 11 of 42

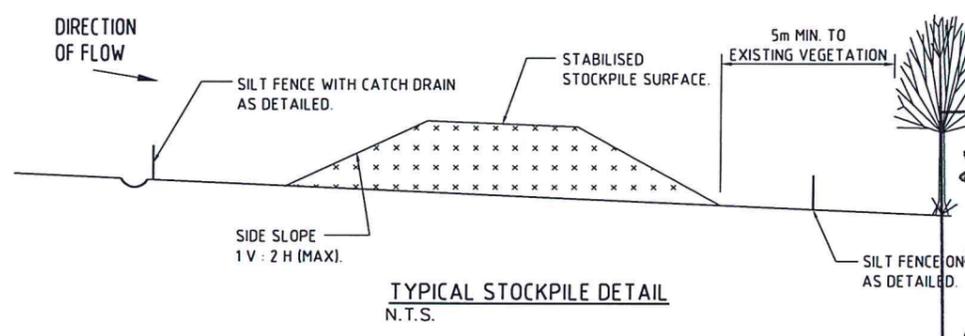
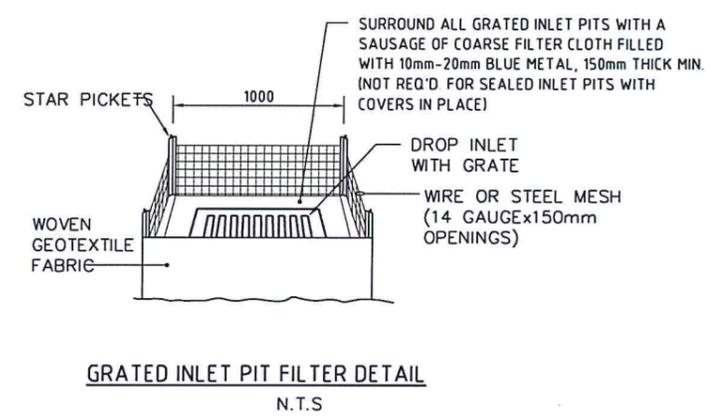
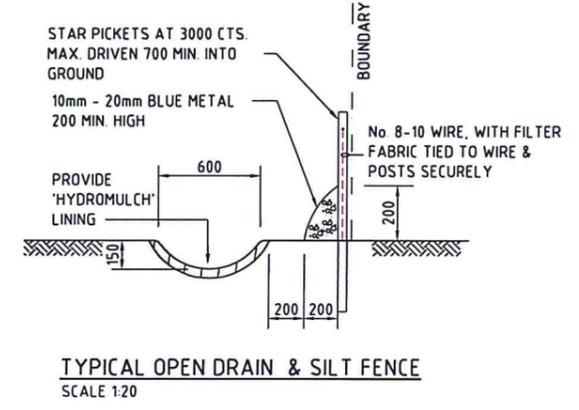
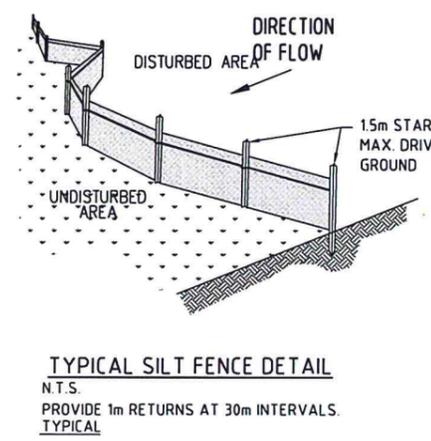
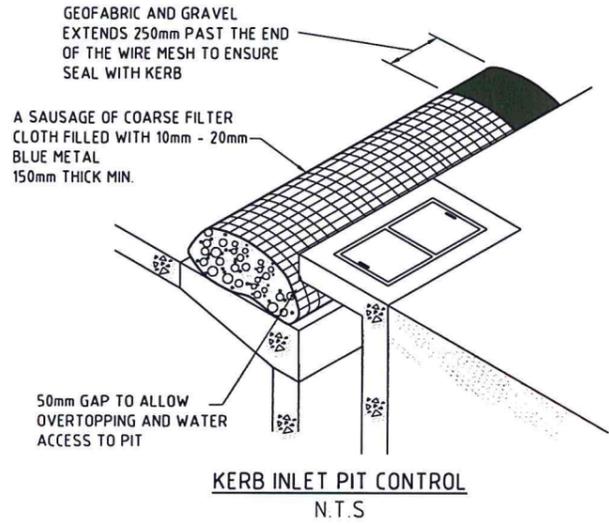
REFER TO DRAWING Co11492.00-DA10 FOR EROSION & SEDIMENT CONTROL NOTES. ALL EROSION CONTROL TO BE COMPLETED PRIOR TO COMMENCEMENT OF SITE WORKS.



**EROSION & SEDIMENT CONTROL PLAN**  
1:2000

**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION 08.06.12 A AMENDMENTS DATE ISSUE		CLIENT Western Sydney Parklands Trust WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT HORSLEY DV. BUSINESS PARK CNR THE HORSLEY DV & COWPASTURE RD WETHERILL PARK, NSW	Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3733 email: mail@costinroe.com.au ©	Value in Engineering and Management	DRAWING TITLE <b>EROSION &amp; SEDIMENT CONTROL PLAN</b> DRAWING No. <b>Co11492.00-DA20</b> ISSUE <b>A</b>
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Sheet No. 12 of 42

**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 1V : 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.

**NOTES:**

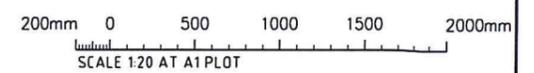
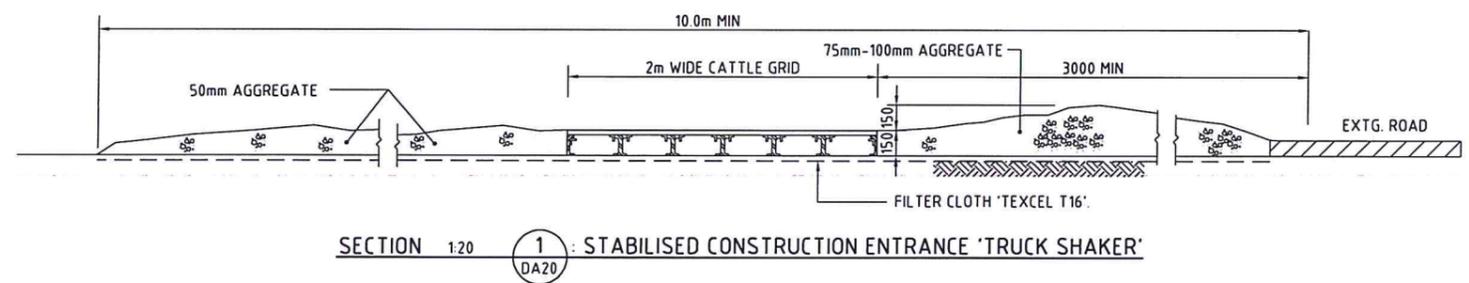
ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEEPED DAILY.

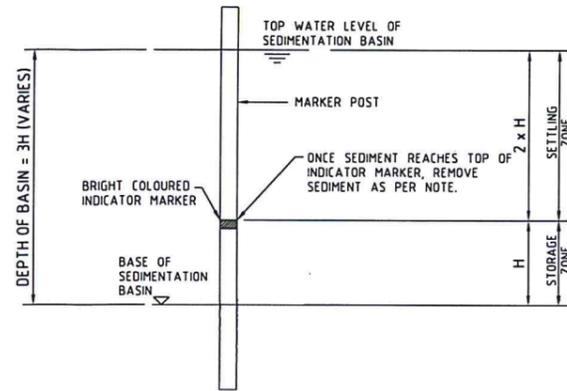
1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

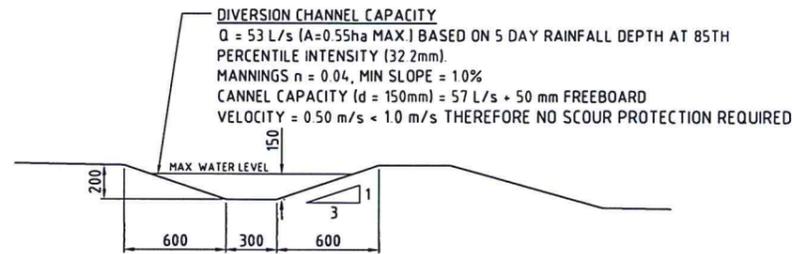


**FOR DEVELOPMENT APPLICATION**

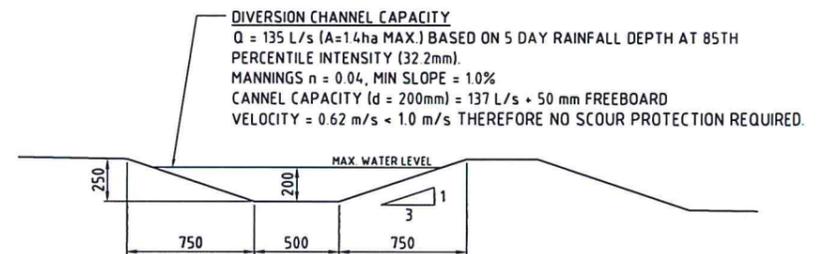
FOR DEVELOPMENT APPLICATION		08.06.12	A	AMENDMENTS		DATE	ISSUE	CLIENT	PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SITE	SCALE	CAD REF.	Costin Roe Consulting Pty Ltd. Consulting Engineers		DRAWING TITLE EROSION & SEDIMENT CONTROL DETAILS SHEET 1
AMENDMENTS		DATE	ISSUE	AMENDMENTS		DATE	ISSUE	WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW	M.W.	M.C.	02.04.12		AT	AS SHOWN	Co114.92.00-DA 25	Value in Engineering and Management	DRAWING No Co114.92.00-DA 25	



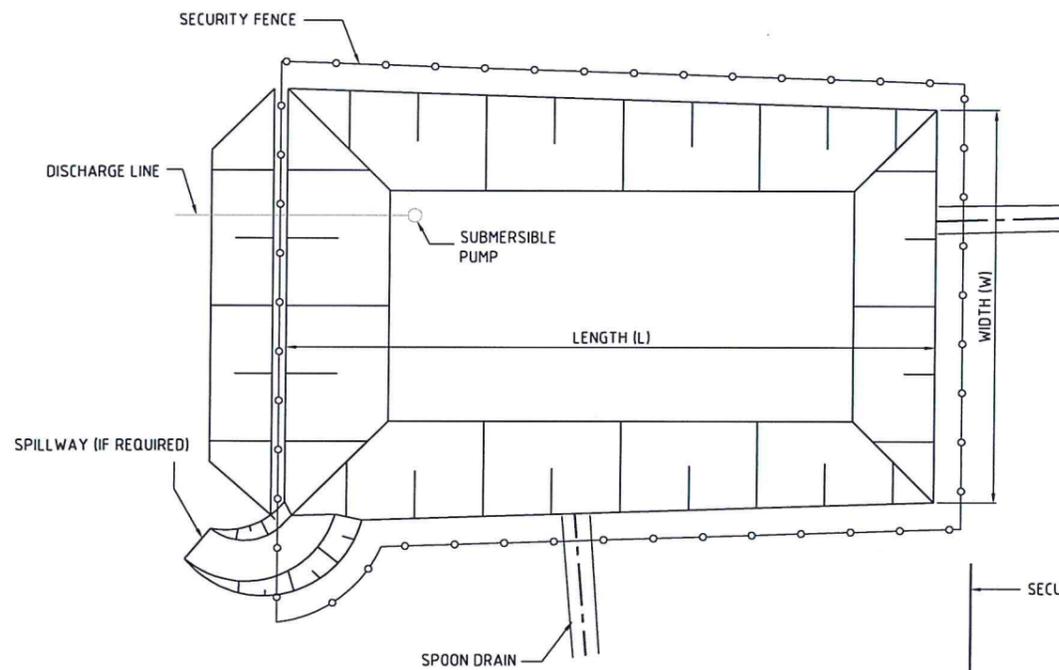
**SEDIMENT STORAGE MARKER**  
SCALE 1:20



**1500 WIDE DIVERSION DRAIN SECTION**  
SCALE 1:20



**2000 WIDE DIVERSION DRAIN SECTION**  
SCALE 1:20



**TYPICAL SEDIMENT CONTROL POND PLAN**  
SCALE 1:250

**NSW GOVERNMENT Planning**

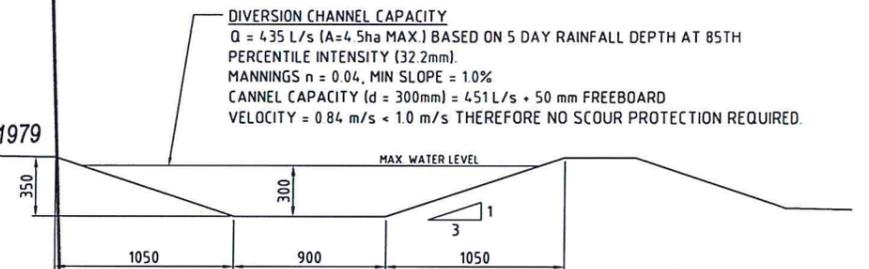
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Approved Application No. SSD 5169

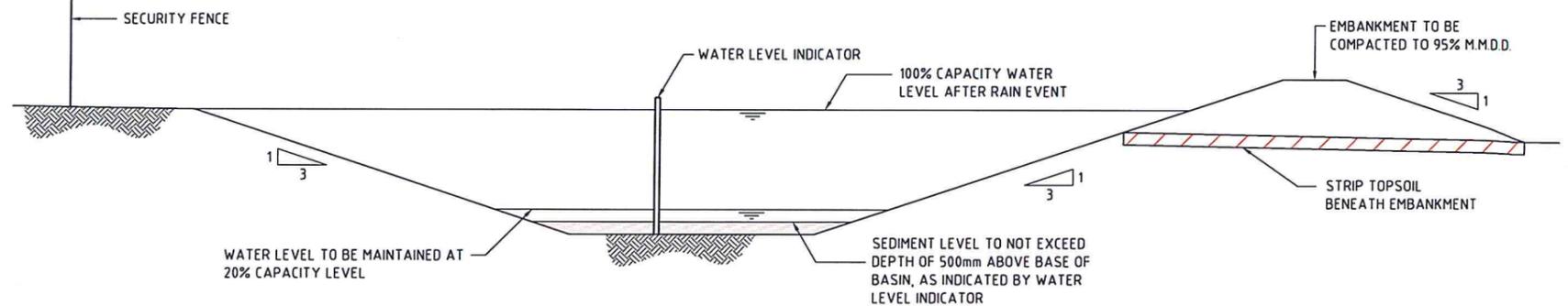
granted on the 8/1/13

Signed [Signature]

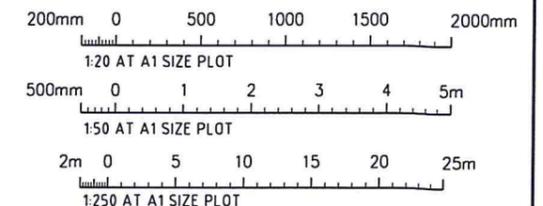
Sheet No. 13 of 142



**3000 WIDE DIVERSION DRAIN SECTION**  
SCALE 1:20



**TYPICAL SEDIMENT CONTROL BASIN SECTION**  
SCALE 1:50



**FOR DEVELOPMENT APPLICATION**

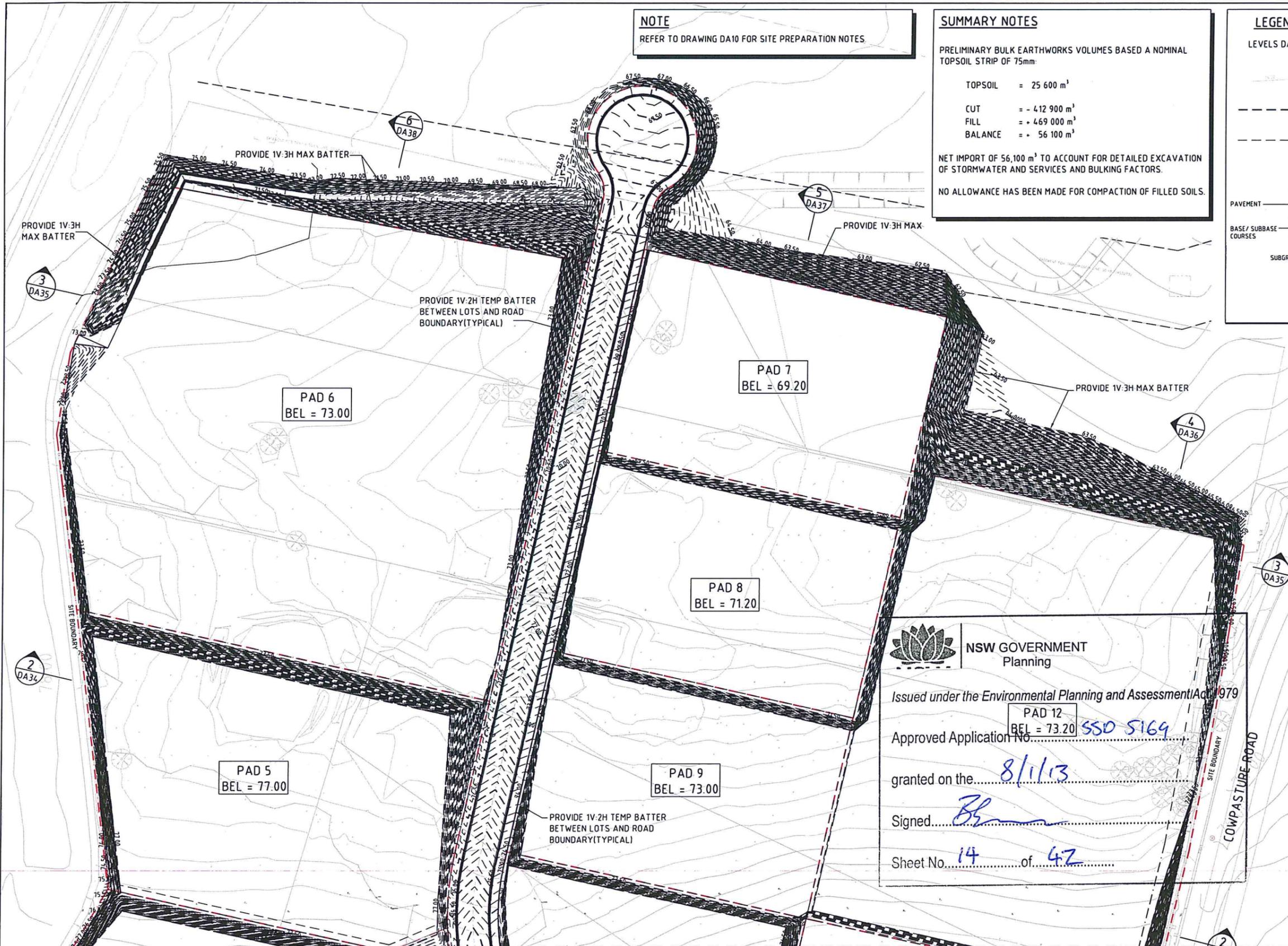
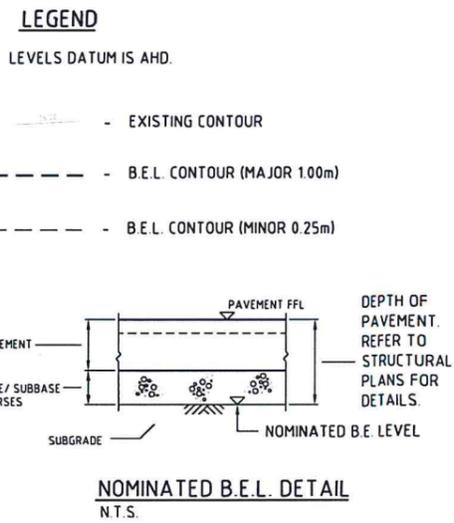
FOR DEVELOPMENT APPLICATION		AMENDMENTS		08.06.12	A	WESTERN SYDNEY PARKLANDS TRUST	PROJECT: HORSLEY DV. BUSINESS PARK		CLIENT: Western Sydney Parklands Trust		DESIGNED: M.W.		DRAWN: M.C.		DATE: 02.04.12		CHECKED: A1		SCALE: AS SHOWN		CAD REF: Co11492.00-DA 26		Costin Roe Consulting Pty Ltd. Consulting Engineers		Level 1, 8 Windmill Street, Wetherill Park, NSW 2000		Tel: (02) 9251-7899 Fax: (02) 9241-3731		email: mail@costinroe.com.au ©		DRAWING TITLE: EROSION & SEDIMENT CONTROL DETAILS SHEET 2		DRAWING No: Co11492.00-DA26		ISSUE: A	
							CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW		WESTERN SYDNEY PARKLANDS TRUST														Value in Engineering and Management		Costin Roe Consulting											

**NOTE**  
REFER TO DRAWING DA10 FOR SITE PREPARATION NOTES

**SUMMARY NOTES**  
PRELIMINARY BULK EARTHWORKS VOLUMES BASED A NOMINAL TOPSOIL STRIP OF 75mm:

TOPSOIL = 25 600 m<sup>3</sup>  
CUT = - 412 900 m<sup>3</sup>  
FILL = + 469 000 m<sup>3</sup>  
BALANCE = + 56 100 m<sup>3</sup>

NET IMPORT OF 56,100 m<sup>3</sup> TO ACCOUNT FOR DETAILED EXCAVATION OF STORMWATER AND SERVICES AND BULKING FACTORS.  
NO ALLOWANCE HAS BEEN MADE FOR COMPACTION OF FILLED SOILS.



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Approved Application No. **PAD 12 BEL = 73.20 S50 5169**

granted on the **8/1/13**

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Sheet No. **14** of **42**

**FOR DEVELOPMENT APPLICATION**

**BULK EARTHWORKS PLAN-SHEET 1**  
SCALE 1:750



FOR DEVELOPMENT APPLICATION	08.06.12	B
FOR INFORMATION	07.06.12	A
AMENDMENTS	DATE	ISSUE

CLIENT

**Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

DESIGNED: M.W. DRAWN: M.C. DATE: 02.04.12 CHECKED: SIZE: AT SCALE: AS SHOWN CAD REF: Co114.92.00-DA 31

Costin Roe Consulting Pty Ltd.  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wahsh Bay, Sydney NSW 2000  
Tel: (02) 9261-7699 Fax: (02) 9241-3731  
email: mail@costinroe.com.au ©

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DRAWING TITLE  
**BULK EARTHWORKS PLAN SHEET 1**

DRAWING No. **Co114.92.00-DA 31** ISSUE **B**

BREAKLINE - REFER TO DRAWING DA31 FOR CONTINUATION



**LEGEND**

LEVELS DATUM IS AHD

- - - - - EXISTING CONTOUR
- - - - - B.E.L. CONTOUR (MAJOR 1.00m)
- - - - - B.E.L. CONTOUR (MINOR 0.25m)

PAVEMENT

BASE/ SUBBASE COURSES

SUBGRADE

DEPTH OF PAVEMENT. REFER TO STRUCTURAL PLANS FOR DETAILS.

NOMINATED B.E. LEVEL

**NOMINATED B.E.L. DETAIL**  
N.T.S.

**NOTE**

REFER TO DRAWING DA10 FOR SITE PREPARATION NOTES.  
REFER TO DRAWING DA32 FOR EARTHWORKS VOLUMES.

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Sheet No. 15 of 42

**FOR DEVELOPMENT APPLICATION**

**BULK EARTHWORKS PLAN-SHEET 2**  
SCALE 1:750



AMENDMENTS	DATE	ISSUE
FOR DEVELOPMENT APPLICATION	08.06.12	B
FOR INFORMATION	07.06.12	A

CLIENT

Western Sydney Parklands Trust  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

DESIGNED: M.W. DRAWN: M.C. DATE: 02.04.12 CHECKED: SIZE: A1 SCALE: AS SHOWN CAD REF: Co114.92.00-DA 32

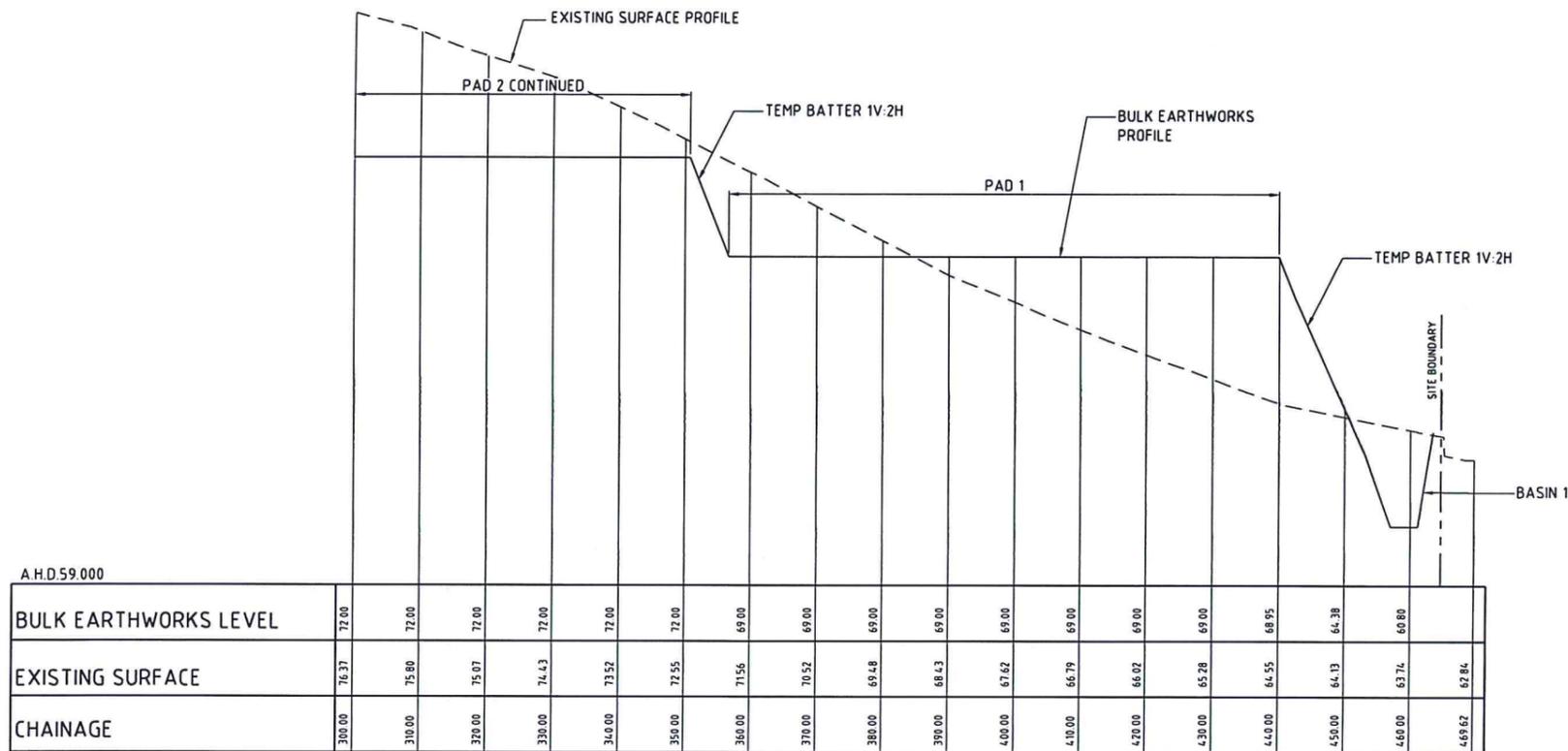
Costin Roe Consulting Pty Ltd.  
Consulting Engineers  
Level 1, 6 Windmill Street  
Wahsh Bay, Sydney NSW 2000  
Tel: (02) 9251-7899 Fax: (02) 9241-3731  
email: mail@costinroe.com.au

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DRAWING TITLE  
**BULK EARTHWORKS PLAN SHEET 2**

DRAWING No. **Co114.92.00-DA 32** ISSUE **B**



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SCALE 1:500 HORIZONTAL.  
SCALE 1:100 VERTICAL.

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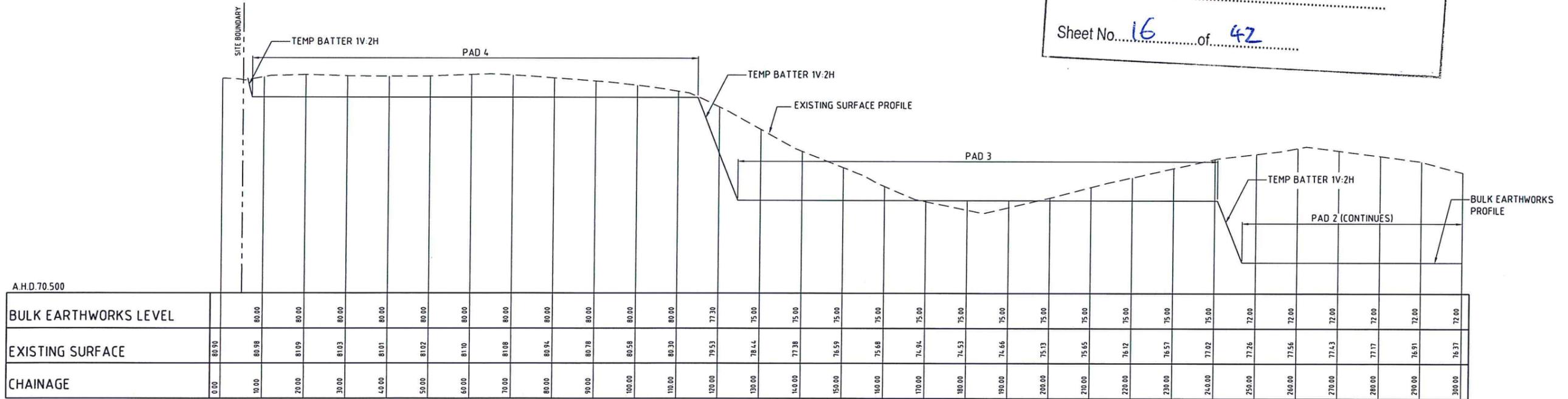
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Approved Application No. SSO 5169

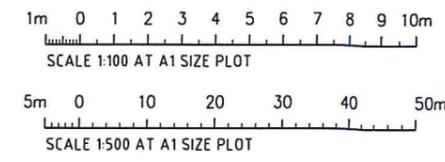
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Sheet No. 16 of 42



CROSS SECTION 1  
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SCALE 1:100 VERTICAL.



FOR DEVELOPMENT APPLICATION

FOR DEVELOPMENT APPLICATION 08.06.12 B		 Western Sydney Parklands Trust WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT HORSLEY DV. BUSINESS PARK CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW		 Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahai Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©	 Value in Engineering and Management	DRAWING TITLE BULK EARTHWORKS SECTIONS SHEET 1		
FOR INFORMATION 07.06.12 A	AMENDMENTS		DESIGNED HW	DRAWN MC			DATE 02.04.12	CHECKED	SCALE A1 AS SHOWN







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Planning

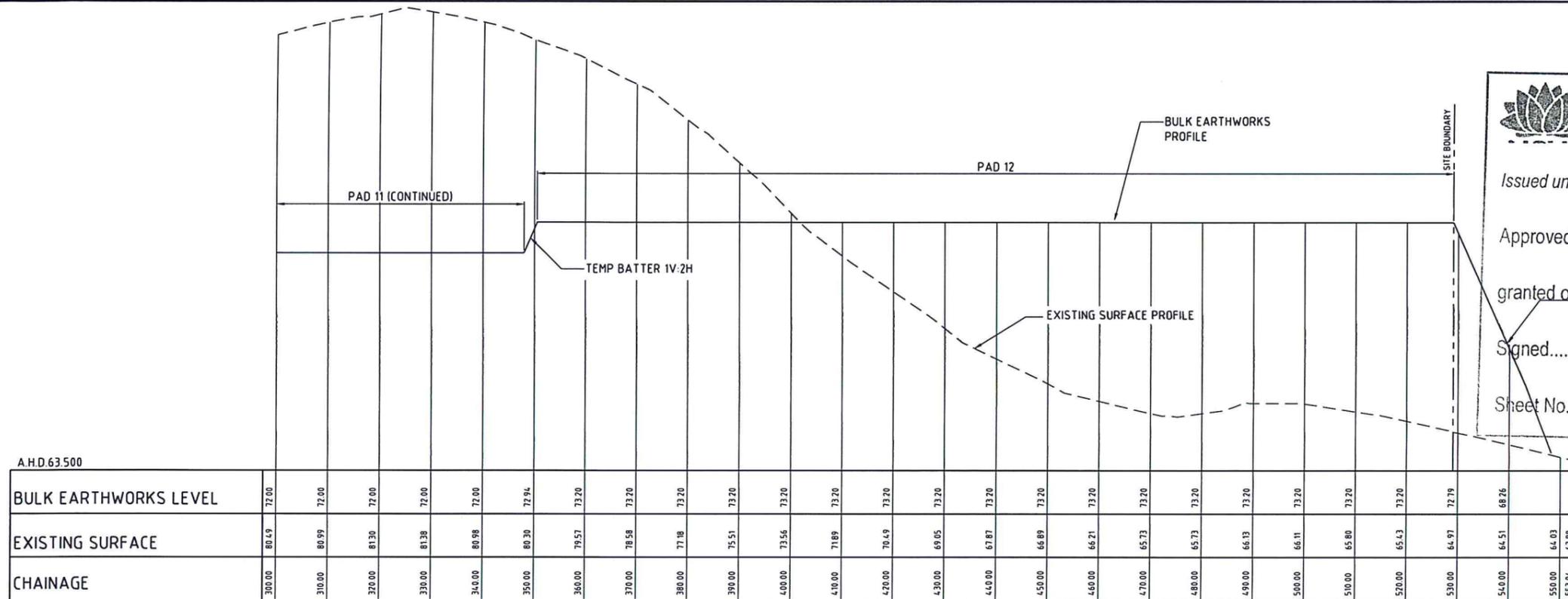
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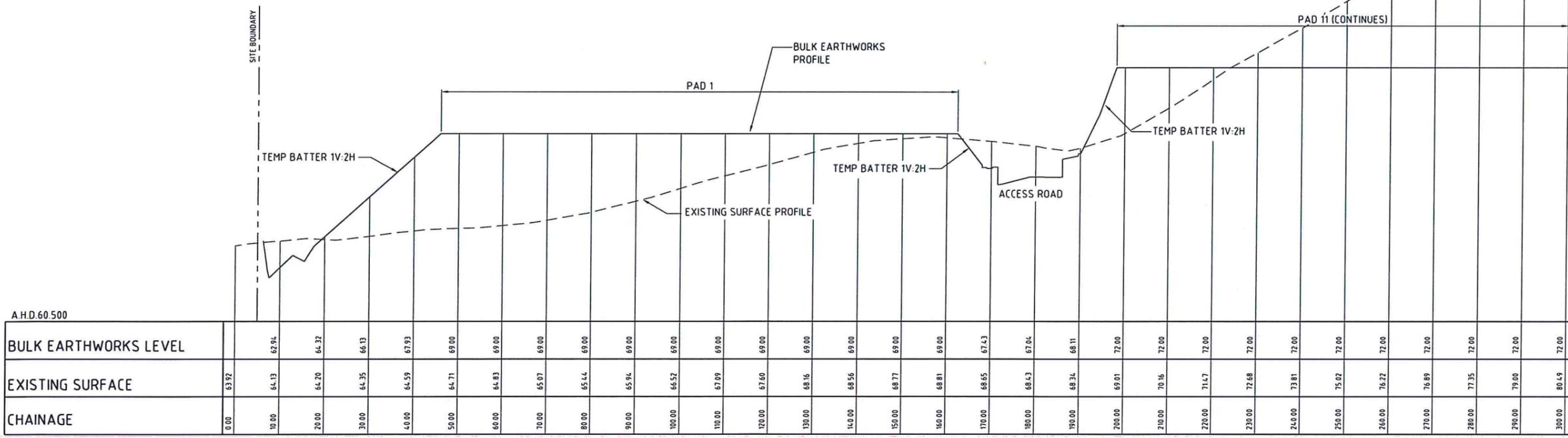
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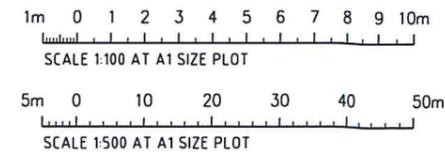
Sheet No. 19 of 42



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SCALE 1:500 HORIZONTAL.  
SCALE 1:100 VERTICAL.



CROSS SECTION 4  
SCALE 1:500 HORIZONTAL.  
SCALE 1:100 VERTICAL.



**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION	08.06.12	B
FOR INFORMATION	07.06.12	A
AMENDMENTS	DATE	ISSUE

CLIENT  
 Western Sydney Parklands Trust  
 WESTERN SYDNEY PARKLANDS TRUST  
 LEVEL 4, 10 VALENTINE AVE  
 PARRAMATTA NSW 2150

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

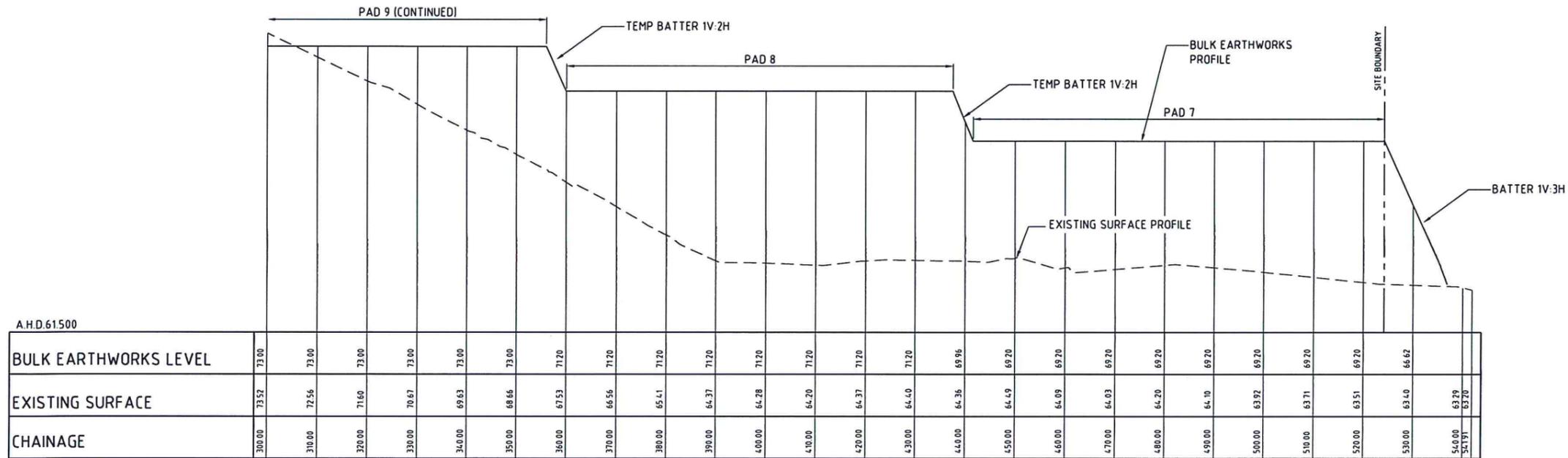
DESIGNED M.W. DRAWN M.C. DATE 02.04.12 CHECKED SIZE AT SCALE AS SHOWN CAD REF: C011492.00-DA 36

Costin Roe Consulting Pty Ltd.  
 Consulting Engineers  
 Level 1, 8 Windmill Street  
 Walsh Bay, Sydney NSW 2000  
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 email: mail@costinroe.com.au ©

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DRAWING TITLE  
**BULK EARTHWORKS SECTIONS SHEET 4**

DRAWING No. **C011492.00-DA 36** ISSUE **B**



CROSS SECTION 5  
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SCALE 1:100 VERTICAL.

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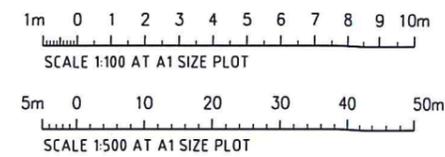
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Sheet No. 20 of 42



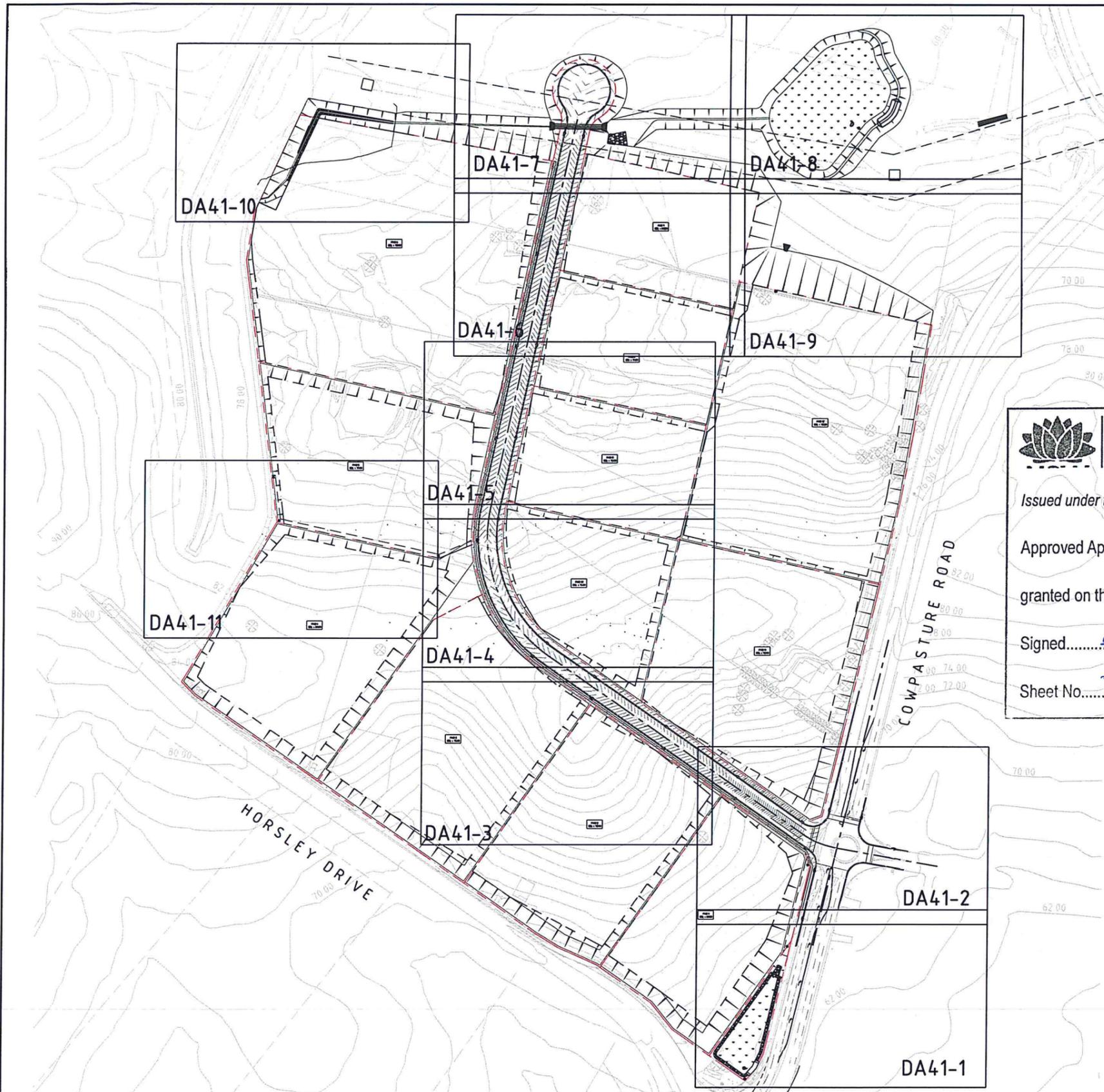
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SCALE 1:100 VERTICAL.



**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION	08.06.12	B	<p>Western Sydney Parklands Trust WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150</p>	PROJECT	<p>Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au</p>			DRAWING TITLE	<p>BULK EARTHWORKS SECTIONS SHEET 5</p>													
FOR INFORMATION	07.06.12	A		DESIGNED		M.W.	DRAWN	M.C.		DATE	02.04.12	CHECKED	SIZE	A1	SCALE	AS SHOWN	CAD REF:	Co114-92.00-DA 37	DRAWING No	Co114-92.00-DA 37	ISSUE	B
AMENDMENTS	DATE	ISSUE		AMENDMENTS		DATE	ISSUE	Value in Engineering and Management														





**PIT SCHEDULE - STORMWATER SYSTEM**

No.	GRATE RL	DEPTH (mm)	TYPE	SIZE (LxB)
PIT A1	74.80	1000	KIP	900x600
PIT A2	73.80	1300	KIP	900x900
PIT A3	71.60	1500	KIP	1200x1200
PIT A4	69.20	1600	KIP	1200x1200
PIT A5	65.70	2150	KIP	1500x1500
PIT A6	65.50	2500	SJP	1500x1500
PIT A7	63.80	2200	SJP	1500x1500
PIT A8	74.80	1000	KIP	900x600
PIT A9	74.00	1000	KIP	900x600
PIT A10	71.90	1050	KIP	900x600
PIT A11	69.60	1000	KIP	900x600
PIT A12	66.20	1300	KIP	900x900
PIT A13	63.70	3000	SJP	900x900
PIT B1	77.00	3500	SJP	900x900
PIT B2	77.00	3700	SJP	900x900
PIT B3	77.00	4300	SJP	900x900
PIT B4	75.90	3550	KIP	900x900
PIT B5	75.60	3450	KIP	900x900
PIT B6	73.90	2400	KIP	1200x1200
PIT B7	72.00	3000	KIP	1500x1500
PIT B8	70.00	2900	KIP	1500x1500
PIT B9	67.60	2200	KIP	1500x1500
PIT B10	74.10	2000	KIP	900x900
PIT B11	72.10	2300	KIP	900x600
PIT B12	70.10	1400	KIP	900x900
PIT B13	67.60	1100	KIP	900x600
PIT B14	73.20	4000	SJP	900x900



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granted on the 8/1/13

Signed [Signature]

Sheet No. 27 of 42

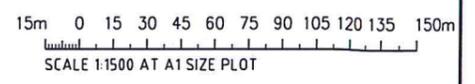
**FINISHED LEVELS PLAN NOTES:**

- LEVELS DATUM IS A.H.D.
- ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
- THE MAJOR CONTOUR INTERVAL IS 0.5m
- THE MINOR CONTOUR INTERVAL IS 0.1m
- MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
- MAXIMUM PAVEMENT GRADE IS TO BE 1:30 IN DISABLED PARKING, 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
- MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN
- PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%).
- PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
- ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
- ALL FOOTPATHS ARE TO FALL AWAY FROM THE BOUNDARY AT 2% NOMINAL GRADE.

**STORMWATER DRAINAGE NOTES:**

REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

REFER TO DRAWING DA70 FOR CATCHMENT ANALYSIS, FLOODING INFORMATION AND STORMWATER MANAGEMENT CONCEPT.



**FOR DEVELOPMENT APPLICATION**



CONCEPT CIVIL MASTERPLAN  
SCALE 1:1500

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
FOR DEVELOPMENT APPLICATION	08.06.12	C			
FOR REVIEW	07.06.12	B			
FOR INFORMATION ONLY	28.05.12	A			

CLIENT  
**NSW GOVERNMENT**  
Western Sydney Parklands Trust  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA, NSW 2150

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

DESIGNED: M.W. DRAWN: M.C. DATE: 02.04.12 CHECKED: A1 SCALE: AS SHOWN CAD REF: Co11492.00-DA 40

**ACEA**  
The Association of Consulting Engineers Australia

Costin Roe Consulting Pty Ltd.  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wah Bay, Sydney NSW 2000  
Tel: (02) 9251-7699 Fax: (02) 9241-3731  
email: mail@costinroe.com.au ©

**Costin Roe Consulting**

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DRAWING TITLE  
**CONCEPT CIVIL MASTERPLAN**

DRAWING No. **Co11492.00-DA 40** ISSUE **C**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-2

PAD 1  
BEL = 69.00

**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
- 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

**INTERSECTION NOTES:**  
THROUGH LANES TO BE 3.5m MINIMUM.  
TURN LANES TO BE 3.2m WIDE MINIMUM.  
EXISTING ROUNDABOUT TO BE DECOMMISSIONED AND NEW SIGNALISED INTERSECTION PROVIDED.  
ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH NSW ROAD AND MARITIME SERVICE (FORMER RTA) REQUIREMENTS.

**NSW GOVERNMENT Planning**

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. 550 5169

granted on the 8/1/13

Signed [Signature]

Sheet No. 23 of 42

**BASIN 1 - WATER QUALITY DETAILS**

STORMWATER TREATMENT MEASURE: BIORETENTION

**STORAGE PROPERTIES**

EXTENDED DETENTION DEPTH: 300mm  
STORAGE SURFACE AREA: 1300sqm MIN.

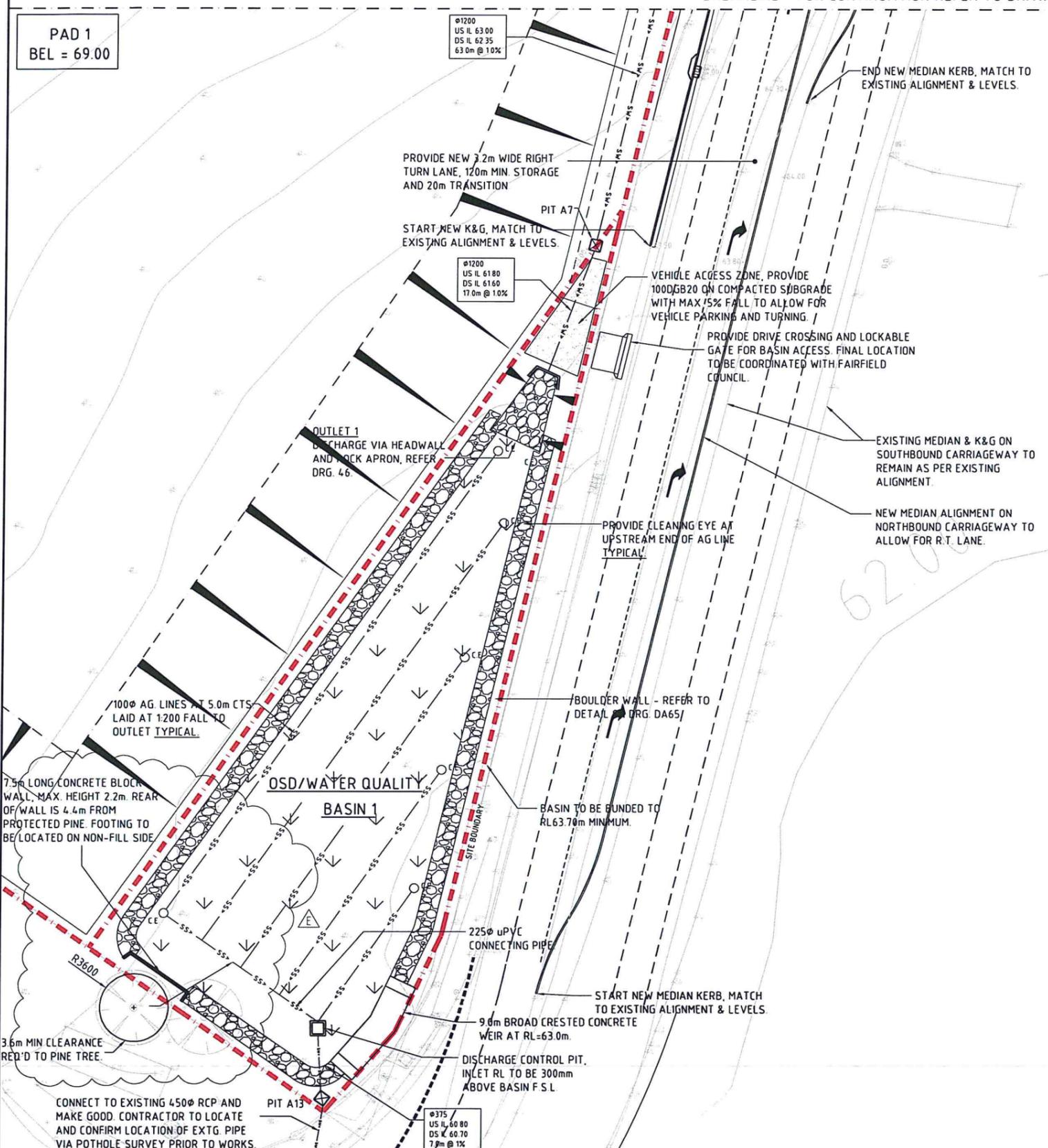
**FILTER & MEDIA PROPERTIES**

FILTRATION AREA: 1150sqm MIN  
SAT. HYDRAULIC CONDUCTIVITY: 100mm/hr  
FILTER DEPTH: 600mm

REFER TO DRG. DA46 FOR BIORETENTION NOTES AND DETAILS.

**BASIN 1 - HYDROLOGIC DETAILS**

ARI (yrs)	Storm Duration (hrs)	Flow (m³/s)			Water Level (m)	Storage (m³)
		Pre - Devel.	Post Devel. (un - attenuated)	Post Devel. (with attenuation)		
2	0.5	0.376	1.88	0.326	62.32	1100
2	2	0.701	1.90	0.348	62.52	1350
100	0.5	1.77	3.77	1.411	63.16	2300
100	2	2.62	3.83	2.575	63.27	2450



**CONCEPT STORMWATER PLAN - SHEET 1**  
SCALE 1:250

**FOR DEVELOPMENT APPLICATION**

REVISION	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
REVISION SHOWN CLOUDED	18 10 12	E			
REVISION SHOWN CLOUDED	26 09 12	D			
FOR DEVELOPMENT APPLICATION	08 06 12	C			
FOR INFORMATION ONLY	07 06 12	B			
FOR INFORMATION ONLY	28 05 12	A			

**CLIENT**  
 **Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

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

**Costin Roe Consulting Pty Ltd.**  
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Wahah Bay, Sydney NSW 2000  
Tel: (02) 9251-7699 Fax: (02) 9241-3731  
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**DRAWING TITLE**  
**CONCEPT STORMWATER FINISHED LEVELS PLAN SHEET 1**  
DRAWING No. **Co11492.00-DA41-1** ISSUE **E**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-3

**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
- 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

**NSW GOVERNMENT Planning**

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Approved Application No. SSD 5164

granted on the 8/1/13

Signed [Signature]

Sheet No. 24 of 47

PAD 1  
BEL = 69.00

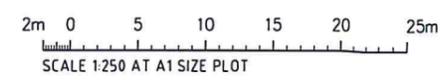
PAVEMENT FOR STORMWATER DRAINAGE 3.0m WIDE.

**INTERSECTION NOTES:**  
THROUGH LANES TO BE 3.5m MINIMUM.  
TURN LANES TO BE 3.2m WIDE MINIMUM.  
EXISTING ROUNDABOUT TO BE DECOMMISSIONED AND NEW SIGNALISED INTERSECTION PROVIDED.  
ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH NSW ROAD AND MARITIME SERVICE (FORMER RTA) REQUIREMENTS.

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-1

**FOR DEVELOPMENT APPLICATION**

**CONCEPT STORMWATER PLAN - SHEET 2**  
SCALE 1:250



FOR DEVELOPMENT APPLICATION	08.06.12	C	<b>Western Sydney Parklands Trust</b> WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT	<b>HORSLEY DV. BUSINESS PARK</b> CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW			<b>Costin Roe Consulting Pty Ltd.</b> Consulting Engineers Level 1, 8 Windmill Street Wah Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au @		DRAWING TITLE	<b>CONCEPT STORMWATER &amp; FINISHED LEVELS PLAN SHEET 2</b>		
FOR INFORMATION ONLY	07.06.12	B		DESIGNED	DATE	CHECKED	SCALE			CAD REF.	DRAWING NO.	Co11492.00-DA41-2	
FOR INFORMATION ONLY	28.05.12	A		DATE	ISSUE	AMENDMENTS	DATE			ISSUE	AMENDMENTS	DATE	ISSUE

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-4

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-2

PAD 3  
BEL = 75.00

PAD 2  
BEL = 72.00

**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
- 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

**NSW GOVERNMENT**  
Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No.....SSO 5169.....

granted on the.....8/4/13.....

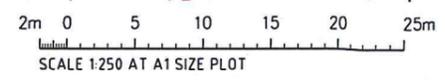
Signed..........

Sheet No.....25.....of.....42.....

**FOR DEVELOPMENT APPLICATION**



CONCEPT STORMWATER PLAN - SHEET 3  
SCALE 1:250



FOR DEVELOPMENT APPLICATION	08.06.12	C
FOR INFORMATION ONLY	07.06.12	B
FOR INFORMATION ONLY	28.05.12	A
AMENDMENTS	DATE	ISSUE

CLIENT

**Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

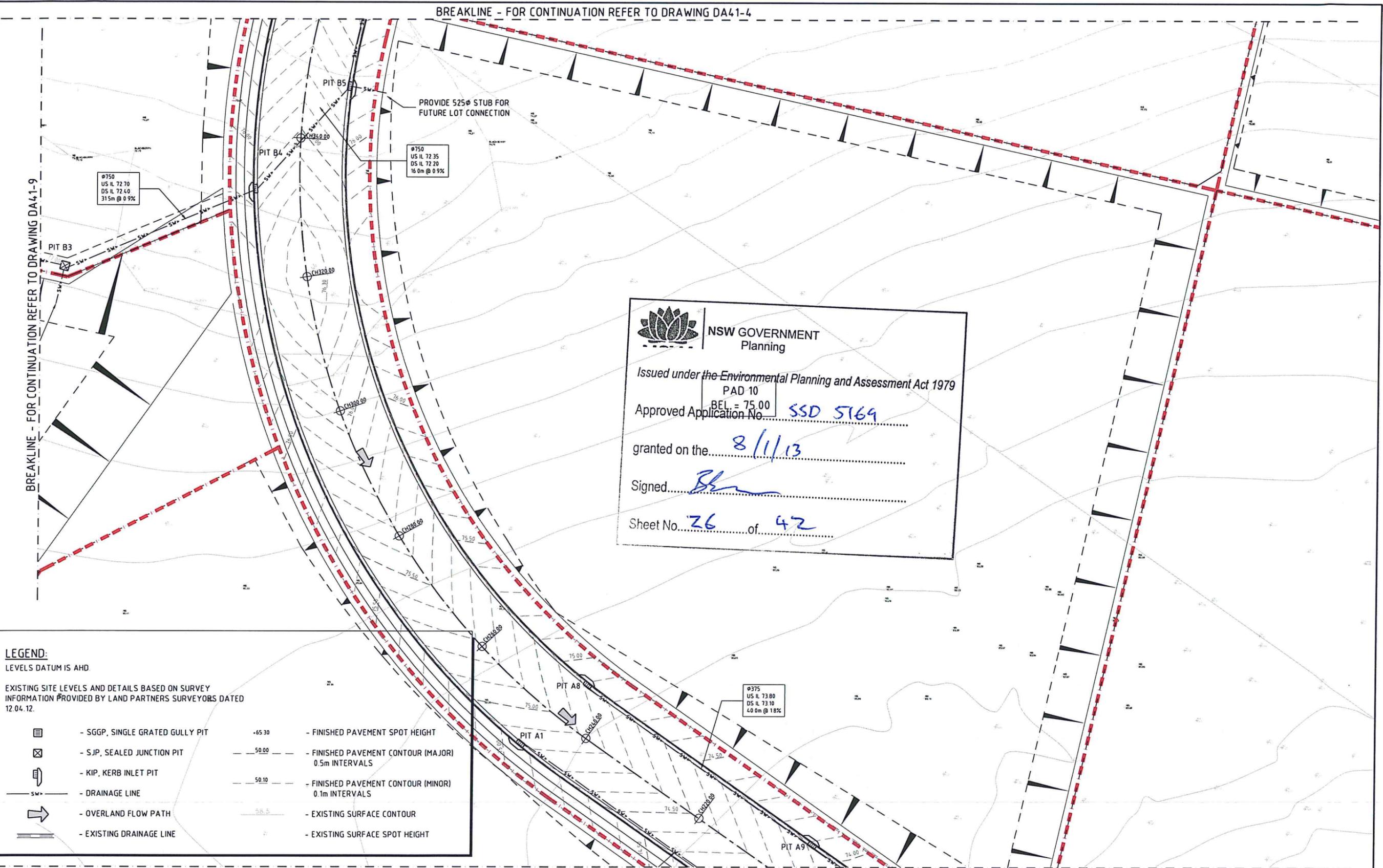
**Costin Roe Consulting Pty Ltd.**  
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Walsh Bay, Sydney NSW 2000  
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DRAWING TITLE  
**CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 3**

DRAWING No **Co114.92.00-DA41-3** ISSUE **C**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-4



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PAD 10  
Approved Application No. SSD 5169  
granted on the 8/1/13  
Signed [Signature]  
Sheet No. 26 of 42

**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	-65.30	- FINISHED PAVEMENT SPOT HEIGHT
	- S.J.P., SEALED JUNCTION PIT	-50.00	- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
	- K.I.P., KERB INLET PIT	-50.10	- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
	- DRAINAGE LINE	-55.5	- EXISTING SURFACE CONTOUR
	- OVERLAND FLOW PATH		- EXISTING SURFACE SPOT HEIGHT
	- EXISTING DRAINAGE LINE		

**FOR DEVELOPMENT APPLICATION**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-3

CONCEPT STORMWATER PLAN - SHEET 4  
SCALE 1:250



FOR DEVELOPMENT APPLICATION	08.06.12	C
FOR INFORMATION ONLY	07.06.12	B
FOR INFORMATION ONLY	28.05.12	A
AMENDMENTS	DATE	ISSUE

CLIENT

**Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

Costin Roe Consulting Pty Ltd.  
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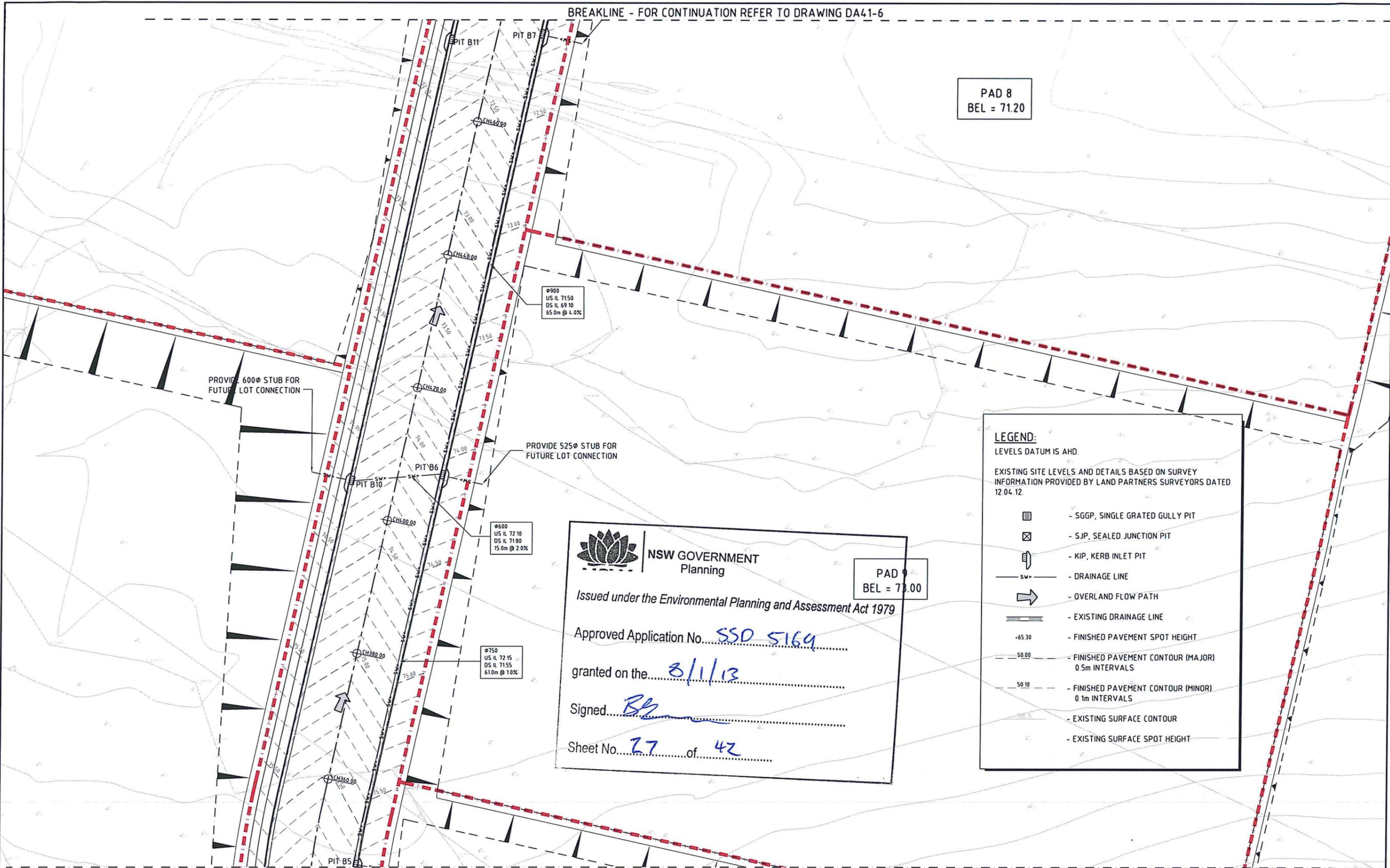
Value in Engineering and Management

DRAWING TITLE  
**CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 4**

DRAWING No. **Co11492.00-DA41-4** ISSUE **C**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-6

PAD 8  
BEL = 71.20



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Approved Application No. SSD 5169

granted on the 8/1/13

Signed BR

Sheet No. 27 of 42

PAD 9  
BEL = 73.00

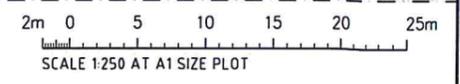
**LEGEND:**

- 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
  - 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

**FOR DEVELOPMENT APPLICATION**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-4

CONCEPT STORMWATER PLAN - SHEET 5  
SCALE 1:250



FOR DEVELOPMENT APPLICATION	08.06.12	C
FOR INFORMATION ONLY	07.06.12	B
FOR INFORMATION ONLY	28.05.12	A
AMENDMENTS	DATE	ISSUE

CLIENT

**Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

Costin Roe Consulting Pty Ltd.  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wah Bay, Sydney NSW 2000  
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email: mail@costinroe.com.au ©

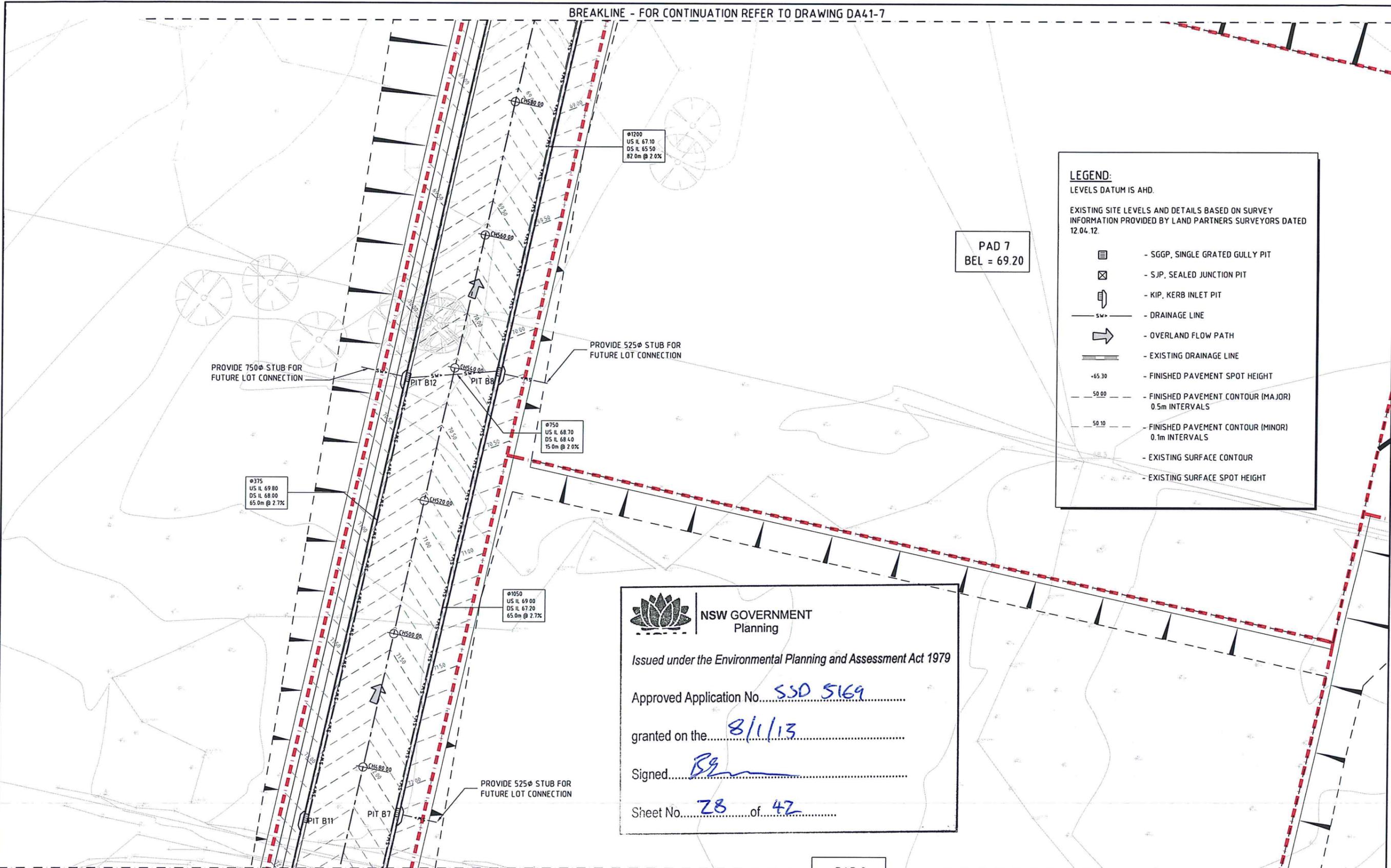
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DRAWING TITLE  
**CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 5**

DRAWING NO. **Co11492.00-DA41-5** ISSUE **C**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-7



PAD 7  
BEL = 69.20

**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
- 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

NSW GOVERNMENT Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. SSD 5169

granted on the 8/1/13

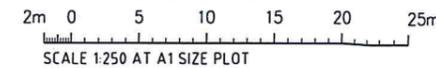
Signed [Signature]

Sheet No. 28 of 42

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-5

**FOR DEVELOPMENT APPLICATION**

CONCEPT STORMWATER PLAN - SHEET 6  
SCALE 1:250



AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
FOR DEVELOPMENT APPLICATION	08.06.12	C			
FOR INFORMATION ONLY	07.06.12	B			
FOR INFORMATION ONLY	28.05.12	A			

CLIENT

Western Sydney Parklands Trust  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

PROJECT

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

Costin Roe Consulting Pty Ltd.  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wahsh Bay, Sydney NSW 2000  
Tel: (02) 9251-7699 Fax: (02) 9241-3731  
email: mail@costinroe.com.au

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DRAWING TITLE  
CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 6

DRAWING No. C0114.92.00-DA41-6



BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-7

100Ø AG LINES AT 5.0m CTS LAID AT 1:200 FALL TO OUTLET TYPICAL

**OSD/WATER QUALITY BASIN 2**

225Ø UPVC CONNECTING PIPE

BASIN OUTLET, I.L. TO BE 300mm ABOVE BASIN F.S.L. PROVIDE TRASH SCREEN & ROCK SCOUR APRON - REFER TO DETAIL ON DA47.

SEALED PIT TO COLLECT SUBSOIL, RL TO BE 100mm ABOVE BASIN F.S.L.

20.0m BROAD CRESTED CONCRETE WEIR AT RL=61.5m.

BASIN BUND 1.5m WIDE AT RL 62.35m MINIMUM

**BASIN 2 - HYDROLOGIC DETAILS**

ARI (yrs)	Storm Duration (hrs)	Flow (m <sup>3</sup> /s)			Water Level (m)	Storage (m <sup>3</sup> )
		Pre - Devel.	Post Devel. (un - attenuated)	Post Devel. (with attenuation)		
2	0.5	1.22	3.44	1.12	61.10	1400
2	2	2.38	3.46	2.42	61.28	2400
100	0.5	6.86	8.27	5.94	61.72	4500
100	2	9.59	10.03	8.20	61.80	5000

**BASIN 2 - WATER QUALITY DETAILS**

STORMWATER TREATMENT MEASURE: BIORETENTION

**STORAGE PROPERTIES**  
 EXTENDED DETENTION DEPTH: 300mm  
 STORAGE SURFACE AREA: 3500sqm MIN.

**FILTER & MEDIA PROPERTIES**  
 FILTRATION AREA: 3500sqm MIN  
 SAT. HYDRAULIC CONDUCTIVITY: 100mm/hr  
 FILTER DEPTH: 500mm

REFER TO DRG. DA46 FOR BIORETENTION NOTES AND DETAILS.



NSW GOVERNMENT  
Planning

Issued under the Environmental Planning and Assessment Act 1979

HEADWALL AND LOW-FLOW OUTLET TO OSD BASIN  
 Approved Application No. **550 5169**

granted on the **8/1/13**

Signed **[Signature]**

Sheet No. **30** of **42**

EXISTING 3,000Ø OUTLET PIPES

PROVIDE 2WD ALL WEATHER ACCESS TRACK TO BASIN AND TRANSMISSION TOWER. FINAL LOCATION TO BE COORDINATED WITH FAIRFIELD COUNCIL & ENERVAOUR ENERGY

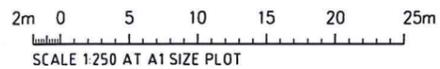
**LEGEND:**

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 -65.30
- SJP, SEALED JUNCTION PIT -50.00
- KIP, KERB INLET PIT -50.10
- DRAINAGE LINE
- OVERLAND FLOW PATH -58.5
- 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

**FOR DEVELOPMENT APPLICATION**



**CONCEPT STORMWATER PLAN - SHEET 8**

SCALE 1:250

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
REVISION SHOWN CLOUDED	18.10.12	E			
REVISION SHOWN CLOUDED	26.09.12	D			
FOR DEVELOPMENT APPLICATION	08.06.12	C			
FOR INFORMATION ONLY	07.06.12	B			
FOR INFORMATION ONLY	28.05.12	A			

CLIENT  
  
**Western Sydney Parklands Trust**  
 WESTERN SYDNEY PARKLANDS TRUST  
 LEVEL 4, 10 VALENTINE AVE  
 PARRAMATTA NSW 2150

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

DESIGNED: M.W. DRAWN: M.C. DATE: 02.04.12 CHECKED: SIZE: AT SCALE: AS SHOWN CAD REF: Co11492.00-DA41-8

Costin Roe Consulting Pty Ltd.  
 Consulting Engineers  
 Level 1, 8 Windmill Street  
 Walsh Bay, Sydney NSW 2000  
 Tel: (02) 9251-7699 Fax: (02) 9241-3731  
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DRAWING TITLE  
**CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 8**

DRAWING No. **Co11492.00-DA41-8** ISSUE **E**

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-8

**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	+65.30	- FINISHED PAVEMENT SPOT HEIGHT
	- SJP, SEALED JUNCTION PIT	-50.00	- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
	- KIP, KERB INLET PIT	-50.10	- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
	- DRAINAGE LINE	-58.5	- EXISTING SURFACE CONTOUR
	- OVERLAND FLOW PATH		- EXISTING SURFACE SPOT HEIGHT
	- EXISTING DRAINAGE LINE		

**NSW GOVERNMENT**  
Planning

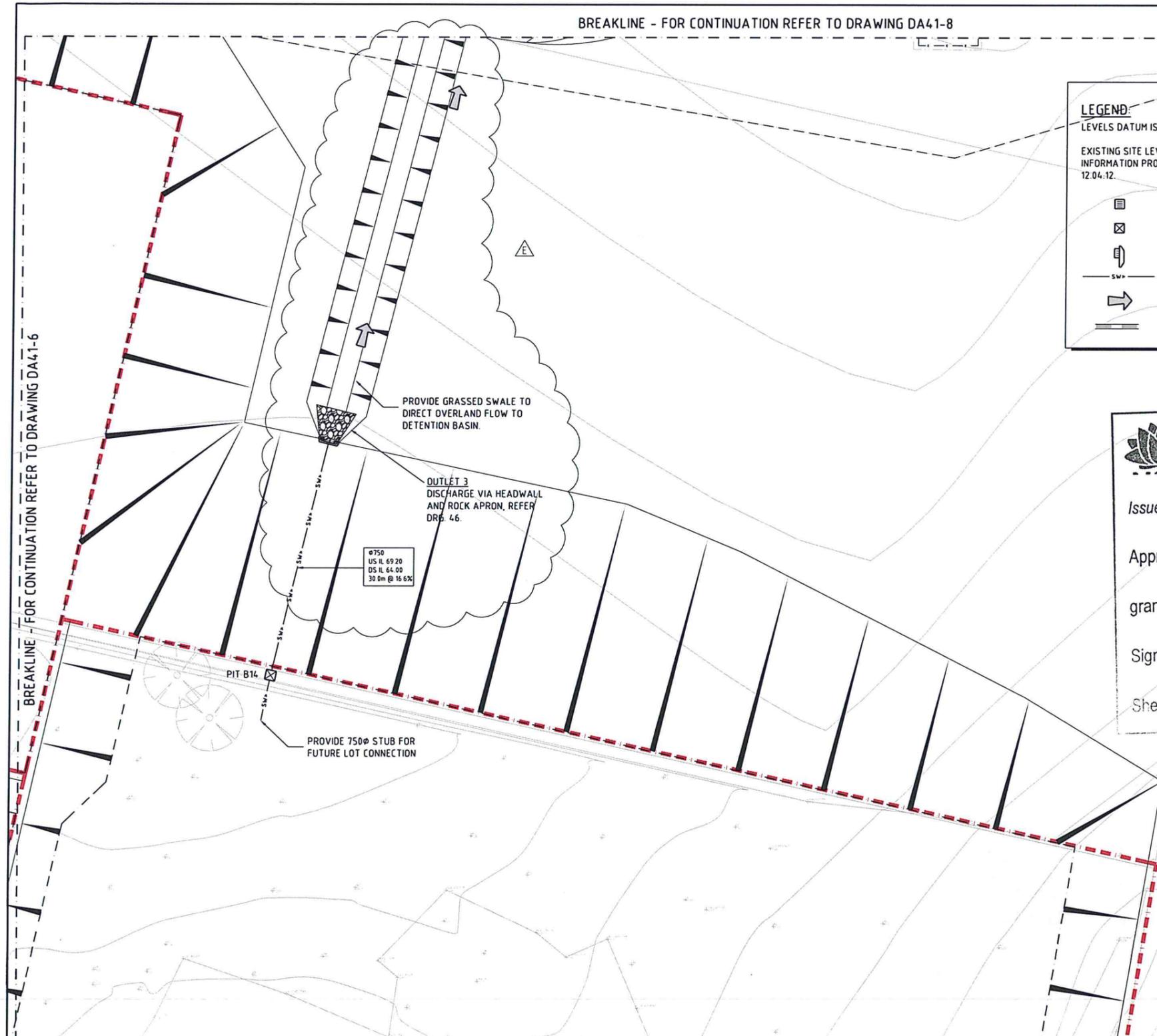
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Approved Application No. SSD 5769

granted on the 8/1/13

Signed Ba

Sheet No. 31 of 42



**FOR DEVELOPMENT APPLICATION**

**CONCEPT STORMWATER PLAN - SHEET 9**  
SCALE 1:250



REVISION SHOWN CLOUDED	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
DRG NUMBERS AMENDED AS PER DA40	26.09.12	E			
FOR DEVELOPMENT APPLICATION	29.06.12	D			
FOR INFORMATION ONLY	08.06.12	C			
FOR INFORMATION ONLY	07.06.12	B			
FOR INFORMATION ONLY	07.06.12	A			

**CLIENT**

**Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

**PROJECT**

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

**ACEA**  
The Association of Consulting Engineers Australia

DESIGNED	DATE	CHECKED	SCALE	CAD REF.
PLW	02.04.12	AT	AS SHOWN	Co114.92.00-DA41-9

**Costin Roe Consulting Pty Ltd.**  
Consulting Engineers  
Level 1, 6 Windmill Street  
Wahai Bay, Sydney NSW 2000  
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email: mail@costinroe.com.au ©

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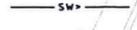
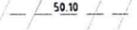
Value in Engineering and Management

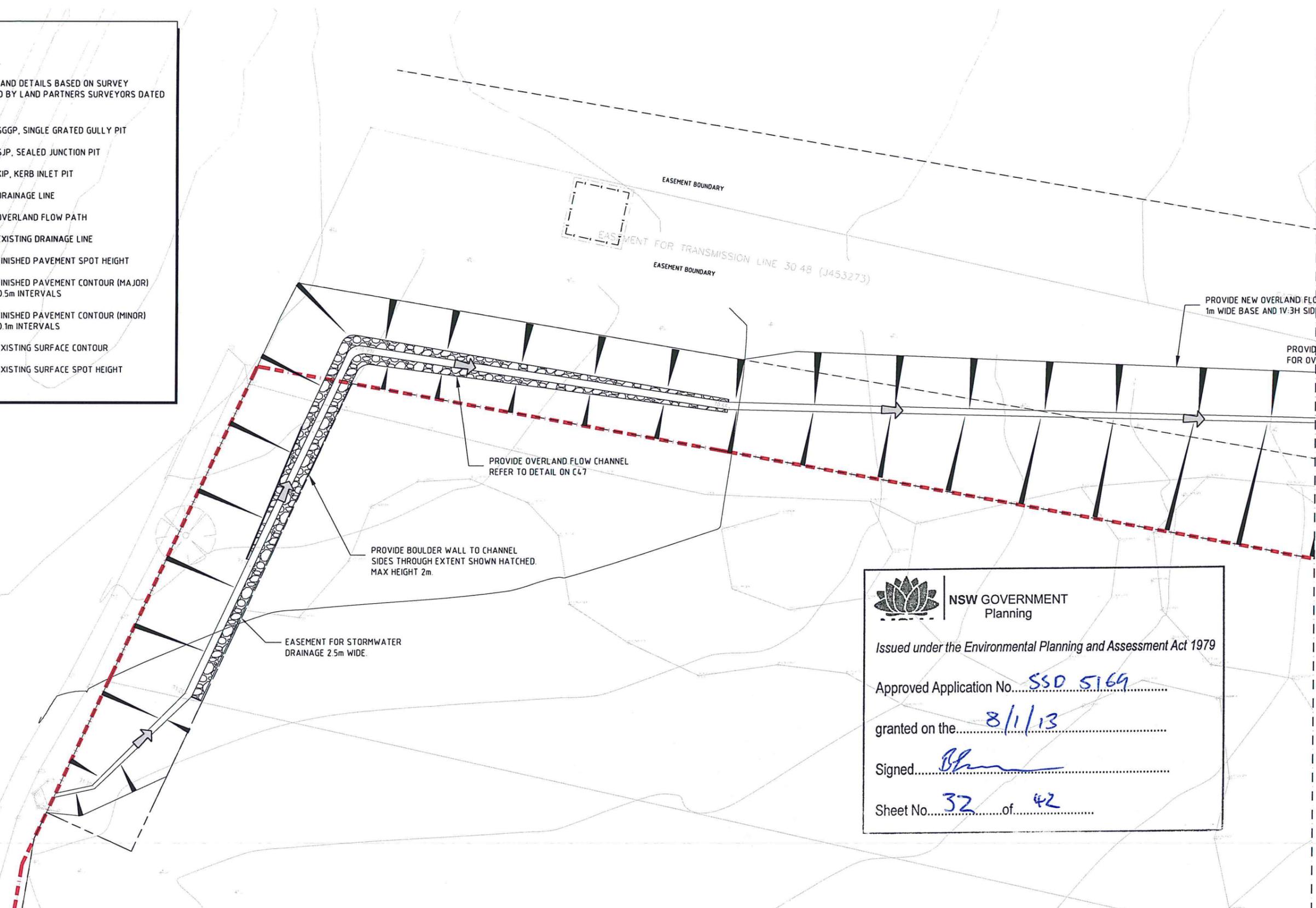
**DRAWING TITLE**  
**CONCEPT STORMWATER & FINISHED LEVELS PLAN SHEET 9**

DRAWING No. **Co114.92.00-DA41-9** ISSUE **E**

**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
-  - 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



 NSW GOVERNMENT  
Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. SSD 5169

granted on the 8/1/13

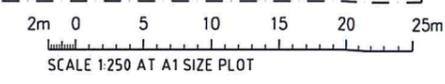
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Sheet No. 32 of 42

**FOR DEVELOPMENT APPLICATION**

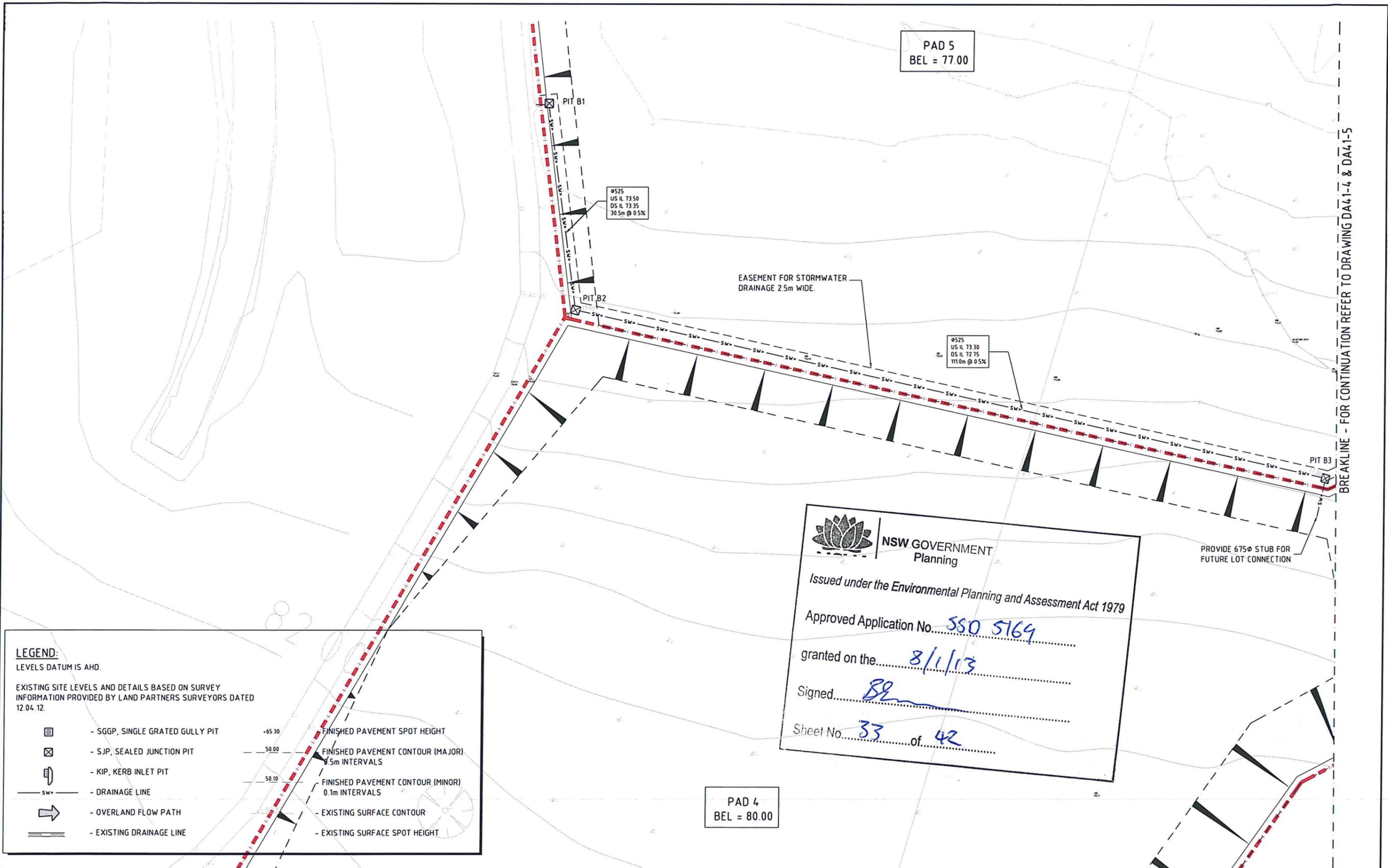
BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-6

CONCEPT STORMWATER PLAN - SHEET 10  
SCALE 1:250



FOR DEVELOPMENT APPLICATION		08 06 12	B	 <b>Western Sydney Parklands Trust</b> WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT <b>HORSLEY DV. BUSINESS PARK</b> CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW		 <b>Costin Roe Consulting Pty Ltd.</b> Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7599 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©		DRAWING TITLE	
FOR INFORMATION ONLY		07 06 12	A		DESIGNED M.W. DRAWN M.C. DATE 02.04.12 CHECKED SIZE A1 SCALE AS SHOWN CAD REF: Co11492.00-DA41-10				DRAWING No <b>Co11492.00-DA41-10</b> ISSUE <b>B</b>	
AMENDMENTS		DATE	ISSUE		AMENDMENTS				DATE	

BREAKLINE - FOR CONTINUATION REFER TO DRAWING DA41-7



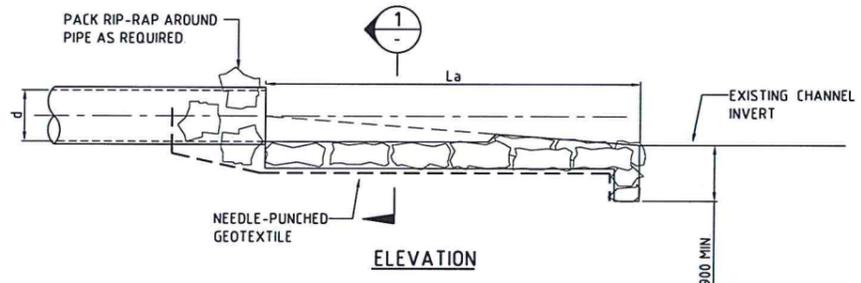
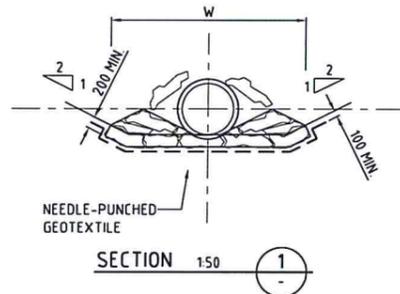
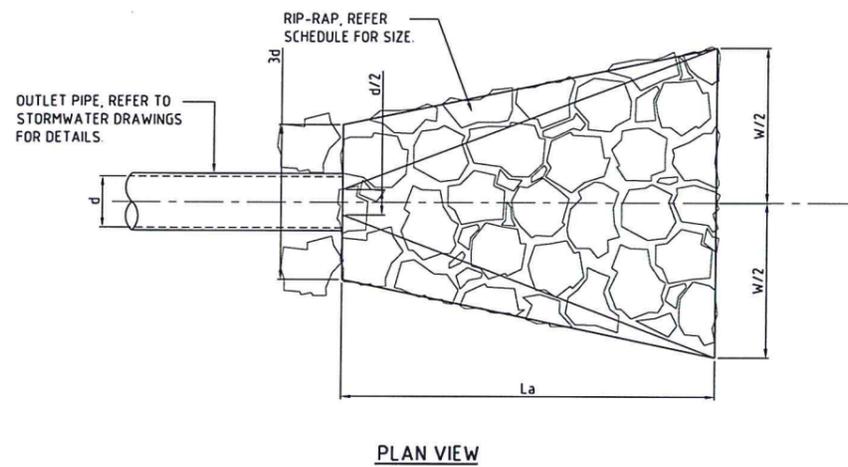
**FOR DEVELOPMENT APPLICATION**

CONCEPT STORMWATER PLAN - SHEET 11  
SCALE 1:250

DRG NUMBERS AMENDED AS PER DA40 29.06.12 A AMENDMENTS DATE ISSUE		CLIENT <b>Western Sydney Parklands Trust</b> WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT <b>HORSLEY DV. BUSINESS PARK</b> CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW	Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©		DRAWING TITLE <b>CONCEPT STORMWATER &amp; FINISHED LEVELS PLAN SHEET 11</b> DRAWING NO. Co114.92.00-DA41-11 ISSUE A
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Value in Engineering and Management





**DISSIPATER NOTES:**  
 1) PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).  
 2) RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK AS NOTED PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOTEXILE A4.4.  
 3) GAPS IN RIP-RAP TO BE PLANTED WITH NATIVE SEDGES & RUSHES.

**DISSIPATER SCHEDULE**

DISCHARGE POINT	d	La	W	W/2	d/2	RIP-RAP
OUTLET 1	1200	9000	2700	1350	1350	1000
OUTLET 2	1200	7000	2100	1050	1050	1000
OUTLET 3	750	3000	900	450	450	1000

**BIO-RETENTION NOTES:**  
 FILTER MEDIA TO BE LOAMY 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 (<0.05mm)	+3%
VERY FINE SAND (0.05-0.15mm)	5-30%
FINE SAND (0.15-0.25mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm)	40-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.4mm)	+3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:  
 a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5%(W/W).  
 b. PH TO BE BETWEEN 5.5 AND 7.5  
 c. 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 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER 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 TIME 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 UNDERLAIN 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 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

TABLE: RECIPE FOR AMELIORATING TOP 100mm OF BIORETENTION FILTER MEDIA

CONSTITUENT	QUANTITY (kg/m <sup>2</sup> OF FILTER AREA)
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
POTASSIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK 16:4:14	4
LIME	20

**STORMWATER OUTLET DISSIPATER**  
 SCALE 1:50

NSW GOVERNMENT Planning

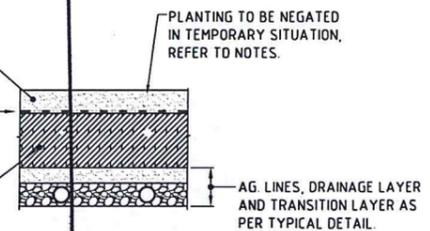
Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. SSD 5164

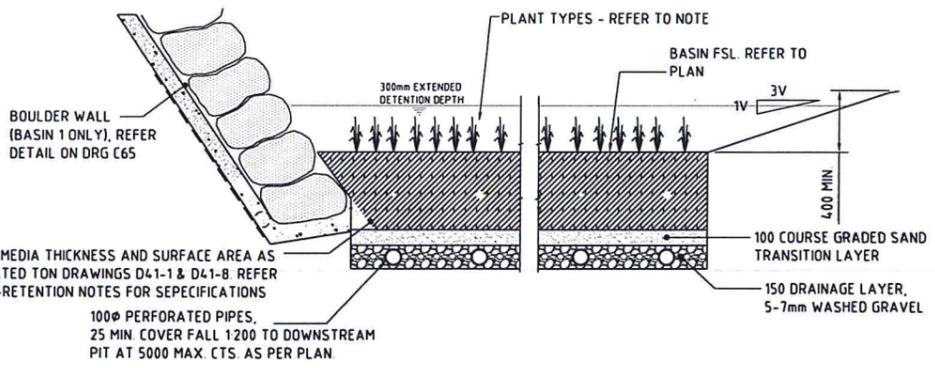
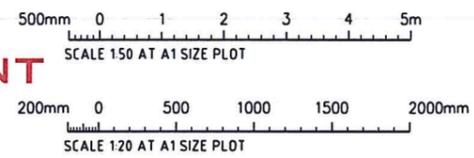
granted on the 8/11/13

Signed [Signature]

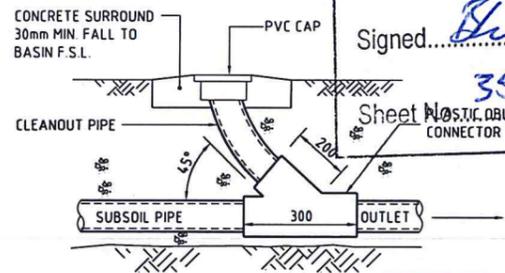
Sheet No. 35 of 42



**BIO-RETENTION CONSTRUCTION DETAIL**  
 SCALE 1:20  
 TEMPORARY DETAIL FOR USE DURING CONSTRUCTION & SITE STABILISATION PERIOD - REFER TO NOTES FOR IMPLEMENTATION PERIODS.



**TYPICAL BIO-RETENTION DETAIL**  
 SCALE 1:20



**CLEANOUT EYE ELEVATION**  
 SCALE 1:20  
 DENOTED C.E. ON PLAN

**FOR DEVELOPMENT APPLICATION**

REVISION SHOWN CLOUDED	DATE	ISSUE
FOR DEVELOPMENT APPLICATION	26 09 12	C
FOR REVIEW	08 06 12	B
	07 06 12	A

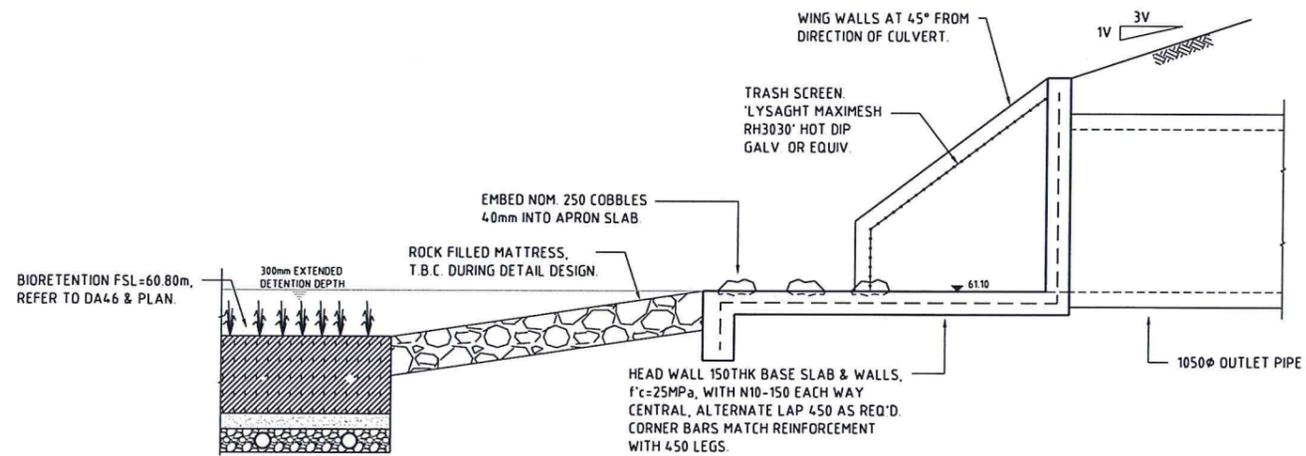
CLIENT  
**NSW Western Sydney Parklands Trust**  
 WESTERN SYDNEY PARKLANDS TRUST  
 LEVEL 4, 10 VALENTINE AVE  
 PARRAMATTA NSW 2150

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

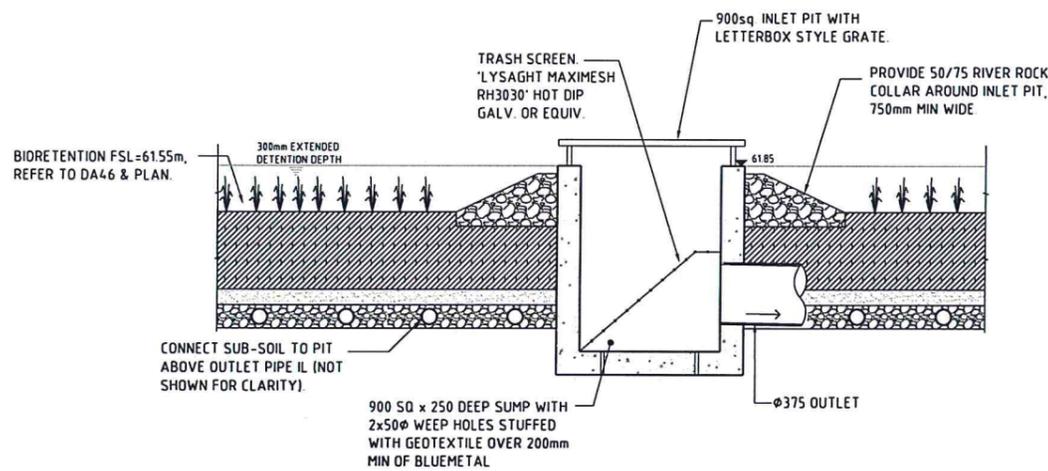
Costin Roe Consulting Pty Ltd.  
 Consulting Engineers  
 Level 1, 8 Windmill Street  
 Walsh Bay, Sydney NSW 2000  
 Tel: (02) 9251-7699 Fax: (02) 9241-3701  
 email: mail@costinroe.com.au ©

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DRAWING TITLE  
**CONCEPT STORMWATER DETAILS**  
 SHEET 2  
 DRAWING No. **Co114.92.00-DA 46** ISSUE **C**



**BASIN 2 OUTLET DETAIL**  
1:20



**BASIN 1 OUTLET DETAIL**  
1:20



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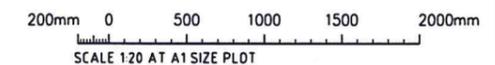
Approved Application No. 850 5169

granted on the 8/1/13

Signed [Signature]

Sheet No. 36 of 42

**FOR DEVELOPMENT APPLICATION**



AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
FOR DEVELOPMENT APPLICATION	26.09.12	A			

CLIENT  
**NSW Western Sydney Parklands Trust**  
WESTERN SYDNEY PARKLANDS TRUST  
LEVEL 4, 10 VALENTINE AVE  
PARRAMATTA NSW 2150

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

DESIGNED: [ ] DRAWN: [ ] DATE: 02.04.12  
CHECKED: [ ] SIZE: A1 SCALE: AS SHOWN  
CAD REF: C011492.00-DA 4.7

**Costin Roe Consulting Pty Ltd.**  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wahai Bay, Sydney NSW 2000  
Tel: (02) 9251-7699 Fax: (02) 9241-3731  
email: mail@costinroe.com.au ©

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DRAWING TITLE  
**CONCEPT STORMWATER DETAILS SHEET 3**

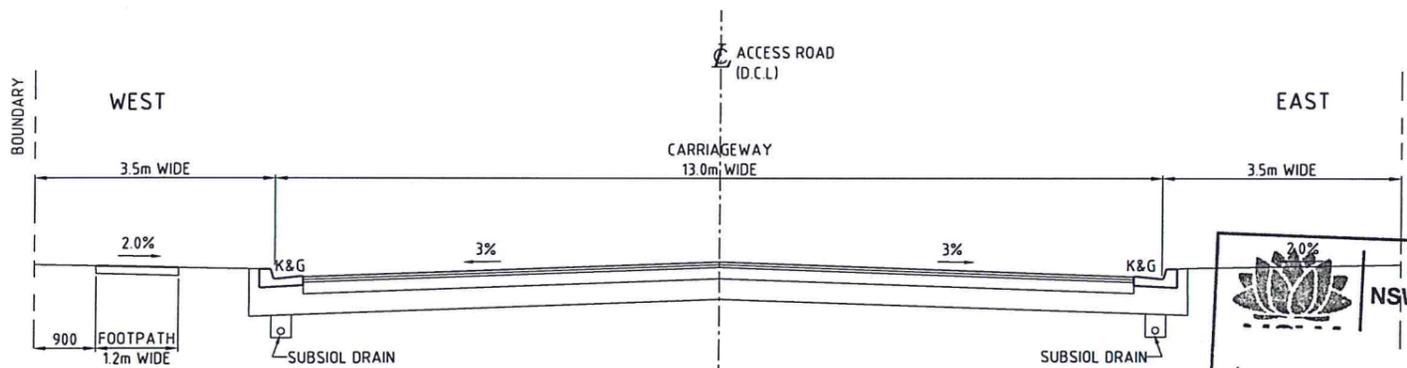
DRAWING No. **C011492.00-DA 4.7** ISSUE **A**

HORIZONTAL GEOMETRY  
VERTICAL GEOMETRY

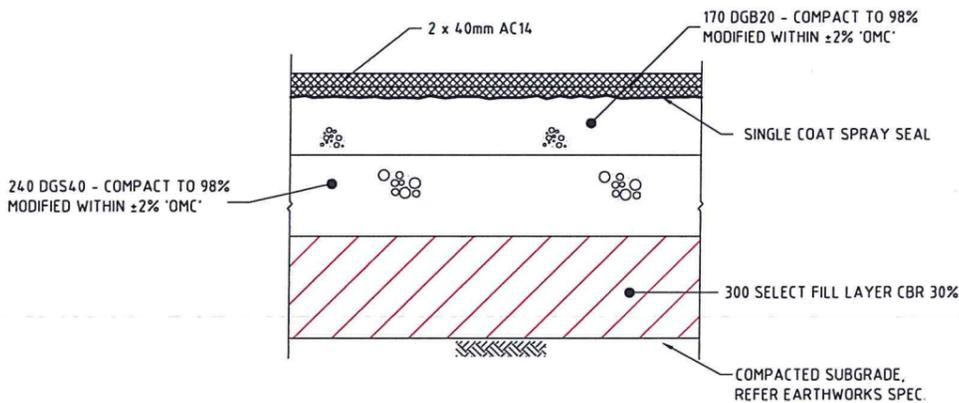
A.H.D. 45.000

CHAINAGE	DESIGN LEVEL	EXISTING LEVEL
0.00	65.585	65.585
5.38	65.614	65.599
10.76	65.643	65.628
16.14	65.672	65.657
21.52	65.701	65.686
26.90	65.730	65.715
32.28	65.759	65.744
37.66	65.788	65.773
43.04	65.817	65.802
48.42	65.846	65.831
53.80	65.875	65.860
59.18	65.904	65.889
64.56	65.933	65.918
69.94	65.962	65.947
75.32	65.991	65.976
80.70	66.020	66.005
86.08	66.049	66.034
91.46	66.078	66.063
96.84	66.107	66.092
102.22	66.136	66.121
107.60	66.165	66.150
112.98	66.194	66.179
118.36	66.223	66.208
123.74	66.252	66.237
129.12	66.281	66.266
134.50	66.310	66.295
139.88	66.339	66.324
145.26	66.368	66.353
150.64	66.397	66.382
156.02	66.426	66.411
161.40	66.455	66.440
166.78	66.484	66.469
172.16	66.513	66.498
177.54	66.542	66.527
182.92	66.571	66.556
188.30	66.600	66.585
193.68	66.629	66.614
199.06	66.658	66.643
204.44	66.687	66.672
209.82	66.716	66.701
215.20	66.745	66.730
220.58	66.774	66.759
225.96	66.803	66.788
231.34	66.832	66.817
236.72	66.861	66.846
242.10	66.890	66.875
247.48	66.919	66.904
252.86	66.948	66.933
258.24	66.977	66.962
263.62	67.006	66.991
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333.56	67.383	67.368
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344.32	67.441	67.426
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355.08	67.499	67.484
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371.22	67.586	67.571
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387.36	67.673	67.658
392.74	67.702	67.687
398.12	67.731	67.716
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408.88	67.789	67.774
414.26	67.818	67.803
419.64	67.847	67.832
425.02	67.876	67.861
430.40	67.905	67.890
435.78	67.934	67.919
441.16	67.963	67.948
446.54	67.992	67.977
451.92	68.021	68.006
457.30	68.050	68.035
462.68	68.079	68.064
468.06	68.108	68.093
473.44	68.137	68.122
478.82	68.166	68.151
484.20	68.195	68.180
489.58	68.224	68.209
494.96	68.253	68.238
500.34	68.282	68.267
505.72	68.311	68.296
511.10	68.340	68.325
516.48	68.369	68.354
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527.24	68.427	68.412
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774.72	69.761	69.746
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785.48	69.819	69.804
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968.60	70.805	70.790
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995.60	70.950	70.935
1000.00	70.979	70.964

LONGSECTION - ACCESS ROAD  
SCALE 1:1000 HORIZONTAL.  
SCALE 1:500 VERTICAL.



TYPICAL CROSS SECTION - ACCESS ROAD  
SCALE 1:50



ACCESS ROAD PAVEMENT DETAIL  
SCALE 1:10

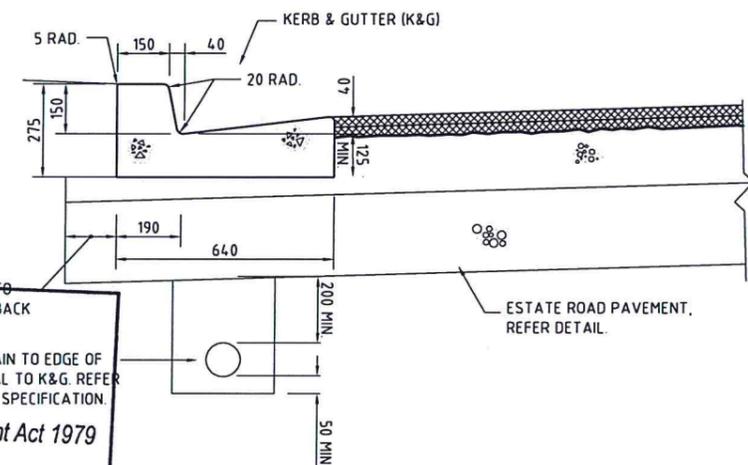
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DESIGN CBR VALUE OF 3%



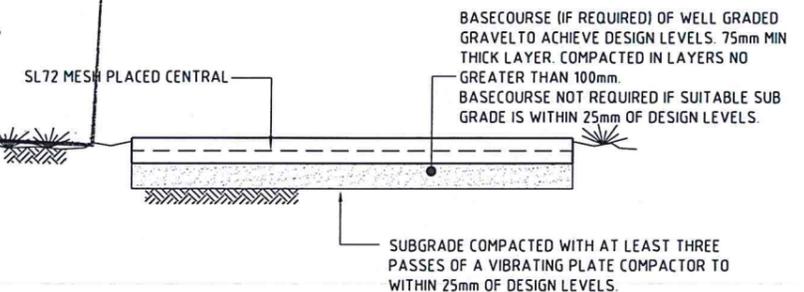
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NOTE: PROVIDE SAWCUT JOINTS AT 3.0M MAX. CTRS.

EXPANSION JOINT SCALE 1:10  
NOTE: PROVIDE EXPANSION JOINTS AT 9.0M MAX. CTRS.

PEDESTRIAN SLAB JOINTING DETAILS



KERB & GUTTER (K&G) & SUBSOIL DETAIL  
SCALE 1:10



TYPICAL FOOTPATH CROSS SECTION  
SCALE 1:10



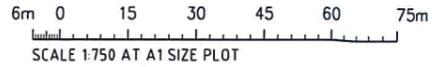
**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION	08.06.12	B	<p>Western Sydney Parklands Trust WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150</p>	PROJECT	HORSLEY DV. BUSINESS PARK CNR THE HORSELY DV & COWPASTURE RD WETHERILL PARK, NSW	<p>Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©</p>		DRAWING TITLE	ACCESS ROAD SECTIONS AND DETAILS														
FOR REVIEW	07.06.12	A		CLIENT	WESTERN SYDNEY PARKLANDS TRUST			DESIGNED	MW	DRAWN	MC	DATE	02.04.12	CHECKED	AT	SCALE	AS SHOWN	CAD REF:	Co11492.00-DA 50	DRAWING No	Co11492.00-DA50	ISSUE	B
AMENDMENTS	DATE	ISSUE		AMENDMENTS	DATE			ISSUE	Value in Engineering and Management														




**NSW GOVERNMENT**  
 Planning  
 Issued under the Environmental Planning and Assessment Act 1979  
 Approved Application No. SSD 5169  
 granted on the 8/11/13  
 Signed [Signature]  
 Sheet No. 38 of 42

RETAINING WALL LAYOUT PLAN - SHEET 1  
 SCALE 1:750



**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION	08.06.12	A
AMENDMENTS	DATE	ISSUE


**Western Sydney Parklands Trust**  
 WESTERN SYDNEY PARKLANDS TRUST  
 LEVEL 4, 10 VALENTINE AVE  
 PARRAMATTA NSW 2150

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


Costin Roe Consulting Pty Ltd.  
 Consulting Engineers  
 Level 1, 8 Windmill Street  
 Walsh Bay, Sydney NSW 2000  
 Tel: (02) 9251-7699 Fax: (02) 9241-3731  
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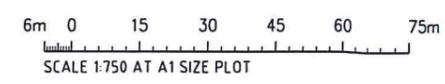
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**RETAINING WALL LAYOUT PLAN SHEET 1**  
 DRAWING No. **Co11492.00-DA61** ISSUE **A**

Value in Engineering and Management




**NSW GOVERNMENT**  
 Planning  
 Issued under the Environmental Planning and Assessment Act 1979  
 Approved Application No... SSD 5169  
 granted on the... 8/1/13  
 Signed... [Signature]  
 Sheet No... 39 of 42

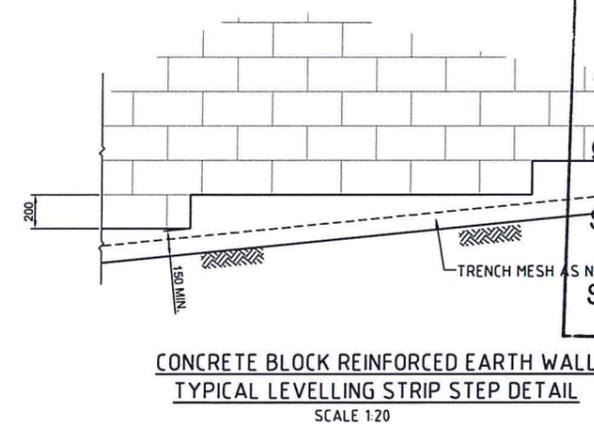
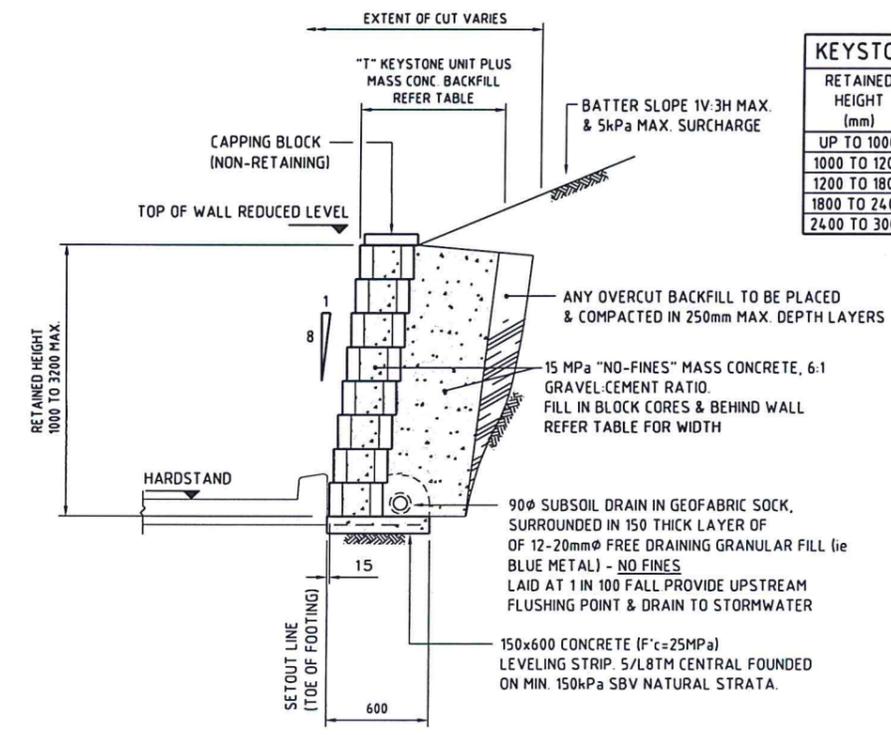
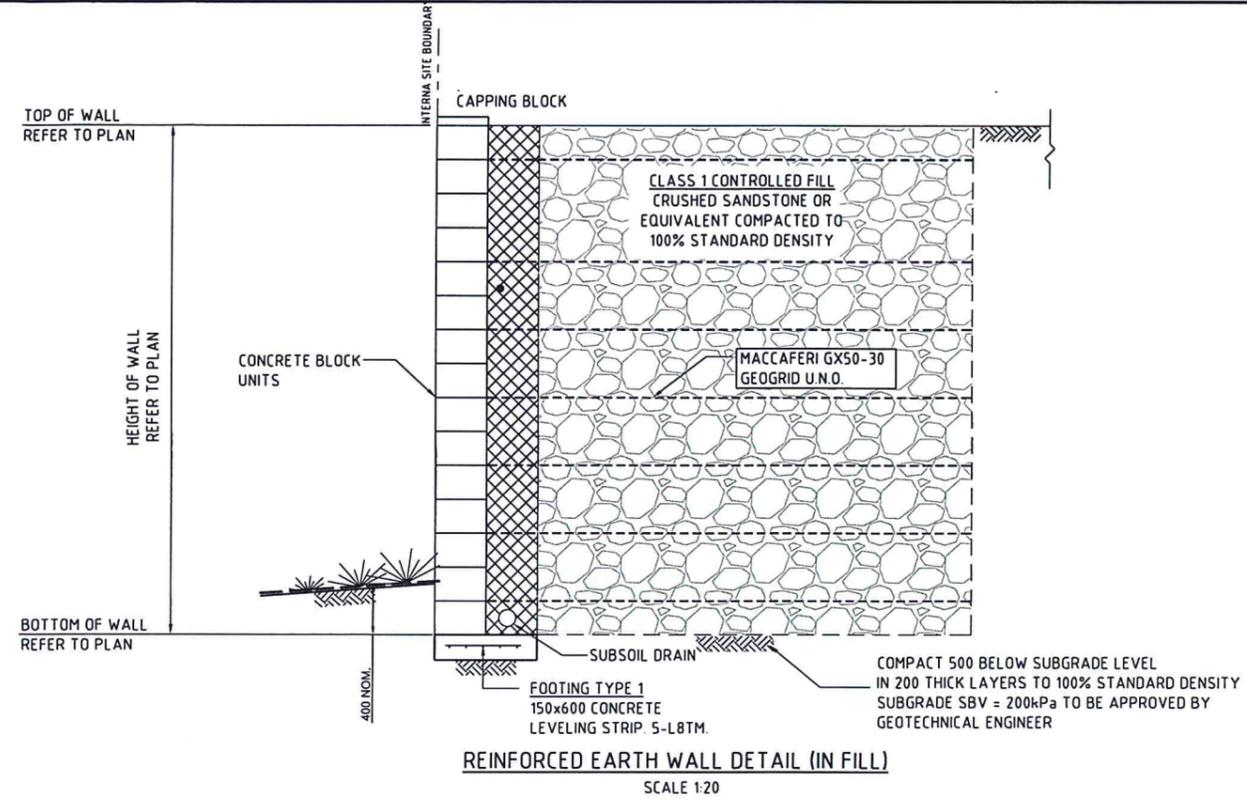
**RETAINING WALL LAYOUT PLAN - SHEET 2**  
 SCALE 1:750



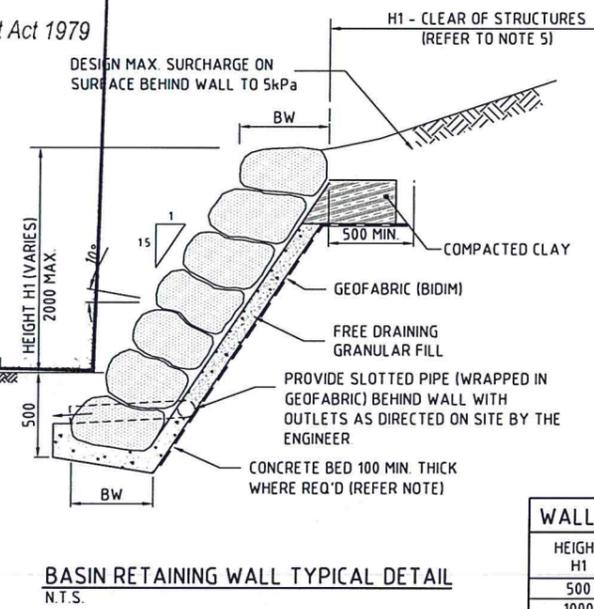
**FOR DEVELOPMENT APPLICATION**

FOR DEVELOPMENT APPLICATION AMENDMENTS		08.06.12 DATE	A ISSUE	AMENDMENTS DATE ISSUE	 <b>Western Sydney Parklands Trust</b> WESTERN SYDNEY PARKLANDS TRUST LEVEL 4, 10 VALENTINE AVE PARRAMATTA NSW 2150	PROJECT <b>HORSLEY DV. BUSINESS PARK</b> CNR THE HORSLEY DV & COWPASTURE RD WETHERILL PARK, NSW	 Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©		DRAWING TITLE <b>RETAINING WALL LAYOUT PLAN SHEET 2</b> DRAWING No <b>Co11492.00-DA62</b>	ISSUE <b>A</b>
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KEYSTONE WALL SPECIFICATIONS :	
RETAINED HEIGHT (mm)	OVERALL THICKNESS "T" (mm)
UP TO 1000	600 - NO FINES MASS. CONC. FILL
1000 TO 1200	700 - NO FINES MASS. CONC. FILL
1200 TO 1800	950 - NO FINES MASS. CONC. FILL
1800 TO 2400	1200 - NO FINES MASS. CONC. FILL
2400 TO 3000	1450 - NO FINES MASS. CONC. FILL



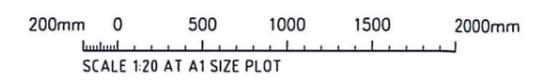
NSW GOVERNMENT Planning  
 Issued under the Environmental Planning and Assessment Act 1979  
 Approved Application No. SSD 5164  
 granted on the 8/1/13  
 Signed [Signature]  
 Sheet No. 40 of 42

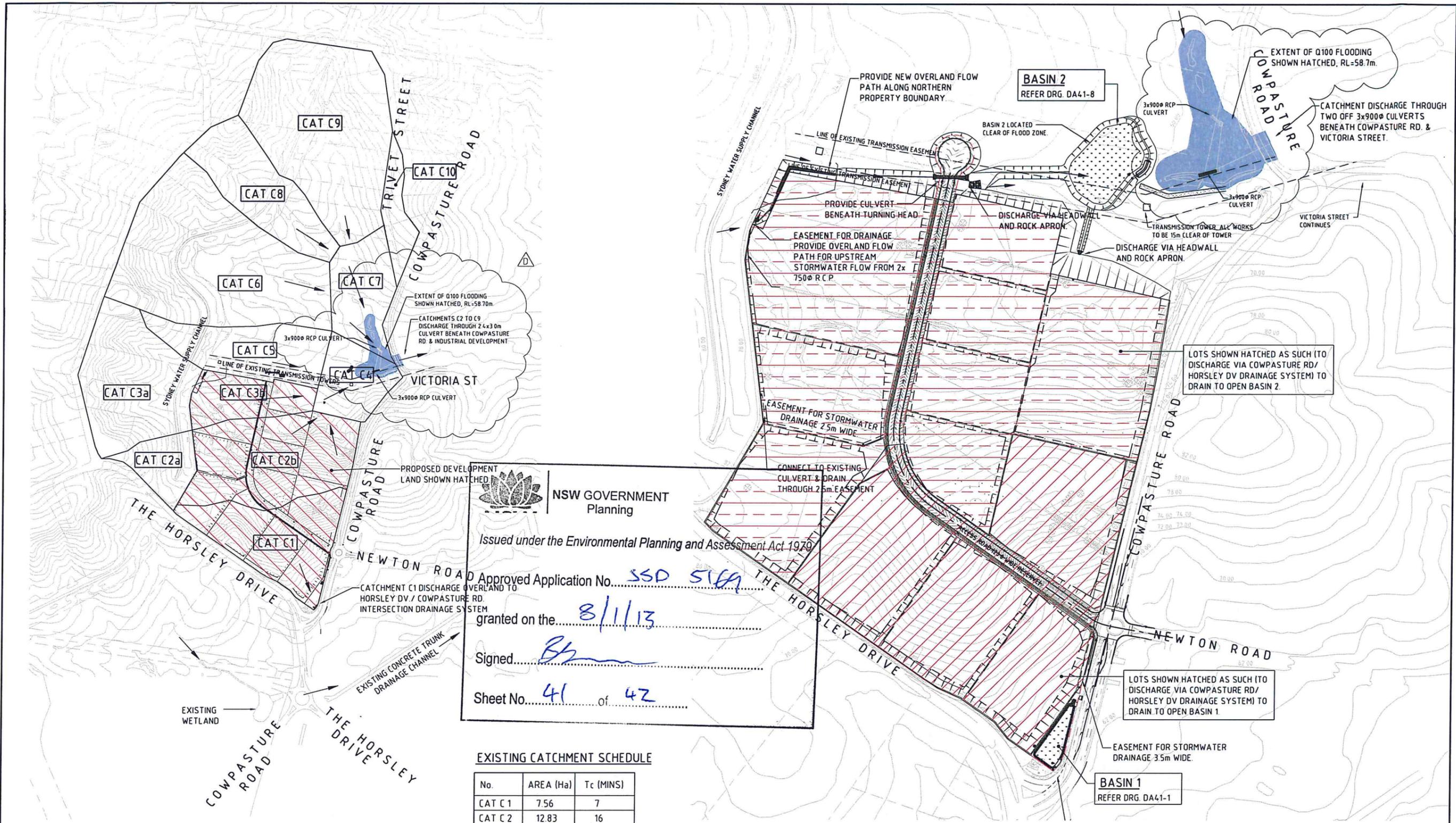


**BOULDER RETAINING WALL NOTES**  
 MINIMUM BEARING CAPACITY OF FOUNDATION TO BE 100kPa ASSUMING THE FOLLOWING:  
 - CLAY FOUNDATION  $C_u=50kPa, \phi=0$   
 SLIDING STABILITY IS BASED ON THE FOLLOWING:  
 - FRICTION ANGLE OF BOULDER WALL: NOT LESS THAN  $40^\circ$   
 - EFFECTIVE FRICTION ANGLE OF SOIL SUBGRADE: NOT LESS THAN  $30^\circ$  FOR SOIL OR  $35^\circ$  FOR ROCK  
 SOIL AND ROCK DESIGN PARAMETERS SHALL BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF BOULDERS OR CONCRETE BED  
 BOULDERS TO BE A NOMINAL 750mm DIA (400mm DIA UP TO 800mm DIA) PLACED ON THEIR BROADEST BASE. BOULDERS TO BE PLACED IN AN INTERLOCKING ARRANGEMENT ON THE CONTACT SURFACES DIPPING TOWARDS BACK OF THE WALL AT  $10^\circ$  AND SHALL BE INSPECTED BY THE ENGINEER DURING CONSTRUCTION  
 DENSITY OF INDIVIDUAL BOULDERS SHALL BE MINIMUM 2.5 TONNES/m<sup>3</sup>  
 FOR WALLS ABOVE 1000mm IN HEIGHT, THE FIRST LAYER OF BOULDERS ARE TO SET IN A BED OF M15 CONCRETE AND THE JOINTS BETWEEN SHALL BE FILLED WITH CONCRETE TO A LEVEL EQUAL TO THE SURFACE LEVEL OF THE TOE OF THE WALL  
 NO STRUCTURE TO BE BUILT WITHIN H1 FROM THE BACK OF THE TOP OF THE WALL (WHERE H1=HEIGHT OF WALL), UNLESS THE STRUCTURE IS FOUNDED ON ROCK WITH  $SBV=150kPa$   
 CONSTRUCTION METHODS AND SEQUENCE TO ENSURE THAT DESIGN MAX SURCHARGE OF 5kPa IS NOT EXCEEDED  
 CONSTRUCTION TO BE IN ACCORDANCE WITH AS 4678 2002

WALL DIMENSIONS	
HEIGHT H1	BW
500	500
1000	500
1500	500
2000	750

**FOR DEVELOPMENT APPLICATION**





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 Sheet No. 41 of 42

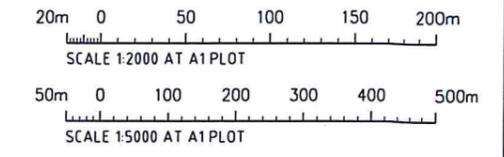
EXISTING CATCHMENT SCHEDULE

No.	AREA (Ha)	Tc (MINS)
CAT C 1	7.56	7
CAT C 2	12.83	16
CAT C 3	13.23	14
CAT C 4	3.72	12
CAT C 5	6.18	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

STORMWATER MANAGEMENT PLAN  
 1:2000



**FOR DEVELOPMENT APPLICATION**

AMENDMENTS	DATE	ISSUE
FLOOD LEVEL ADJUSTED	10/09/12	D
REVISION SHOWN CLOUDED	26/09/12	C
FOR DEVELOPMENT APPLICATION	08/06/12	B
FOR INFORMATION ONLY	07/06/12	A

CLIENT  
 Western Sydney Parklands Trust  
 WESTERN SYDNEY PARKLANDS TRUST  
 LEVEL 4, 10 VALENTINE AVE  
 PARRAMATTA NSW 2150

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

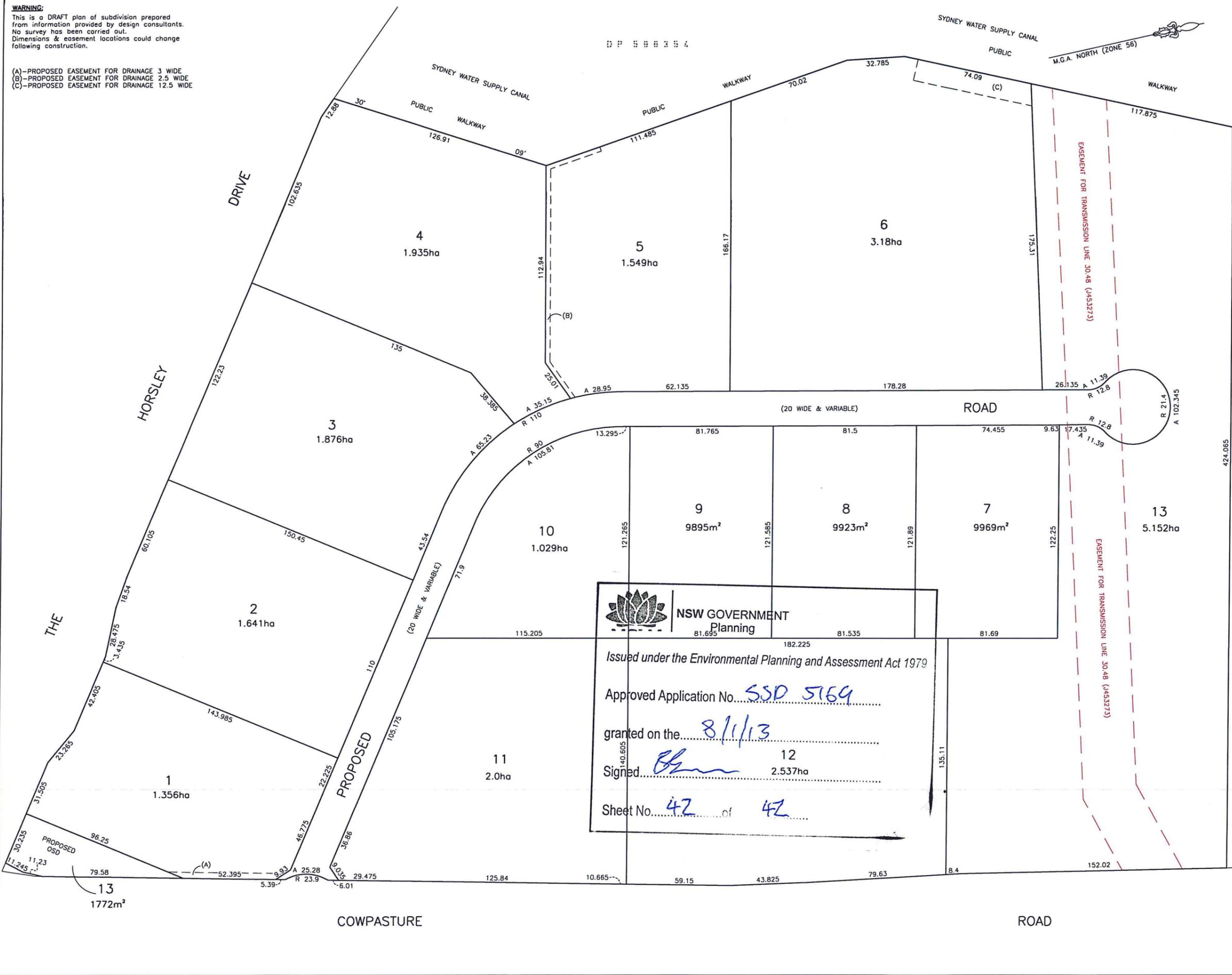
Costin Roe Consulting Pty Ltd.  
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 Level 1, 8 Windmill Street  
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**Costin Roe Consulting**  
 Value in Engineering and Management

DRAWING TITLE  
**STORMWATER CATCHMENT PLAN**  
 DRAWING No. **Co11492.00-DA 70** ISSUE **D**

**WARNING:**  
 This is a DRAFT plan of subdivision prepared from information provided by design consultants. No survey has been carried out. Dimensions & easement locations could change following construction.

(A)-PROPOSED EASEMENT FOR DRAINAGE 3 WIDE  
 (B)-PROPOSED EASEMENT FOR DRAINAGE 2.5 WIDE  
 (C)-PROPOSED EASEMENT FOR DRAINAGE 12.5 WIDE



CLIENT  
**WESTERN SYDNEY  
 PARKLANDS TRUST**

PROJECT  
**PLAN OF PROPOSED SUBDIVISION OF  
 LOT C IN DP 103755, LOTS 28B, 30, 30A  
 & 30 B IN DP 13961, LOTS 1, 2, 3, 4 & 5 IN  
 DP 1098128, LOT 100 IN DP 879680,  
 LOT 10 IN DP 879209, LOT 1 IN  
 DP 1036933, LOTS 23, 24 & 25 IN DP 13961  
 & LOT 32 & 32 A IN DP 13961  
 CNR THE HORSLEY DRIVE &  
 COWPASTURE ROAD  
 HORSLEY PARK**

NOTES  
 The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey. Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate or no record has been made hereon. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

E	GKO	03/09/12	LOT 13 AMENDED
D	LJMc	08/06/12	EASEMENT B AMENDED
C	LJMc	08/06/12	LOT 4 FRONTAGE AMENDED
B	LJMc	08/06/12	LOT 4 AMENDED & E'MENT DETAIL
A	GKO	08/06/12	DRAFT ISSUED FOR COMMENT

PPP/CF LPL DD/MM/YY COMMENT

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 Signed [Signature] 12  
 2.537ha  
 Sheet No. 42 of 42

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.



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 www.landpartners.com.au

HEIGHT DATUM	N/A	LOCAL AUTHORITY	FAIRFIELD COUNCIL
HEIGHT ORIGIN	N/A	SCALE	1:1000 (A1)
MERIDIAN	56	CONTOUR INTERVAL	N/A
CO-ORD SYSTEM	N/A	SURVEYOR	GKO
DATE OF SURVEY	??/??/12	DATE	07/06/12
DCAD FILE	73101	CHECKED	GKO
AUTOCAD FILE	73101	APPROVED	GKO
ARCHIVE FILE	73101	DATE	08/06/12

PLAN NUMBER  
**SY073101.000**