

DRAWN: S.FORBES. DESIGNED: S.WILSON. JOB MANAGER: S.WILSON. VERIFIER: A.BROWN.

ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE
1	PRELIMINARY ISSUE			28.05.10
A	ISSUED FOR DA APPROVAL			02.06.10
B	LAYOUT AMENDED			07.10.10
C	REISSUED FOR DA			17.12.10
D	REISSUED FOR DA			20.12.10

CLIENT	Ken Delforce
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.

ARCHITECT	<b>EJE</b> ARCHITECTURE
412-414 King Street Newcastle West NSW 2200 PH (02) 4929 2353 FAX (02) 4928 3089	

	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.
PLANS 1:250	0 2.5 5 7.5 10 12.5m

<b>NORTHROP</b> Bringing people, ideas & engineering together	Newcastle 323 Charlestown Road, Charlestown, NSW 2290 Email newcastle@northrop.com.au	Ph (02) 4943 1777 Fax (02) 4943 1677 ABN 81 094 433 100	P.O. Box 180 Charlestown, NSW 2290
--	--	---	---------------------------------------

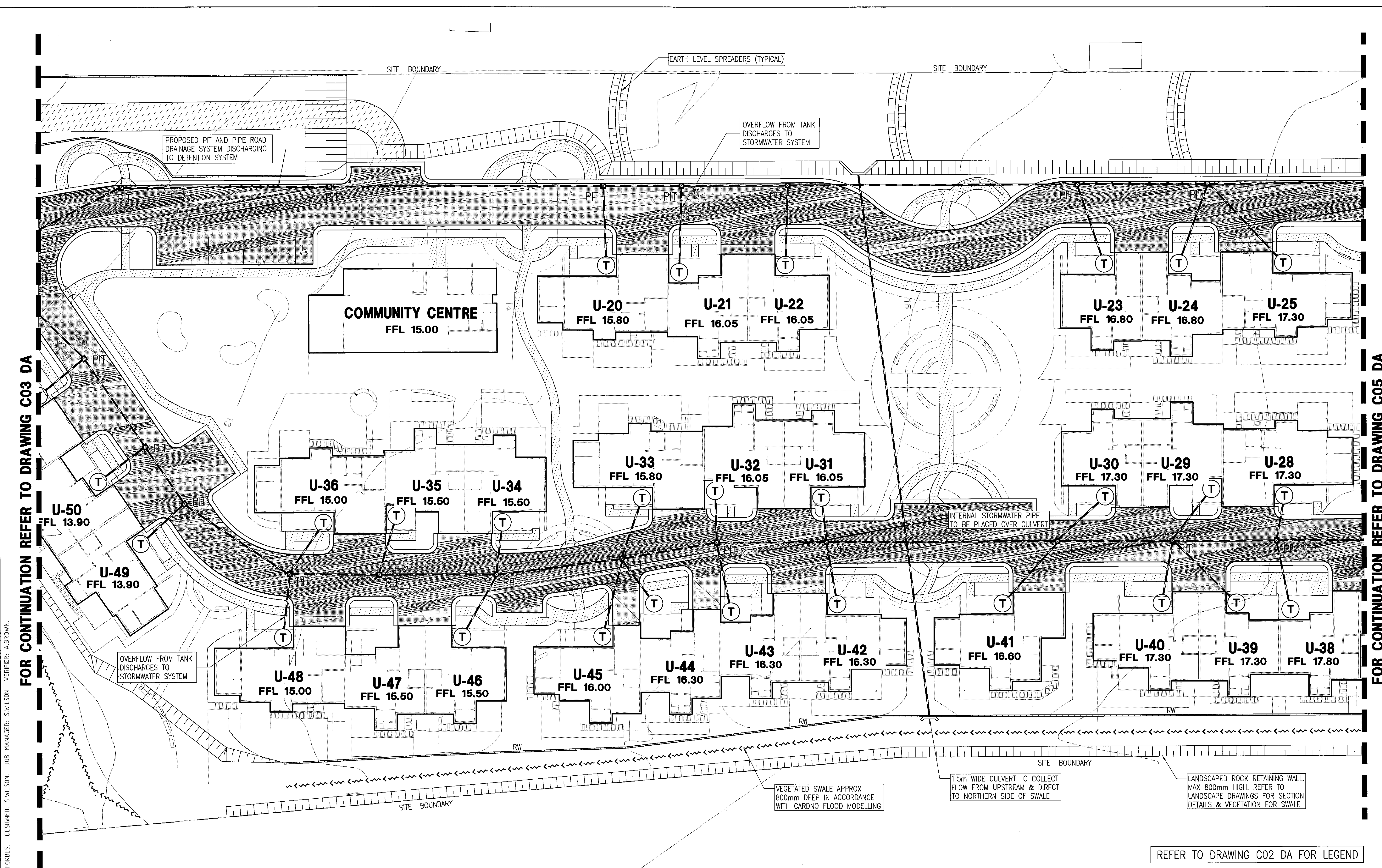
PROJECT	<b>KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.</b>
---------	---

DRAWING TITLE	<b>CONCEPT STORMWATER &amp; LEVELS PART PLAN SHEET 1 OF 3</b>
---------------	---

JOB NUMBER	<b>NL100073</b>
DRAWING NUMBER	<b>C03 DA</b>
ISSUE	<b>D</b>
DRAWING SHEET SIZE	A1

**APPROVAL**








FOR CONTINUATION REFER TO DRAWING C03 DA

FOR CONTINUATION REFER TO DRAWING C05 DA

REFER TO DRAWING C02 DA FOR LEGEND

APPROVAL

ISSUE		AMENDMENT	VERIFIED	APPROVED	DATE	CLIENT	ARCHITECT	PLANS		PROJECT		DRAWING TITLE	JOB NUMBER
1	PRELIMINARY ISSUE				28.05.10	Ken Delforce	 412-414 King Street Newcastle West NSW 2300 PH (02) 4929 2553 FAX (02) 4928 3069	 ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.	0 2.5 5 7.5 10 12.5m	 Bringing people, ideas & engineering together Newcastle 323 Charlestown Road, Charlestown, NSW 2290 Ph (02) 4943 1777 Fax (02) 4943 1577 Email newcastle@northrop.com.au P.O. Box 180 Charlestown, NSW 2290 ABN 81 084 433 100	KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.	CONCEPT STORMWATER & LEVELS PART PLAN SHEET 2 OF 3	NL100073
A	ISSUED FOR DA APPROVAL				02.06.10								
B	LAYOUT AMENDED				07.10.10								
C	REISSUED FOR DA				17.12.10								
D	REISSUED FOR DA				20.12.10	DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.						
DRAWING SHEET SIZE =													



FOR CONTINUATION REFER TO DRAWING C04 DA

DRAWN: S.FORBES, DESIGNED: S.WILSON, JOB MANAGER: S.WILSON, VERIFIER: A.BROWN.

ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE
1	PRELIMINARY ISSUE			28.05.10
A	ISSUED FOR DA APPROVAL			02.06.10
B	LAYOUT AMENDED			07.10.10
C	REISSUED FOR DA			17.12.10
D	REISSUED FOR DA			20.12.10

CLIENT	Ken Delforce
ARCHITECT	<b>EJE</b> ARCHITECTURE 412-414 King Street Newcastle West NSW 2300 PH (02) 4920 2353 FAX (02) 4926 3069
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.

ARCHITECT	<b>EJE</b> ARCHITECTURE 412-414 King Street Newcastle West NSW 2300 PH (02) 4920 2353 FAX (02) 4926 3069
-----------	--

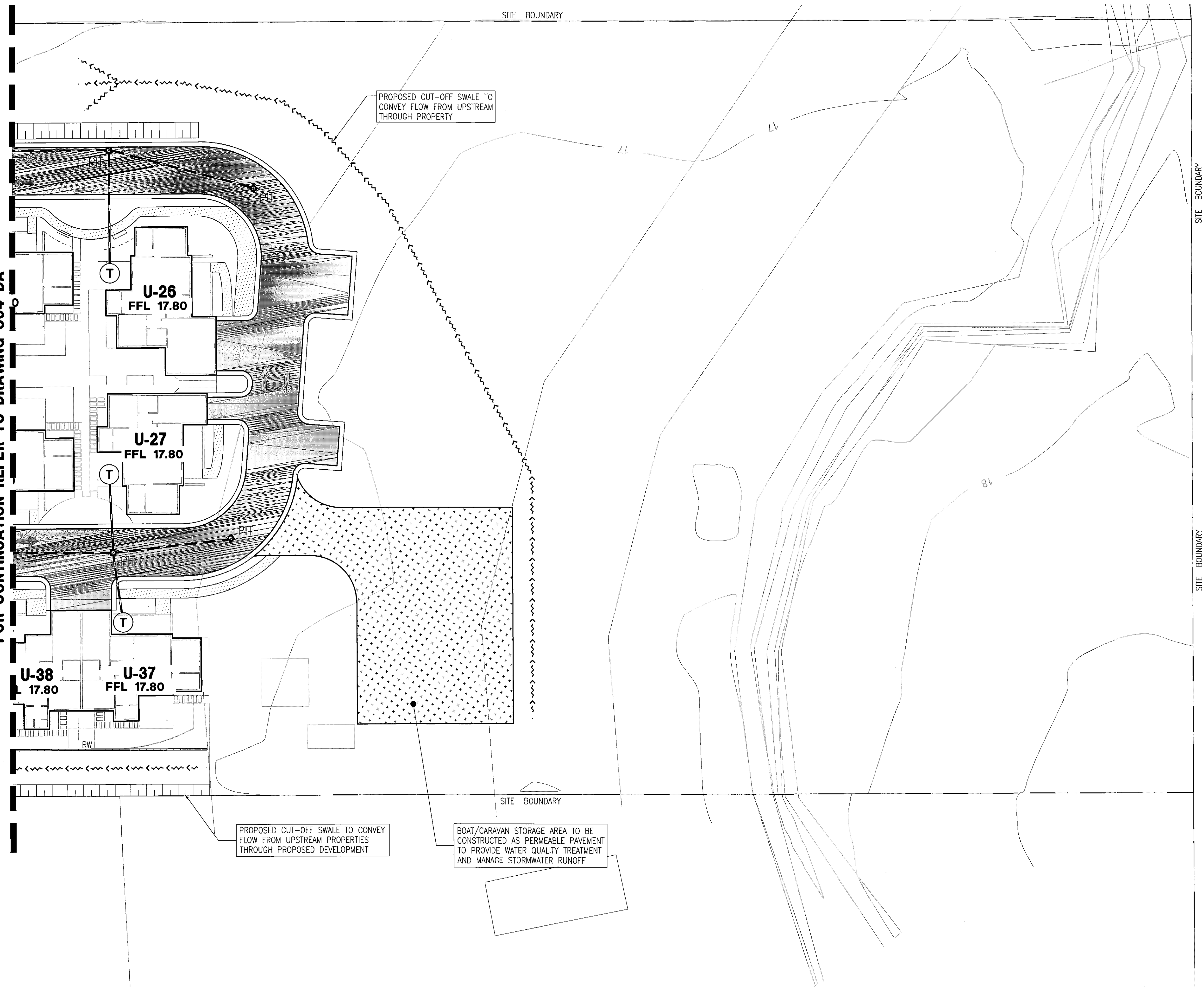
PLANS 1:250	0 2.5 5 7.5 10 12.5m
-------------	----------------------

<b>NORTHROP</b> Bringing people, ideas & engineering together Newcastle 323 Charlestown Road, Charlestown, NSW 2290 Email newcastle@northrop.com.au	Ph (02) 4943 1777 Fax (02) 4943 1577 P.O. Box 180 Charlestown, NSW 2290 ABN 81 084 433 100
--	--

PROJECT	<b>KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.</b>
---------	---

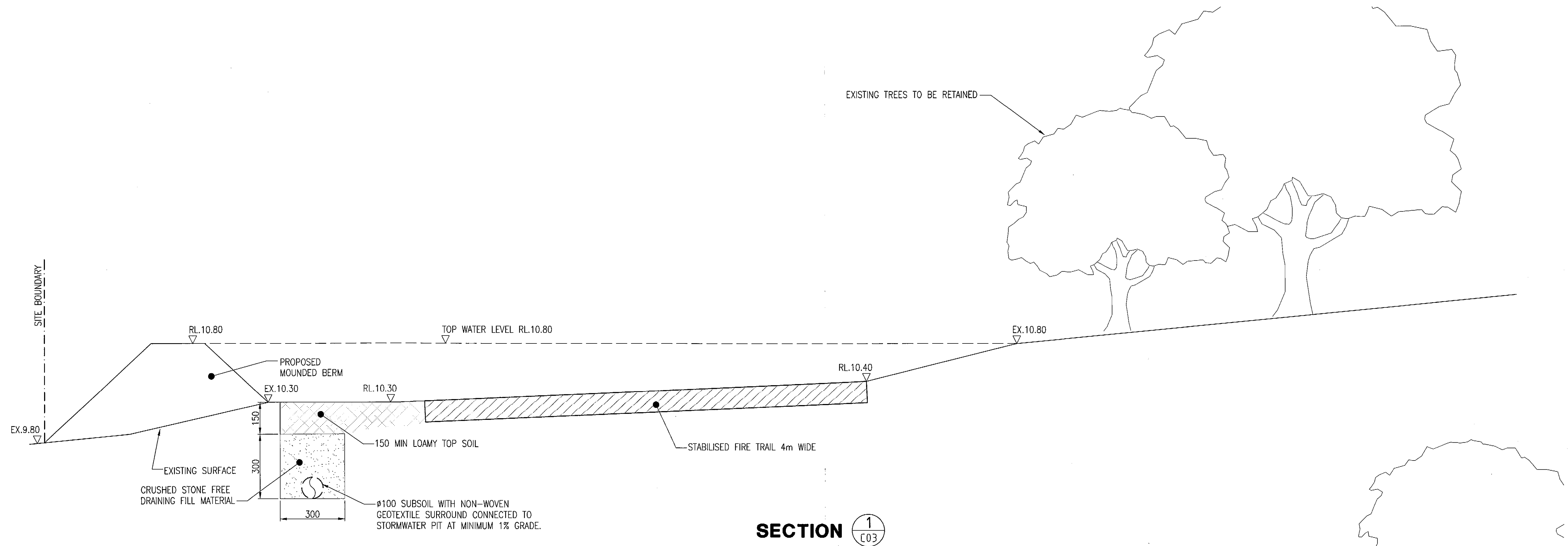
DRAWING TITLE	<b>CONCEPT STORMWATER &amp; LEVELS PART PLAN SHEET 3 OF 3</b>
---------------	---

JOB NUMBER	<b>NL100073</b>
DRAWING NUMBER	<b>C05 DA</b>
ISSUE	<b>D</b>
DRAWING SHEET SIZE	A1

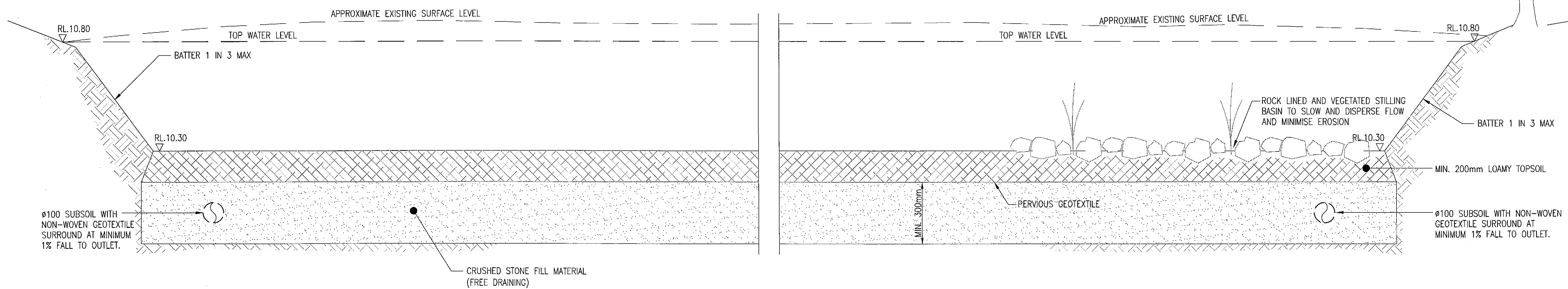


APPROVAL







SECTION 1  
C03



SECTION 2  
C03

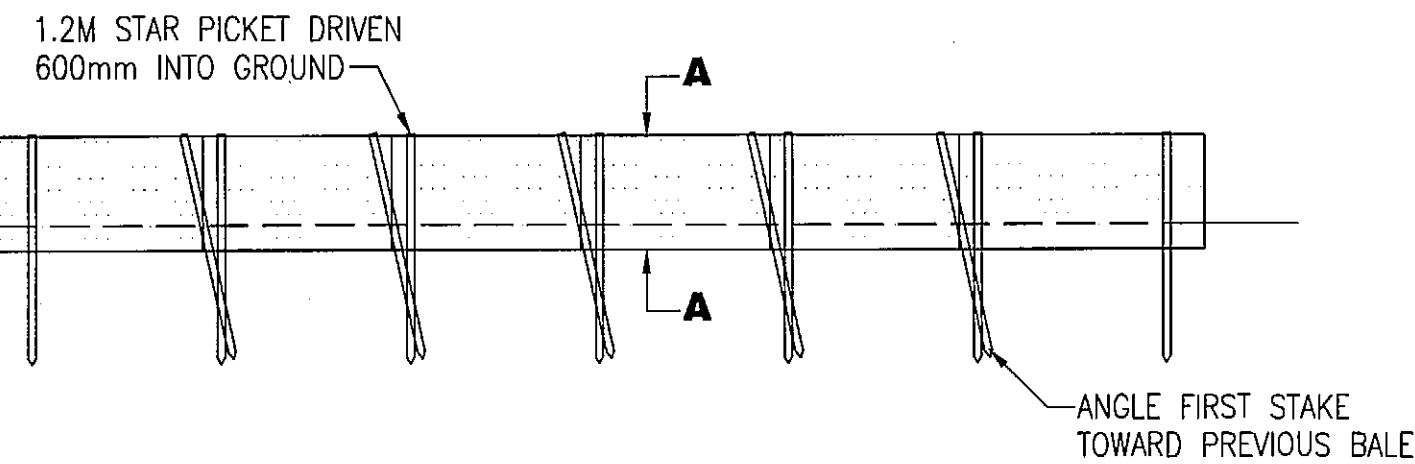
APPROVAL

DRAWN: S.FORBES, DESIGNED: S.WILSON, JOB MANAGER: S.WILSON, VERIFIER: A.BROWN.

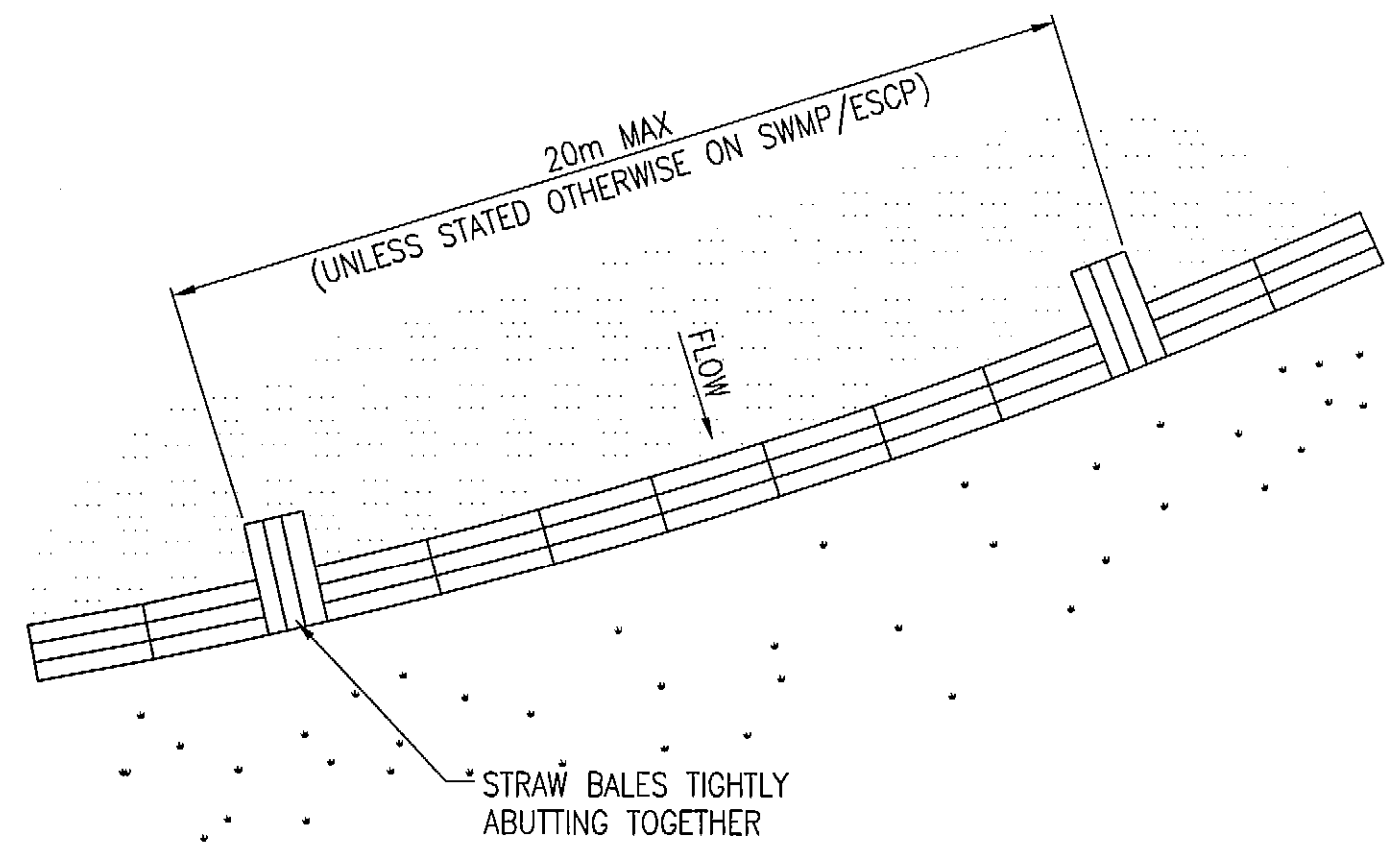
ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE	CLIENT	ARCHITECT				PROJECT	DRAWING TITLE	JOB NUMBER	
A	ISSUED FOR DA APPROVAL			02.06.10	Ken Delforce	 412-414 King Street Newcastle West NSW 2300 PH (02) 4928 2353 FAX (02) 4928 3069	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.	 Bringing people, ideas & engineering together Newcastle 323 Charlestown Road, Charlestown, NSW 2290 Ph (02) 4943 1777 Fax (02) 4943 1577 Email newcastle@northrop.com.au P.O. Box 180 Charlestown, NSW 2290 ABN 81 084 433 100	KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.	CIVIL DETAILS SHEET 1	NL100073		
B	LAYOUT AMENDED			07.10.10									
C	REISSUED FOR DA			17.12.10									
D	REISSUED FOR DA			20.12.10									
					DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.							
												DRAWING NUMBER	ISSUE
												C06 DA	D
												DRAWING SHEET SIZE = A1	



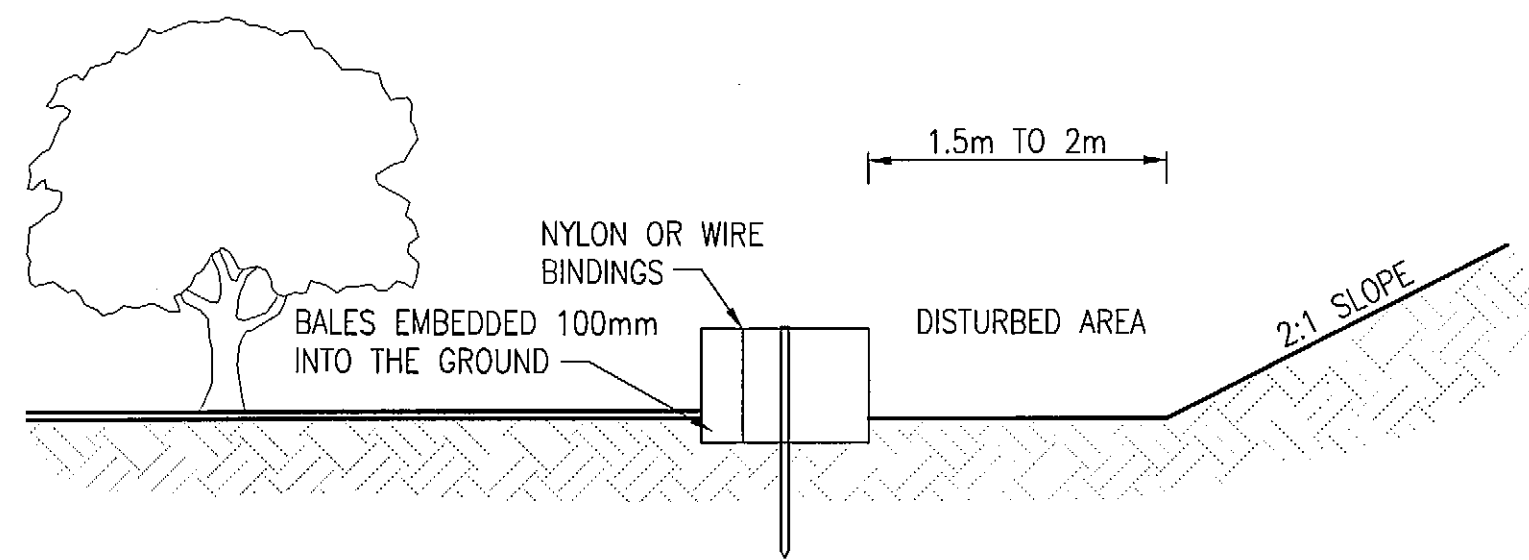
DRAWN: S.FORBES. DESIGNED: S.WILSON. JOB MANAGER: S.WILSON. VERIFIER: A.BROWN.



ELEVATION



PLAN

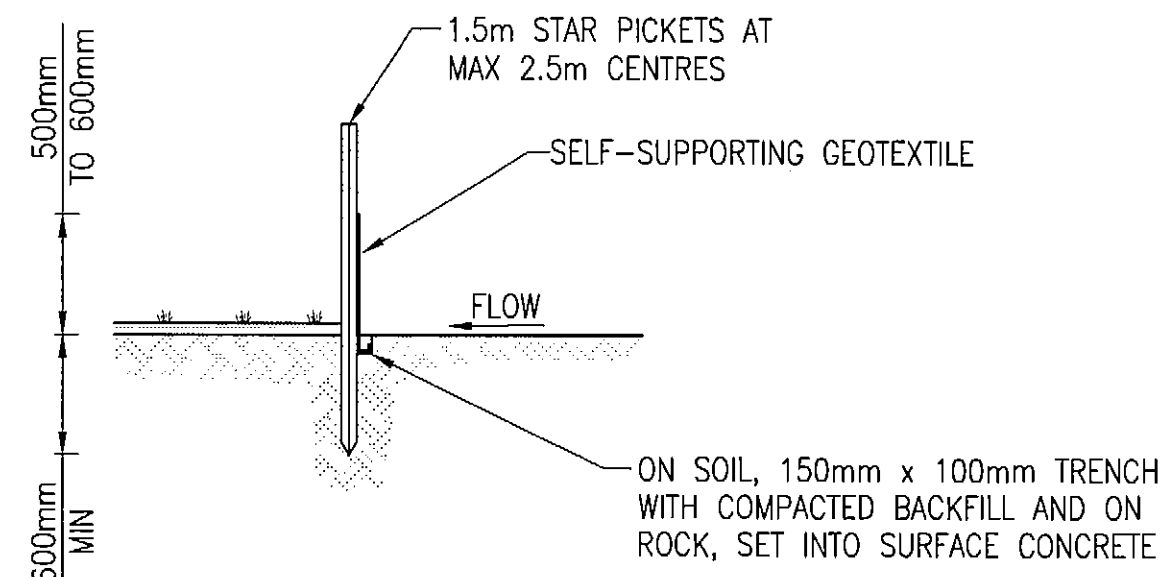


SECTION AA

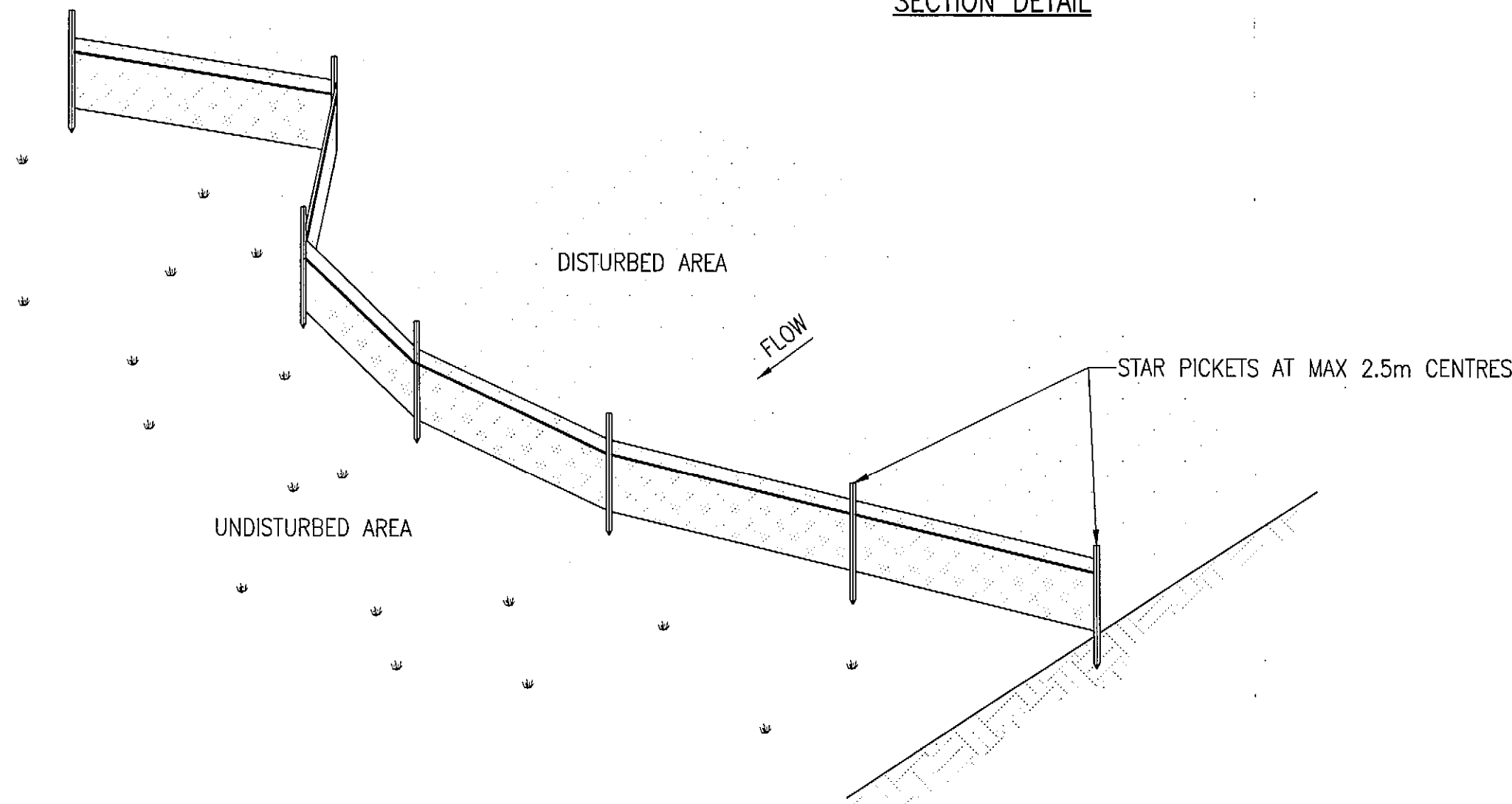
### STRAW BALE FILTER SD 6-7

#### NOTES

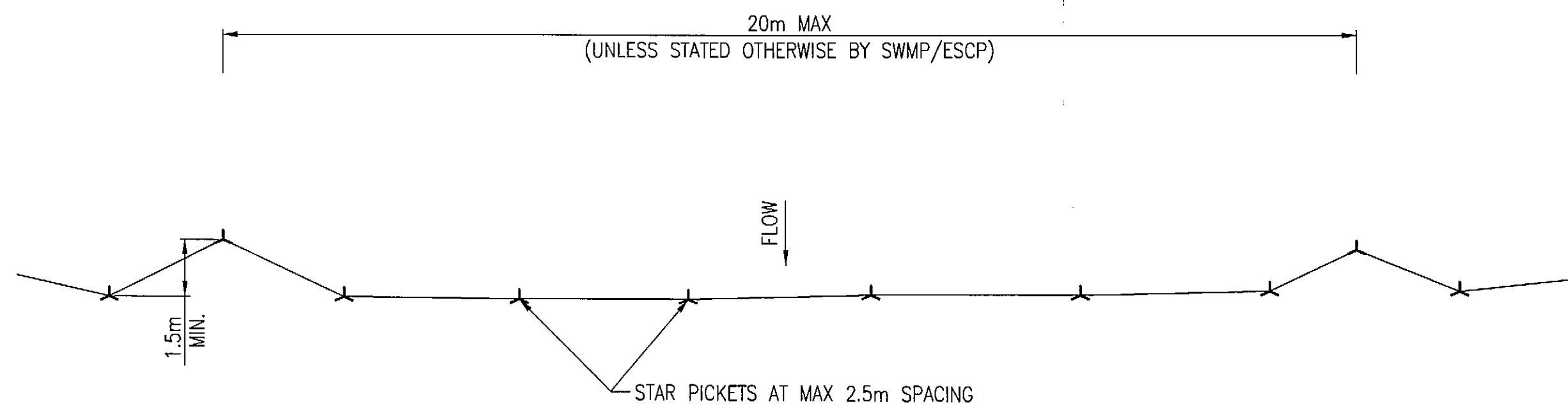
1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO THE GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBE EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1 TO 2m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.



SECTION DETAIL



ISOMETRIC VIEW

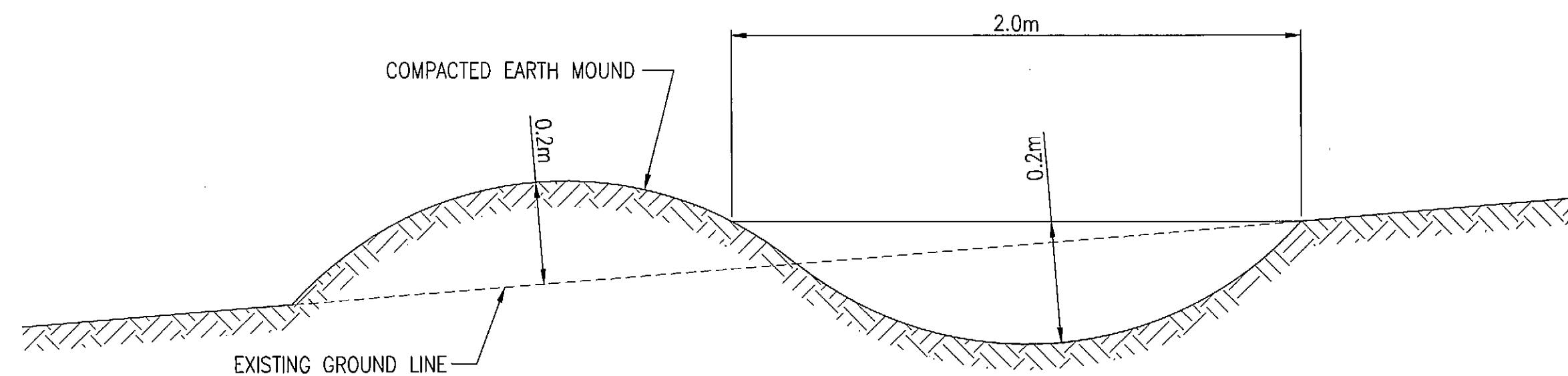


PLAN

### SEDIMENT FENCE SD 6-8

#### NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50L/SEC IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO THE GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH THE WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



TYPICAL CUT OFF SWALE DETAIL

APPROVAL

ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE
A	DETAILS ADDED			07.10.10
B	REISSUED FOR DA			17.12.10
C	REISSUED FOR DA			20.12.10

CLIENT	Ken Delforce
ARCHITECT	EJE ARCHITECTURE
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.

412-414 King Street Newcastle West NSW 2300 PH (02) 4929 2353 FAX (02) 4926 3069
--

ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.
---

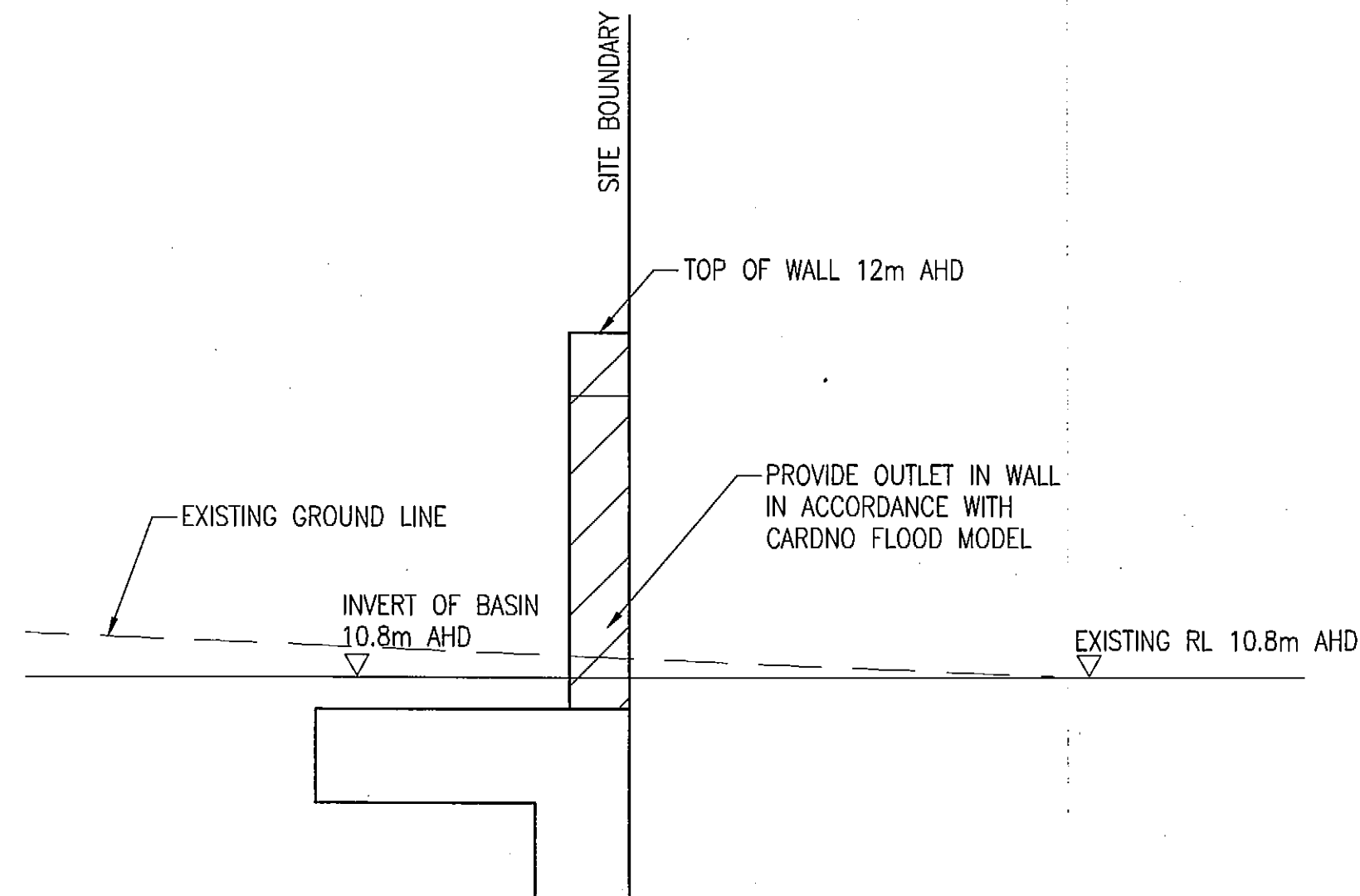
<b>NORTHROP</b> Bringing people, ideas & engineering together
Newcastle 323 Charlestown Road, Newcastle West NSW 2290 Ph (02) 4943 1777 Fax (02) 4943 1577 Email newcastle@northrop.com.au ABN 81 084 433 100

PROJECT	KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.
---------	---

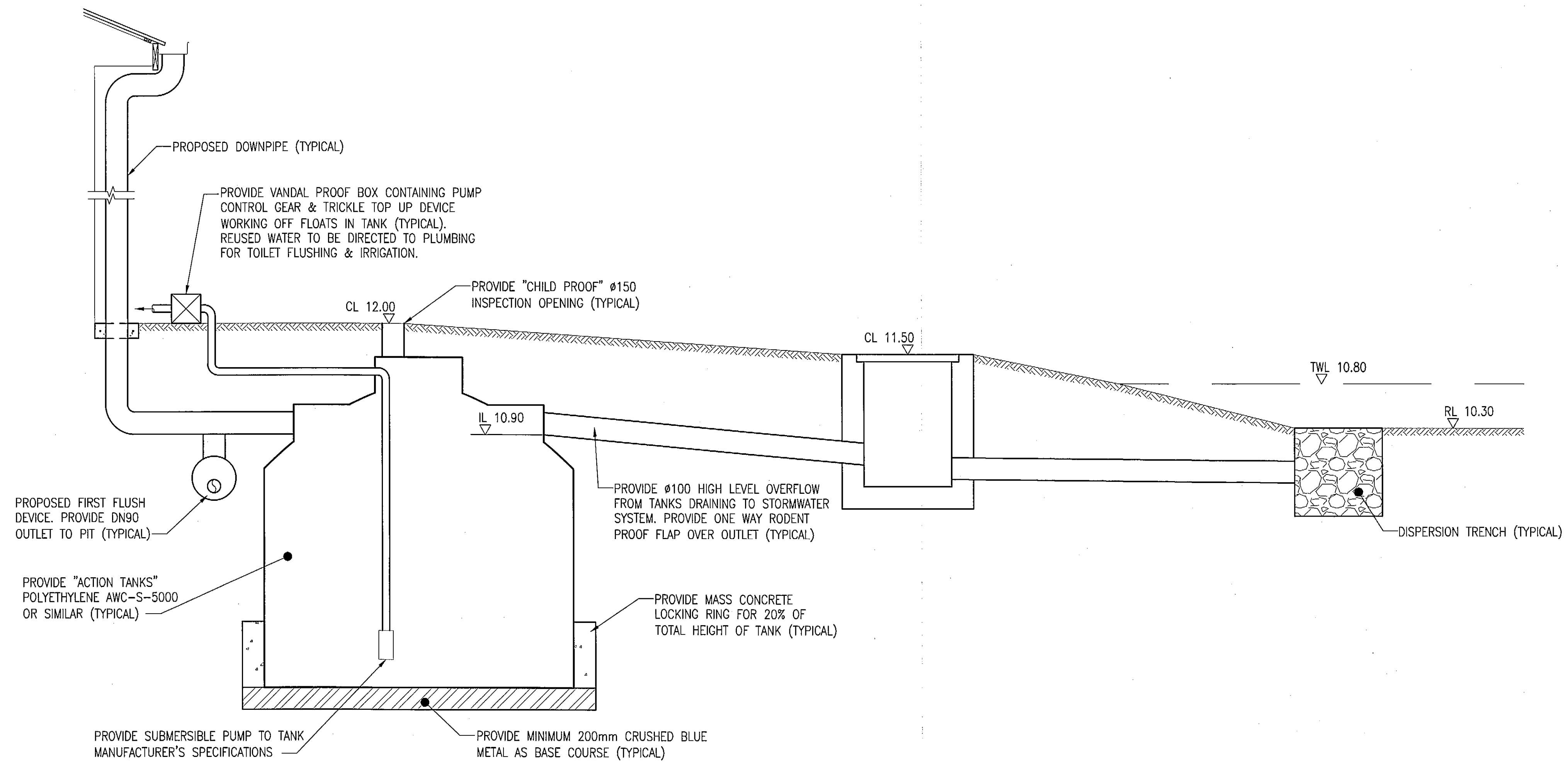
DRAWING TITLE	CIVIL DETAILS SHEET 2
---------------	-----------------------

JOB NUMBER	NL100073
DRAWING NUMBER	C07 DA
ISSUE	C
DRAWING SHEET SIZE	A1





**TYPICAL OUTLET FROM  
FLOODING RETENTION POND**



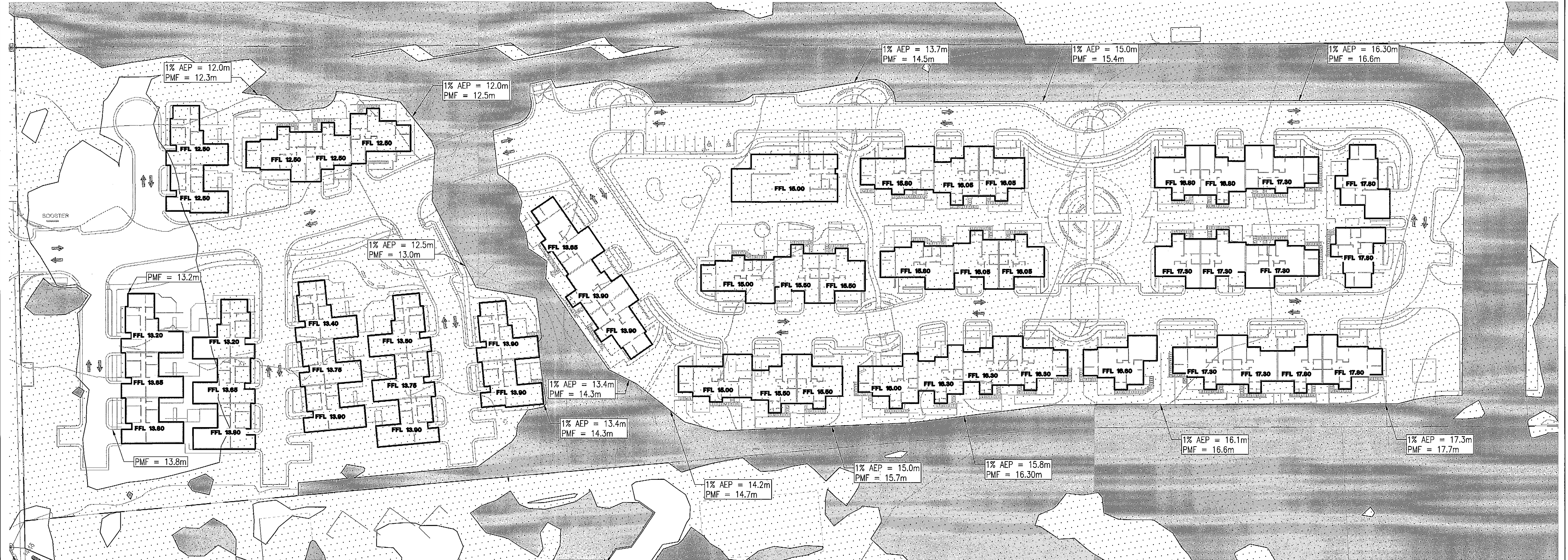
**TYPICAL UNDERGROUND REUSE  
TANK DETAIL (CRITICAL LOCATION)**

APPROVAL

DRAWN: S.FORBES, DESIGNED: S.WILSON, JOB MANAGER: S.WILSON, VERIFIER: A.BROWN.

ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE	CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.	PROJECT	DRAWING TITLE	JOB NUMBER
A	REISSUED FOR DA			17.12.10	Ken Delforce	<b>EJE</b> ARCHITECTURE 412-414 King Street Newcastle West NSW 2200 PH (02) 4929 2353 FAX (02) 4926 3069	<b>NORTHROP</b> Bringing people, ideas & engineering together Newcastle 323 Charlestown Road, Charlestown, NSW 2290 Ph (02) 4943 1777 Fax (02) 4943 1577 Email newcastle@northrop.com.au P.O. Box 180 Charlestown, NSW 2290 ABN 81 004 433 100	<b>KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.</b>	<b>CIVIL DETAILS SHEET 3</b>	<b>NL100073</b>
B	REISSUED FOR DA			20.12.10						
					DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.				DRAWING NUMBER <b>C08 DA</b>
										ISSUE <b>B</b>
										DRAWING SHEET SIZE = A1





## LEGEND

- DENOTES 100 YEAR FLOOD EXTENT WITH 0.05m DEPTH
- DENOTES PMF FLOOD LEVEL
- FFL 13.80** DENOTES PROPOSED FINISHED FLOOR LEVEL. FINISHED FLOOR LEVEL SET A MINIMUM 500mm ABOVE 1% AEP FLOOD EVENT

APPROVAL

ISSUE	AMENDMENT	VERIFIED	APPROVED	DATE
A	REISSUED FOR DA			17.12.10
B	REISSUED FOR DA			20.12.10

CLIENT	<b>Ken Delforce</b>
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.

ARCHITECT	<b>EJE</b> ARCHITECTURE
	412-414 King Street Newcastle West NSW 2200 PH (02) 4929 2353 FAX (02) 4926 3069

PLANS 1:500	0 5 10 15 20 25m
	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE MAKING ANY SHOP DRAWINGS OR COMMENCING ANY WORK.

# NORTHROP

Bringing people, ideas & engineering together

## Newcastle

323 Charlestown Road,  
Charlestown, NSW 2290

Ph (02) 4943 1777  
Fax (02) 4943 1577

P.O. Box 180  
Charlestown, NSW 2290

Email [newcastle@northrop.com.au](mailto:newcastle@northrop.com.au) ABN 61 094 433 100

PROJECT	<b>KENDEL PARK ENVIRONMENTAL VILLAGE Burton Road, Mount Hutton.</b>
---------	---

DRAWING TITLE	<b>FLOODING EXTENTS PLAN</b>
---------------	------------------------------

JOB NUMBER	<b>NL100073</b>
DRAWING NUMBER	<b>C09 DA</b>
ISSUE	<b>B</b>
DRAWING SHEET SIZE	A1

DRAWN: S.FORBES. DESIGNED: S.WILSON. JOB MANAGER: S.WILSON. VERIFIER: A.BROWN.