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REV	BY	DATE	DESCRIPTION	DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS
1	NS/SA	07-05-2009	DRAWING UPDATED	002	SETTING OUT CO-ORDINATES	008	PENSTOCK OUTFALL PIPELINE DETAILS
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED	003	EARTHWORKS SECTIONS & DETAILS	009	CATWALK DETAILS
3	NS/SA	22-07-2009	DUMP ALTERED TO SUIT LOADING BIN	004	DRAINAGE DETAILS	010	DRAINAGE PIPE DETAILS
				005	RETURN WATER DAM & SILT TRAP LAYOUT	011	DRAINAGE COLLECTOR TRENCH LONG SECTION & DETAILS
				006	RETURN WATER DAM & SILT TRAP DETAILS	012	RETURN WATER DAM DECANT SUMP DETAILS
				007	RETURN WATER DAM SPILLWAY & TEMPORARY RETURN WATER DAM DETAILS	013	FINAL PROFILE

ECMP
 Environmental, Civil & Mining Projects (Pty) Ltd
 Box 783697 Sandton 2146
 Tel. (011) 705 1111
 Fax. (011) 705 1908

CLIENT BADGER MINING & CONSULTING (PTY) LTD		BY N.S.	DATE MAR.09
TITLE MOOPLAATS COAL DISCARD DUMP GENERAL ARRANGEMENT		DRAWN S.A.	MAR.09
SCALE 1:1500		CHECKED	
DRAWING No. T994-001		REVISION 3	



SETTING OUT CO-ORDINATES		
OUTER TOE WALL		
POINT	Y+	X+
OTW1	89813.454	2947861.837
OTW2	90134.511	2947914.856
OTW3	90298.305	2948273.348
OTW4	90203.750	2948482.089
OTW5	90074.438	2948494.050
OTW6	90063.708	2948495.102
OTW7	89954.889	2948505.169
OTW8	89872.528	2948414.759
OTW9	89658.058	2948285.880
OTW10	89612.606	2948183.168
OTW11	89648.718	2947980.639
CATCHMENT PADDOCK WALL/TOPSOIL STOCKPILE		
POINT	Y+	X+
CPW1	89810.193	2947848.029
CPW2	90143.413	2947903.081
CPW3	90312.595	2948273.228
CPW4	90212.407	2948494.438
CPW5	90076.473	2948508.899
CPW6	90063.879	2948508.053
CPW7	89949.437	2948518.639
CPW8	89864.153	2948425.060
CPW9	89647.921	2948274.757
CPW10	89598.938	2948185.766
CPW11	89636.864	2947973.057
SLURRY POND 1		
POINT	Y+	X+
1SP1	89997.493	2948108.050
1SP2	90033.379	2948174.632
1SP3	89981.833	2948230.069
1SP4	89823.861	2948119.704
1SP5	89865.979	2948089.707
SLURRY POND 2		
POINT	Y+	X+
2SP1	90047.427	2948190.819
2SP2	90096.361	2948282.005
2SP3	90075.659	2948324.132
2SP4	90019.331	2948261.871
2SP5	89996.489	2948245.820
RETURN WATER DAM		
POINT	Y+	X+
RWD1	90091.005	2947800.889
RWD2	90112.569	2947848.840
RWD3	90107.196	2947878.359
RWD4	89952.772	2947853.847
RWD5	89959.938	2947810.470
RWD6	90012.843	2947787.955
SILT TRAP		
POINT	Y+	X+
ST1	89959.938	2947810.470
ST2	89952.772	2947853.847
ST3	89913.307	2947847.327
ST4	89916.330	2947829.029
TEMPORARY RETURN WATER DAM		
POINT	Y+	X+
TRWD1	89954.166	2947990.250
TRWD2	89959.888	2948014.591
TRWD3	89935.527	2948020.283
TRWD4	89929.825	2947995.952
PENSTOCK INTAKE		
POINT	Y+	X+
PS1	90023.546	2948242.429
PS2	90003.087	2948155.089
SPLITTER BOX		
POINT	Y+	X+
SB1	89934.705	2947858.121
DRAINAGE COLLECTOR SUMP		
POINT	Y+	X+
DCS1	89987.951	2948187.569
LINK DRAIN OUTLET		
POINT	Y+	X+
LD1	89986.613	2947938.727
DRAINAGE COLLECTOR TRENCH		
POINT	Y+	X+
DO1	90309.227	2948240.631
DO2	90226.164	2948057.479
DO3	90135.940	2947891.208
DO4	89994.419	2947867.823
DO5	89819.090	2947838.856
DO6	89636.472	2947960.396
DO7	89600.437	2948117.538
DO8	89671.696	2948303.989
DO9	89828.503	2948413.051
DO10	89808.345	2948489.130
DO11	90044.855	2948520.378
SLURRY POND 1 INNER TOE DRAIN		
POINT	Y+	X+
SP1TD1	90001.546	2948130.072
SP1TD2	89905.929	2948168.852
SLURRY POND 2 INNER TOE DRAIN		
POINT	Y+	X+
SP2TD1	90069.942	2948246.696
SP2TD2	90043.786	2948276.808

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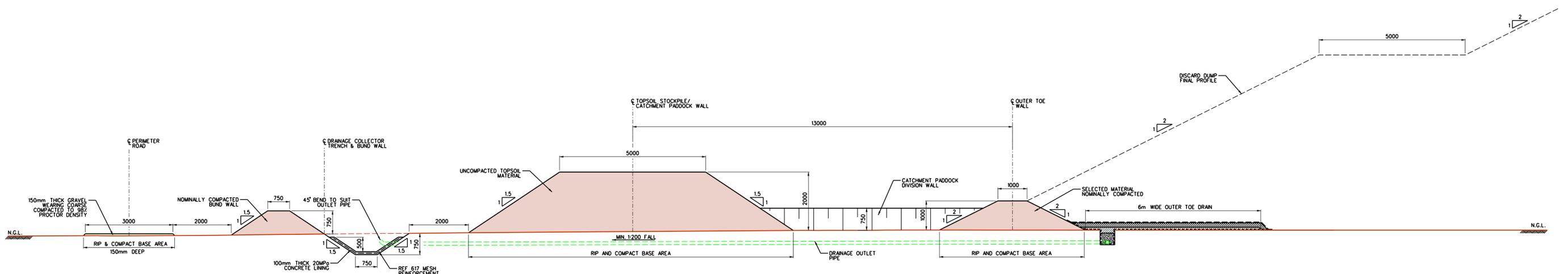
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REV	BY	DATE	DESCRIPTION
1	NS/SA	07-05-2009	DRAWING UPDATED
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED
3	NS/SA	22-07-2009	DUMP ALTERED TO SUIT LOADING BIN

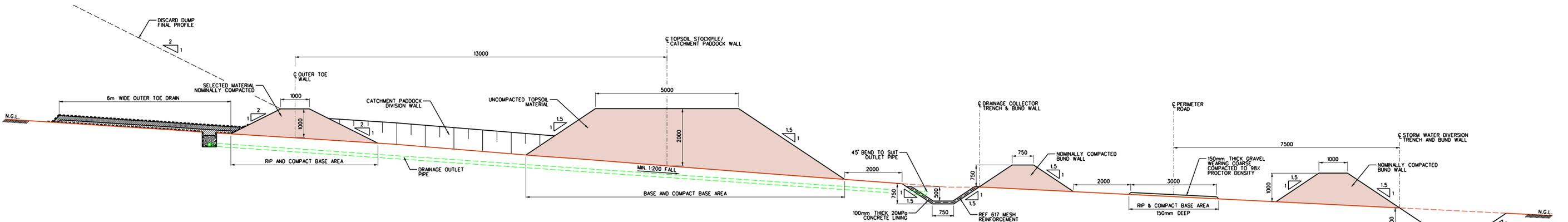
DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS
001	GENERAL ARRANGEMENT		

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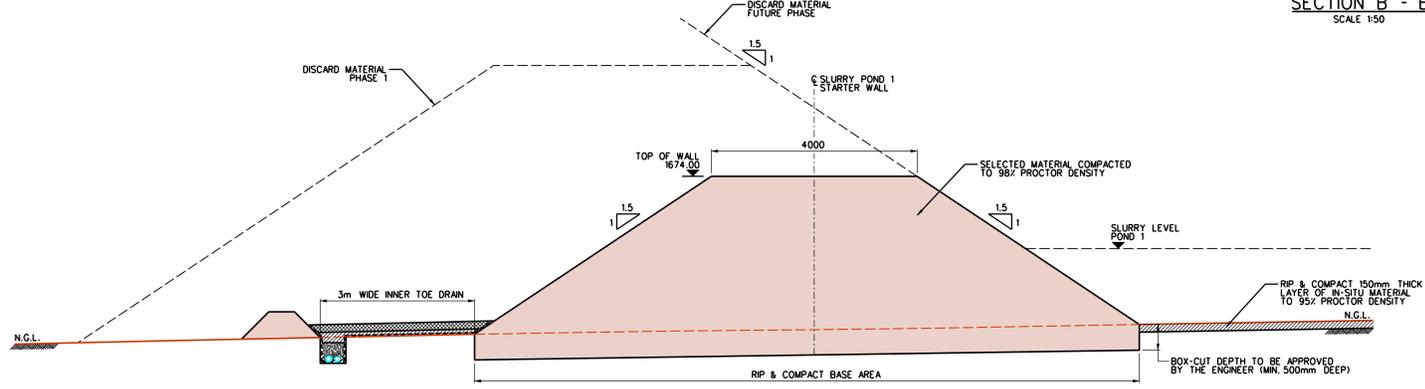
CLIENT		BY	DATE
BADGER MINING & CONSULTING (PTY) LTD		N.S.	MAR.09
TITLE		DRAWN	S.A.
MOOPLAATS COAL DISCARD DUMP SETTING OUT CO-ORDINATES			
SCALE		CHECKED	REVISION
1:1500			
DRAWING No.		T994-002	
		3	



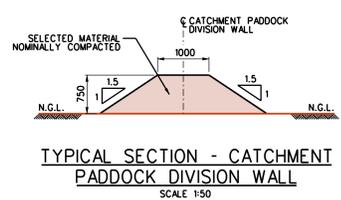
SECTION A - A
SCALE 1:50



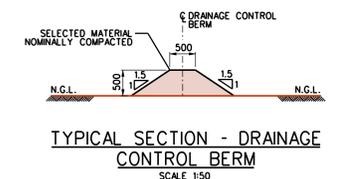
SECTION B - B
SCALE 1:50



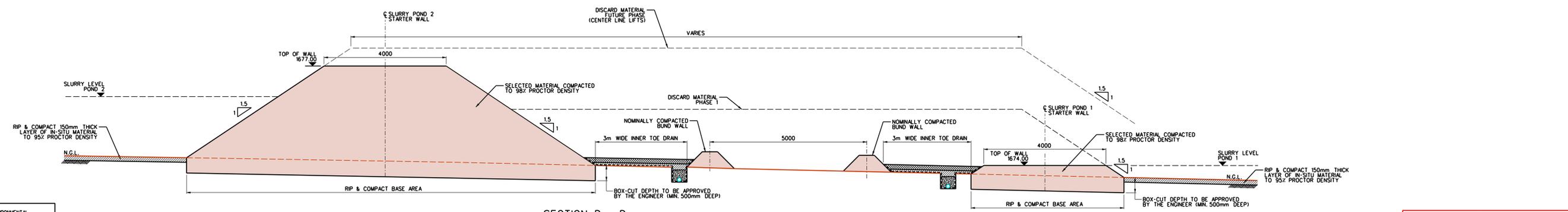
SECTION C - C
SLURRY POND 1 STARTER WALL
SCALE 1:50



TYPICAL SECTION - CATCHMENT PADDOCK DIVISION WALL
SCALE 1:50



TYPICAL SECTION - DRAINAGE CONTROL BERM
SCALE 1:50



SECTION D - D
SCALE 1:50

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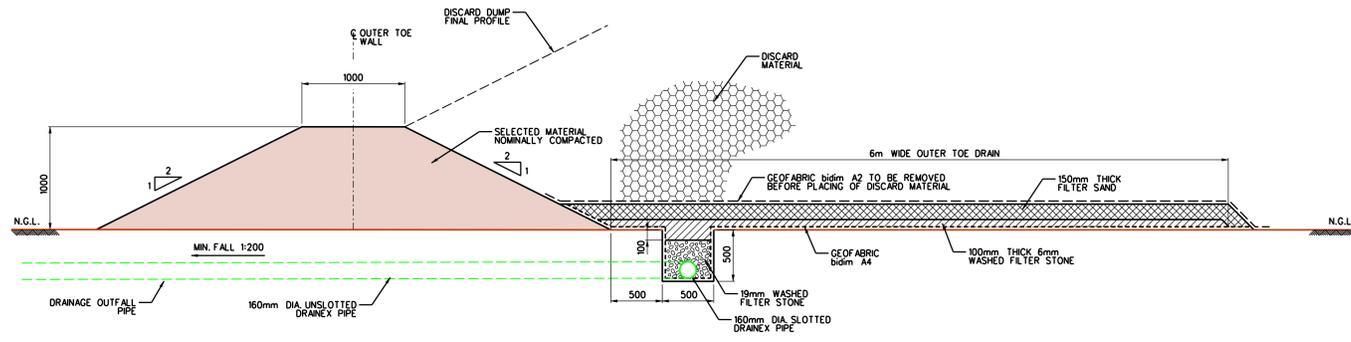
REV	BY	DATE	DESCRIPTION	DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS	CLIENT	BY	DATE
1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT			BADGER MINING & CONSULTING (PTY) LTD	N.S.	MAR.09
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED	004 SHT 1	DRAINAGE DETAILS				N.S.	MAR.09
				004 SHT 2	DRAINAGE COLLECTOR SUMP DETAILS					
				011	DRAINAGE COLLECTOR TRENCH LONG SECTION & DETAILS					



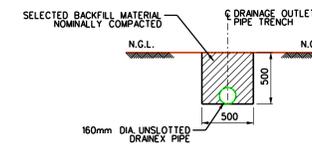
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MOOPLAATS COAL DISCARD DUMP
EARTHWORKS
SECTIONS & DETAILS

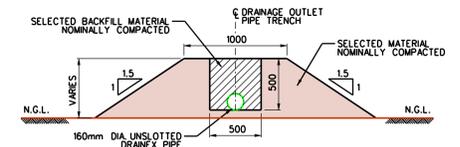
SCALE: A0-1:50
DRAWING No. T994-003
REVISION: 2



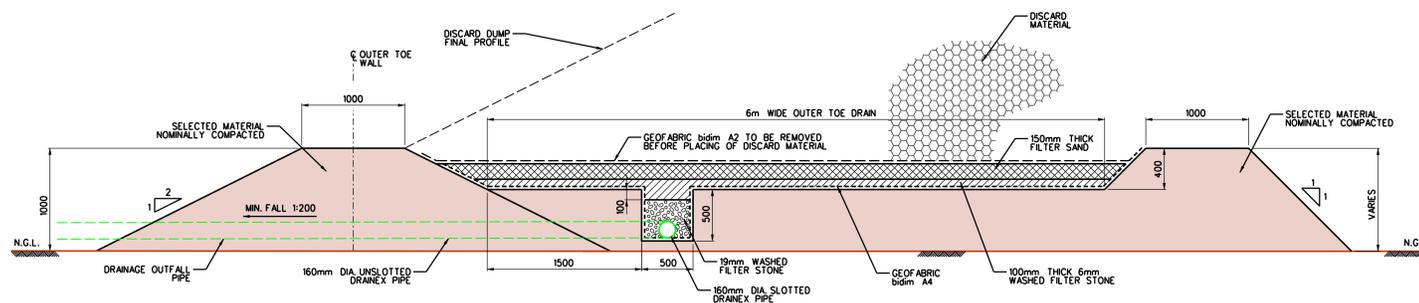
SECTION - OUTER TOE DRAIN ON N.G.L.
SCALE 1:25



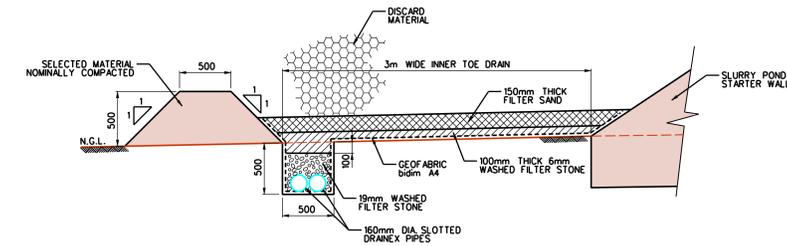
SECTION - DRAINAGE OUTLET PIPE
BELOW N.G.L.
SCALE 1:25



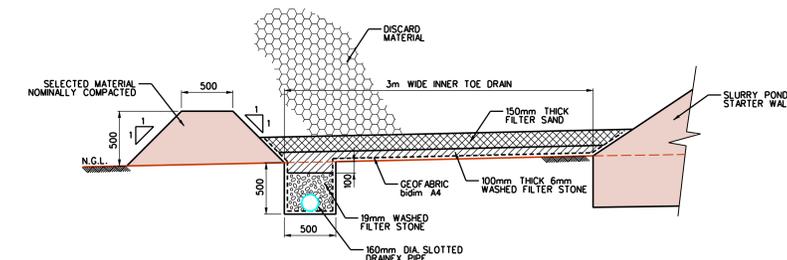
SECTION - DRAINAGE OUTLET PIPE
ABOVE N.G.L.
SCALE 1:25



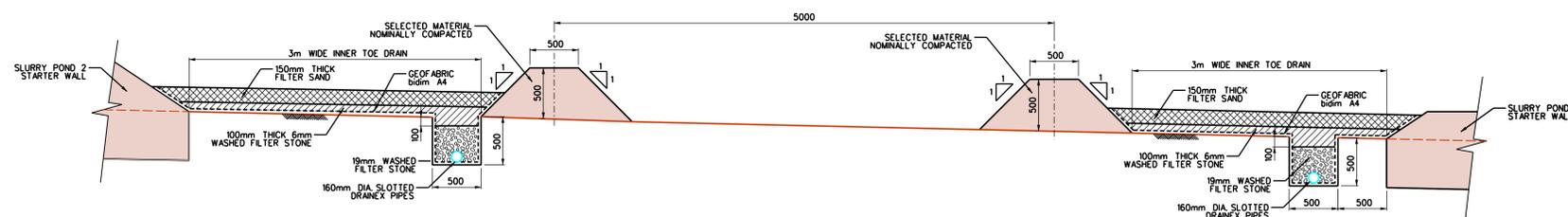
SECTION - OUTER TOE DRAIN ON PLATFORM
(BETWEEN DRAINAGE OUTLET PIPES 4 AND 7)
SCALE 1:25



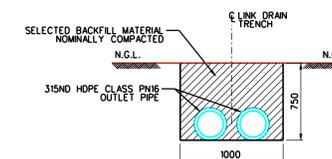
SECTION - INNER TOE DRAIN ALONG
SLURRY POND 1 PERIMETER
SCALE 1:25



SECTION - INNER TOE DRAIN ALONG
SLURRY POND 2 PERIMETER
SCALE 1:25



SECTION - INNER TOE DRAINS BETWEEN
SLURRY POND 1 & 2
SCALE 1:25



SECTION - LINK DRAIN
SCALE 1:25

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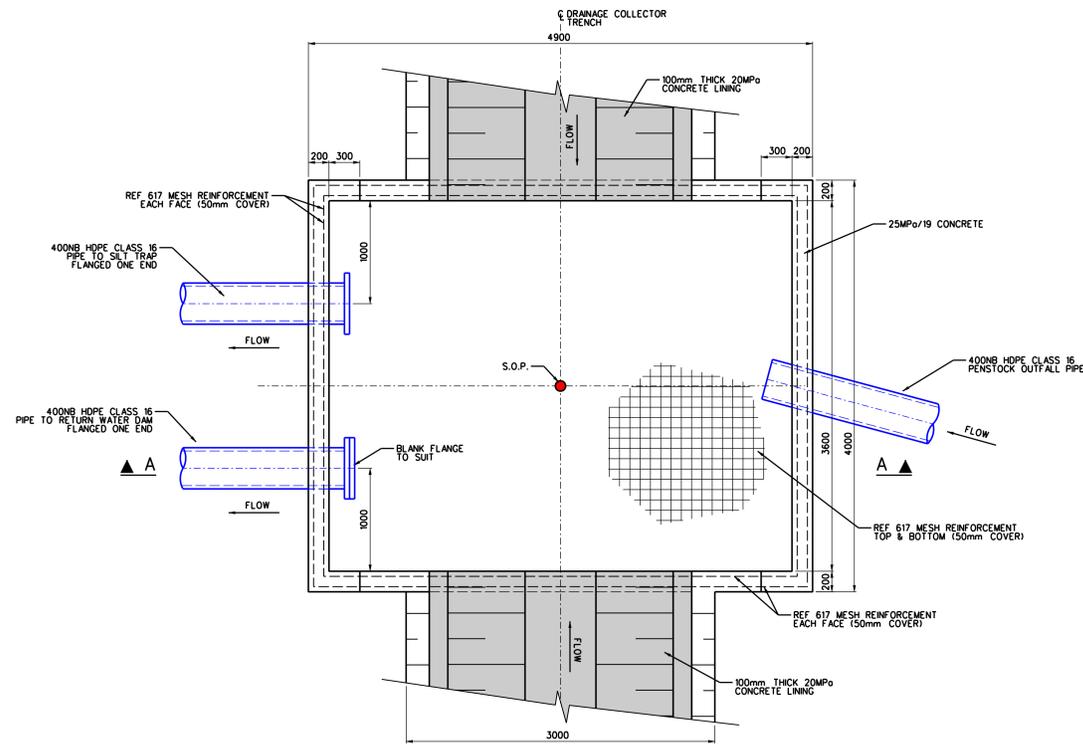
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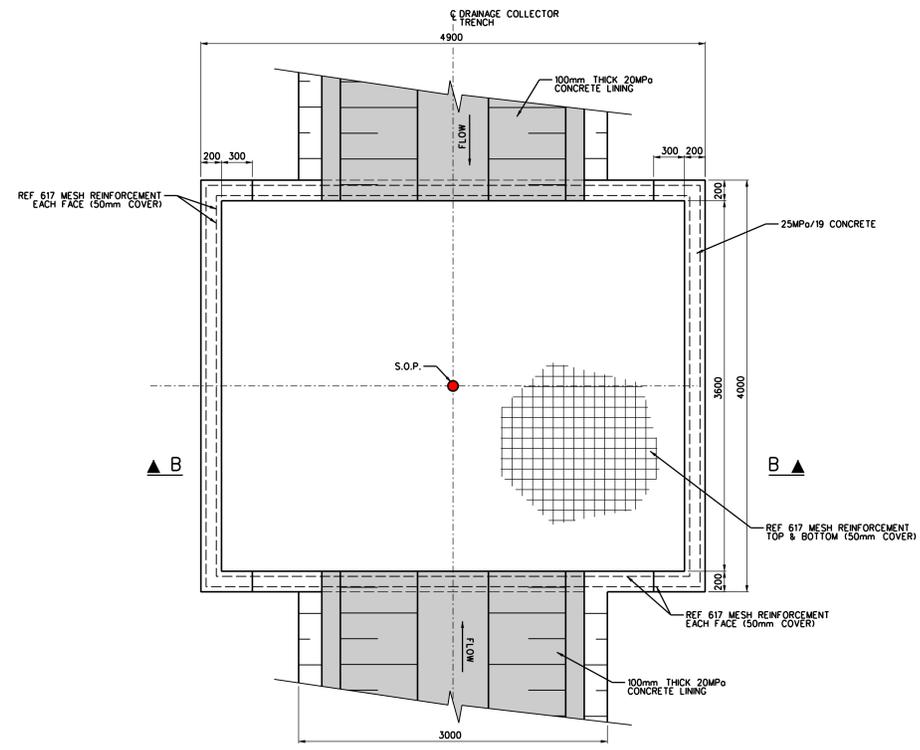
REV	BY	DATE	DESCRIPTION	DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS
1	NS/SA	07-05-2009	DRAWING UPDATED	003	EARTHWORKS SECTIONS & DETAILS		
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED	004 SHT 2	DRAINAGE COLLECTOR SUMP DETAILS		

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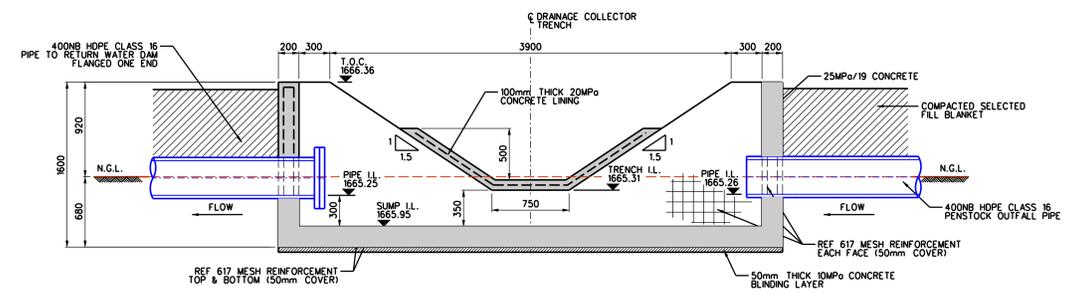
CLIENT	DESIGNED	BY	DATE
BADGER MINING & CONSULTING (PTY) LTD		N.S.	APR.09
TITLE	DRAWN	N.S. <th>APR.09</th>	APR.09
MOOIPLAATS COAL DISCARD DUMP DRAINAGE DETAILS			
CHECKED	SCALE	REVISION	
	A0+1:25		
DRAWING No.	T994-004 SHT.1	REVISION	2



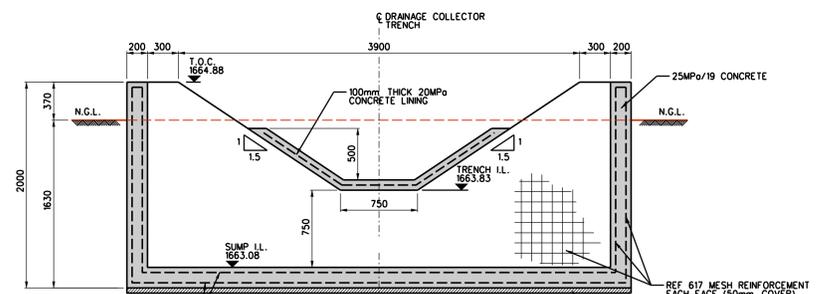
PLAN - DRAINAGE COLLECTOR SUMP 1/
SPLITTER BOX
SCALE 1:25



PLAN - DRAINAGE COLLECTOR SUMP 2
SCALE 1:25



SECTION A - A
SCALE 1:25



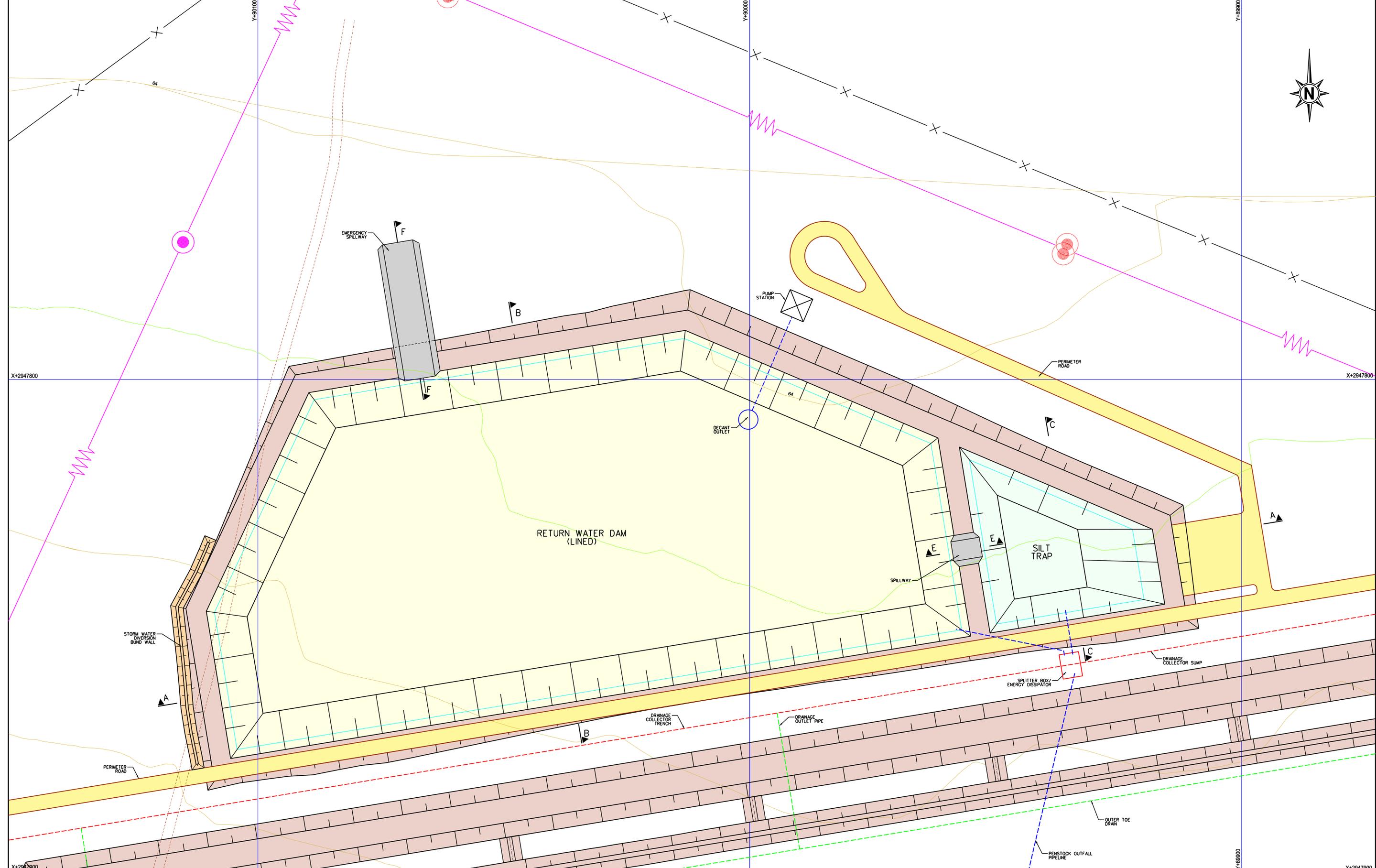
SECTION B - B
SCALE 1:25

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REV	BY	DATE	DESCRIPTION	DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS	TITLE	CLIENT	DESIGNED	BY	DATE
1	NS/SA	07-05-2009	DRAWING UPDATED	003	EARTHWORKS SECTIONS & DETAILS			BADGER MINING & CONSULTING (PTY) LTD		N.S.		APR.09
				004	SHT 1	DRAINAGE DETAILS					N.S.	APR.09
				011		DRAINAGE COLLECTOR TRENCH LONG SECTION & DETAILS						
									ECMP			
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									Mooiplaats Coal Discard Dump			
									DRAINAGE COLLECTOR SUMP DETAILS			
									SCALE A0-1:25			
									DRAWING No. T994-004 SHT.2			
									REVISION			
										1		



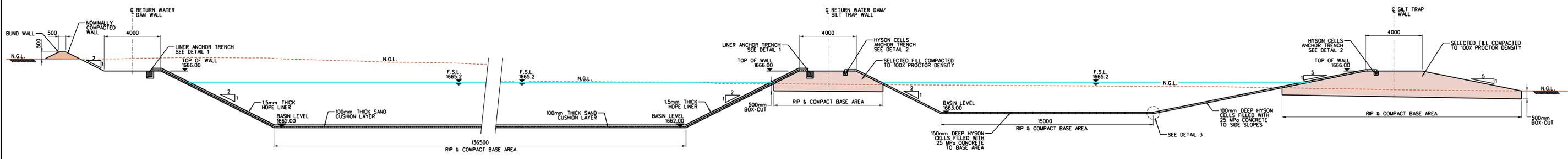
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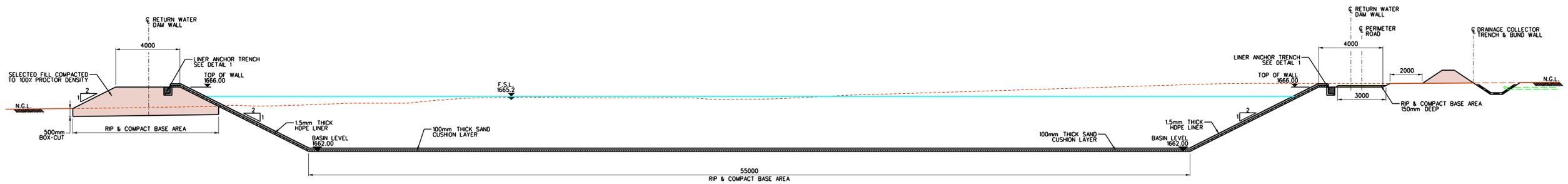
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1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT		
				006	RETURN WATER DAM & SILT TRAP DETAILS		
				007	RETURN WATER DAM SPILLWAY & TEMPORARY RETURN WATER DAM DETAILS		
				012	RETURN WATER DAM DECANT SUMP DETAILS		

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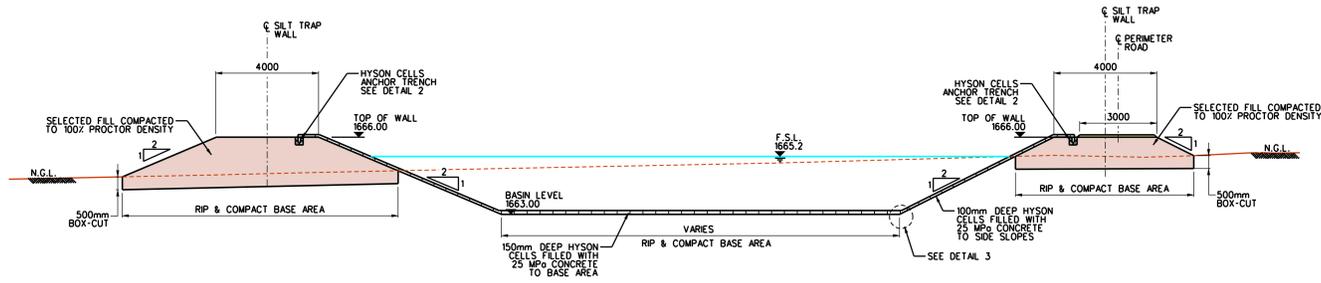
CLIENT BADGER MINING & CONSULTING (PTY) LTD	DESIGNED N.S.	DATE MAR.09
TITLE MOOPLAATS COAL DISCARD DUMP RETURN WATER DAM AND SILT TRAP LAYOUT	DRAWN S.A.	REVISION 1
	CHECKED	
	SCALE 1:250	
	DRAWING No. T994-005	



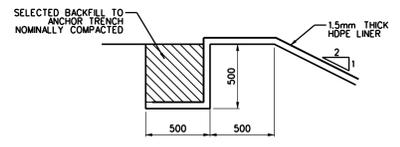
SECTION A - A
SCALE 1:100



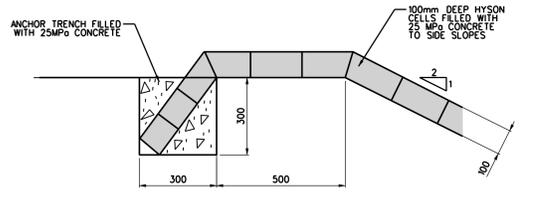
SECTION B - B
SCALE 1:100



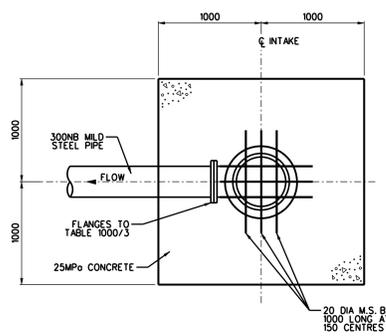
SECTION C - C
SCALE 1:100



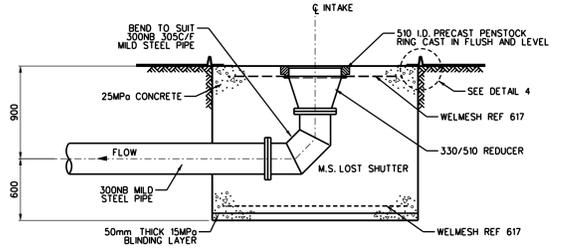
DETAIL 1
SCALE 1:20



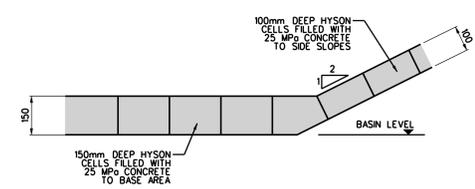
DETAIL 2
SCALE 1:10



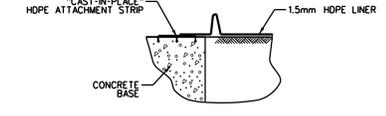
PLAN
RETURN WATER DAM DECANT OUTLET STRUCTURE
SCALE 1:25



SECTION
RETURN WATER DAM DECANT OUTLET STRUCTURE
SCALE 1:25



DETAIL 3
SCALE 1:10



DETAIL 4
N.T.S.

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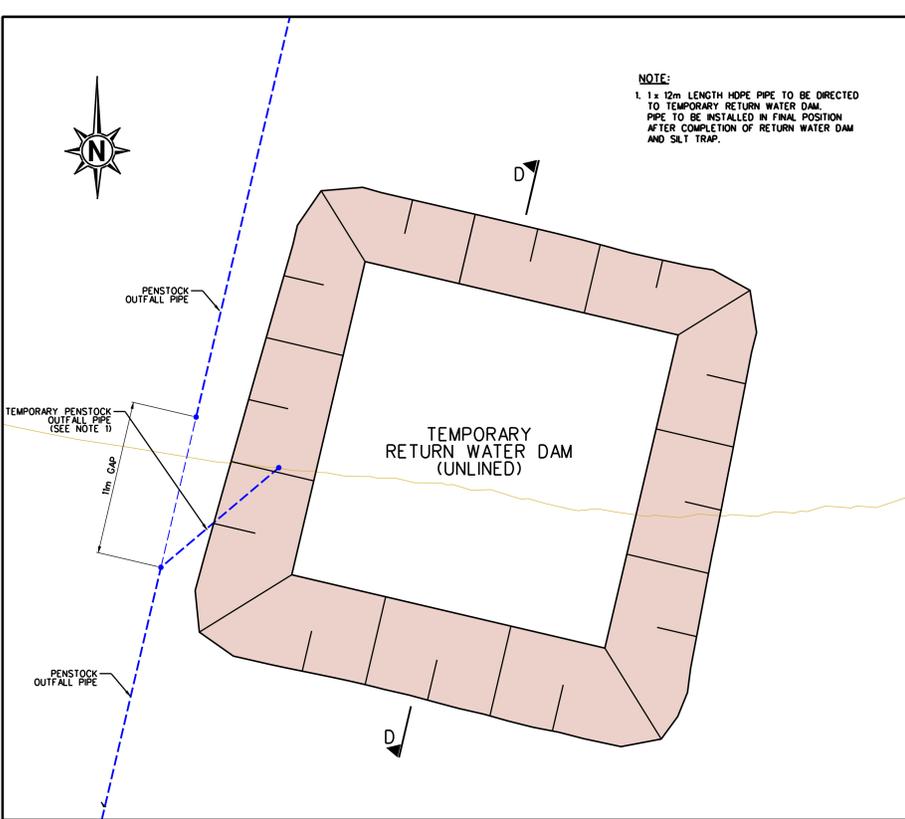
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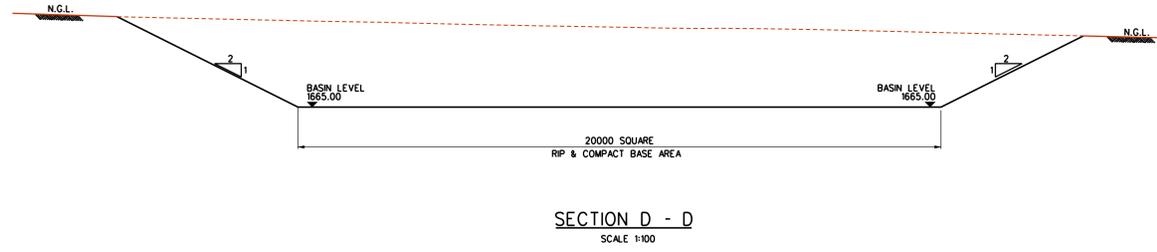
REV	BY	DATE	DESCRIPTION	DRG.No.	REFERENCE DRAWINGS	DRG.No.	REFERENCE DRAWINGS
1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT		
				005	RETURN WATER DAM & SILT TRAP LAYOUT		
				007	RETURN WATER DAM SPILLWAY & TEMPORARY RETURN WATER DAM DETAILS		
				012	RETURN WATER DAM DECANT SUMP DETAILS		

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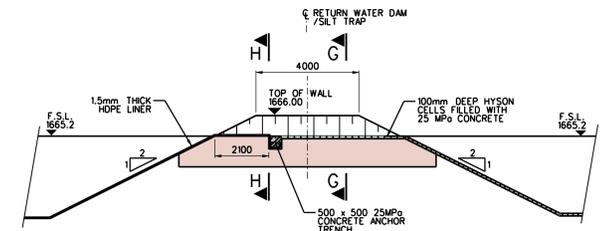
CLIENT	BADGER MINING & CONSULTING (PTY) LTD	DESIGNED	N.S.	DATE	APR.09
TITLE	MOOPLAATS COAL DISCARD DUMP RETURN WATER DAM AND SILT TRAP DETAILS	DRAWN	S.A.	DATE	APR.09
		CHECKED			
		SCALE	AS SHOWN		
		DRAWING No.	T994-006	REVISION	1



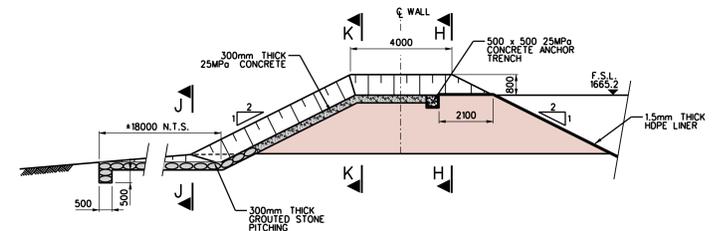
PLAN
TEMPORARY RETURN WATER DAM (UNLINED)
SCALE 1:200



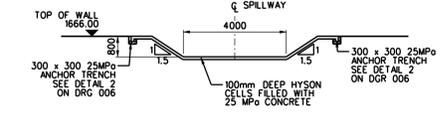
SECTION D - D
SCALE 1:100



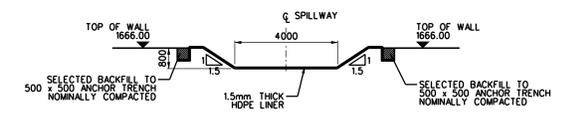
SECTION E - E
SILT TRAP SPILLWAY
SCALE 1:100



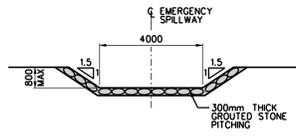
SECTION F - F
EMERGENCY SPILLWAY
SCALE 1:100



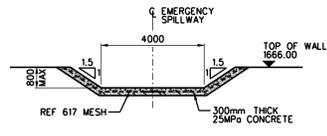
SECTION G - G
SCALE 1:100



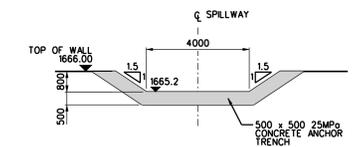
SECTION H - H
SCALE 1:100



SECTION J - J
SCALE 1:100



SECTION K - K
SCALE 1:100



TYPICAL SECTION THROUGH
CONCRETE ANCHOR TRENCH
SCALE 1:100

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1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT			BADGER MINING & CONSULTING (PTY) LTD		N.S.	APR.09
				005	RETURN WATER DAM & SILT TRAP LAYOUT				DRAWN	S.A.	APR.09
				006	RETURN WATER DAM & SILT TRAP DETAILS				CHECKED		
									SCALE	AS SHOWN	
									DRAWING No.	T994-007	REVISION
											1

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TITLE
MOOPLAATS COAL DISCARD DUMP
RETURN WATER DAM SPILLWAY
AND TEMPORARY RETURN WATER DAM
DETAILS

DESIGNED
BY
DATE

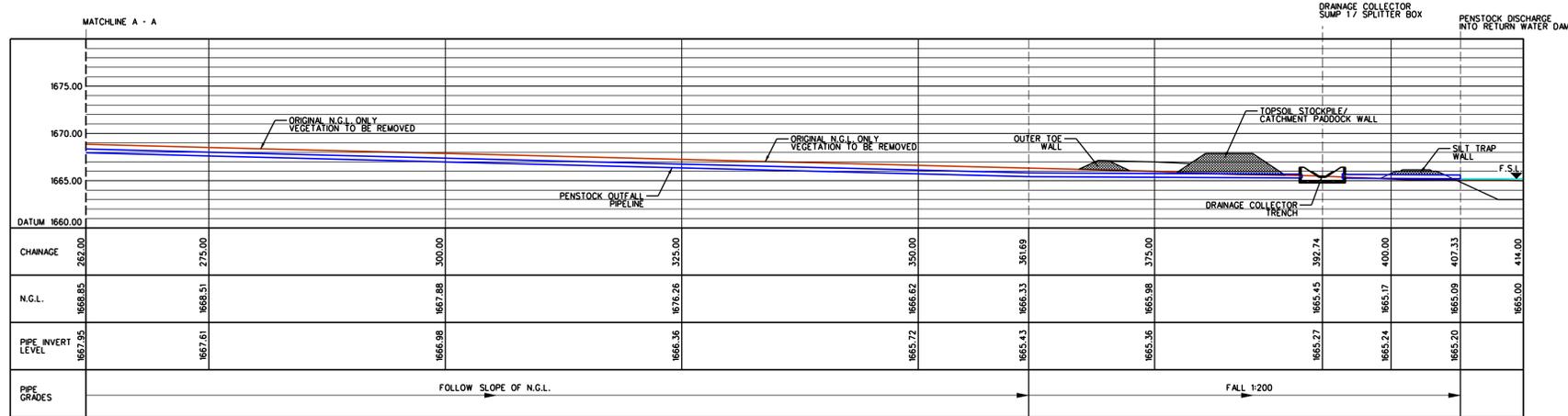
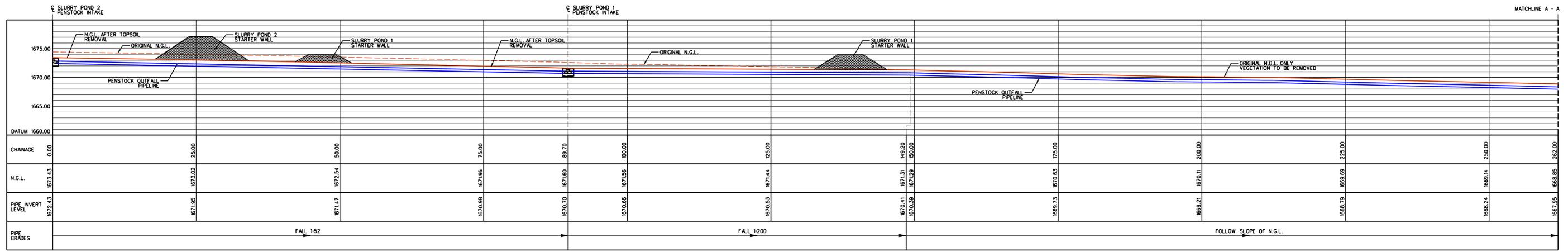
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DATE

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DATE

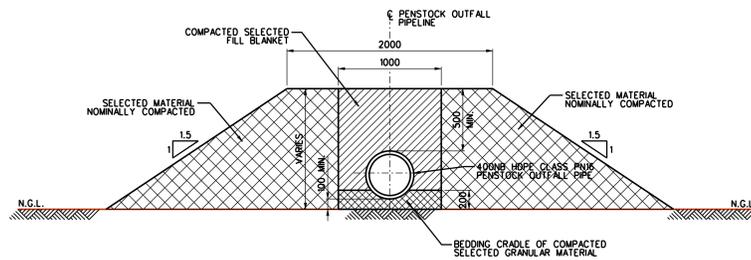
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AS SHOWN

DRAWING No.
T994-007

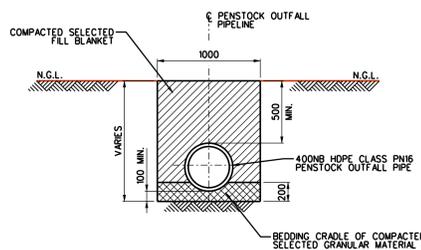
REVISION
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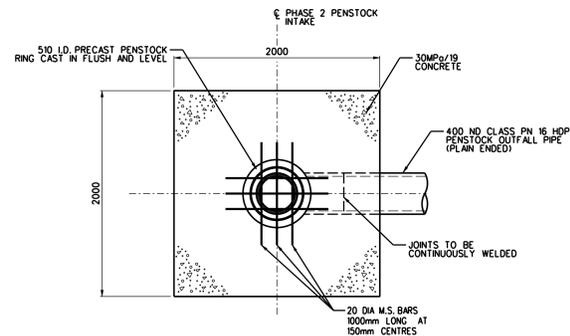
LONGITUDINAL SECTION - PENSTOCK OUTFALL PIPELINE
SCALE 1:250



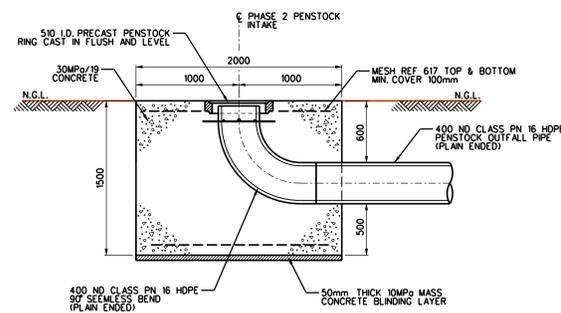
TYPICAL SECTION - PENSTOCK OUTFALL PIPELINE ABOVE N.G.L. (CLASS C BEDDING)
SCALE 1:25



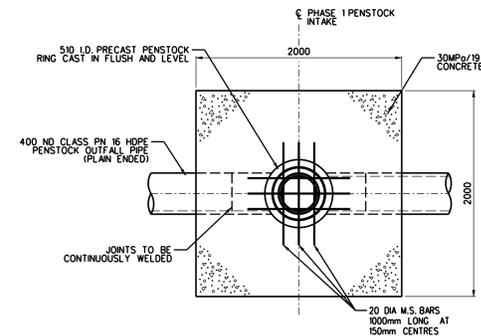
TYPICAL SECTION - PENSTOCK OUTFALL PIPELINE BELOW N.G.L. (CLASS C BEDDING)
SCALE 1:25



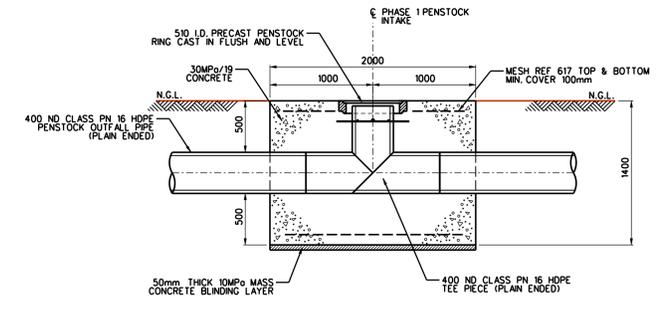
PLAN - SLURRY POND 2 PENSTOCK INTAKE
SCALE 1:25



SECTION - SLURRY POND 2 PENSTOCK INTAKE
SCALE 1:25



PLAN - SLURRY POND 1 PENSTOCK INTAKE
SCALE 1:25



SECTION - SLURRY POND 1 PENSTOCK INTAKE
SCALE 1:25

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1	NS	24-04-09	PENSTOCK PIPE I.L. ALTERED	001	GENERAL ARRANGEMENT			MOOPLAATS COAL DISCARD DUMP PENSTOCK OUTFALL PIPELINE DETAILS	BADGER MINING & CONSULTING (PTY) LTD	N.S.	N.S.		AS SHOWN	T994-008	1
				004 SH1	DRAINAGE DETAILS										
				004 SH2	DRAINAGE COLLECTOR SUMP DETAILS										
				011	DRAINAGE COLLECTOR TRENCH LONG SECTION & DETAILS										

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TITLE
**MOOPLAATS COAL DISCARD DUMP
PENSTOCK OUTFALL PIPELINE
DETAILS**

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N.S.

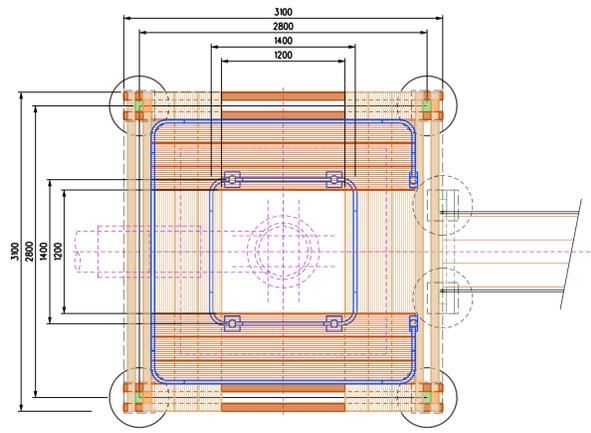
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CHECKED
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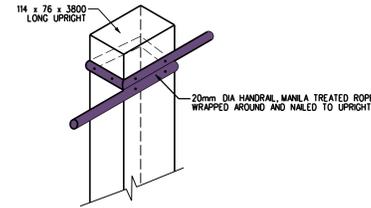
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T994-008

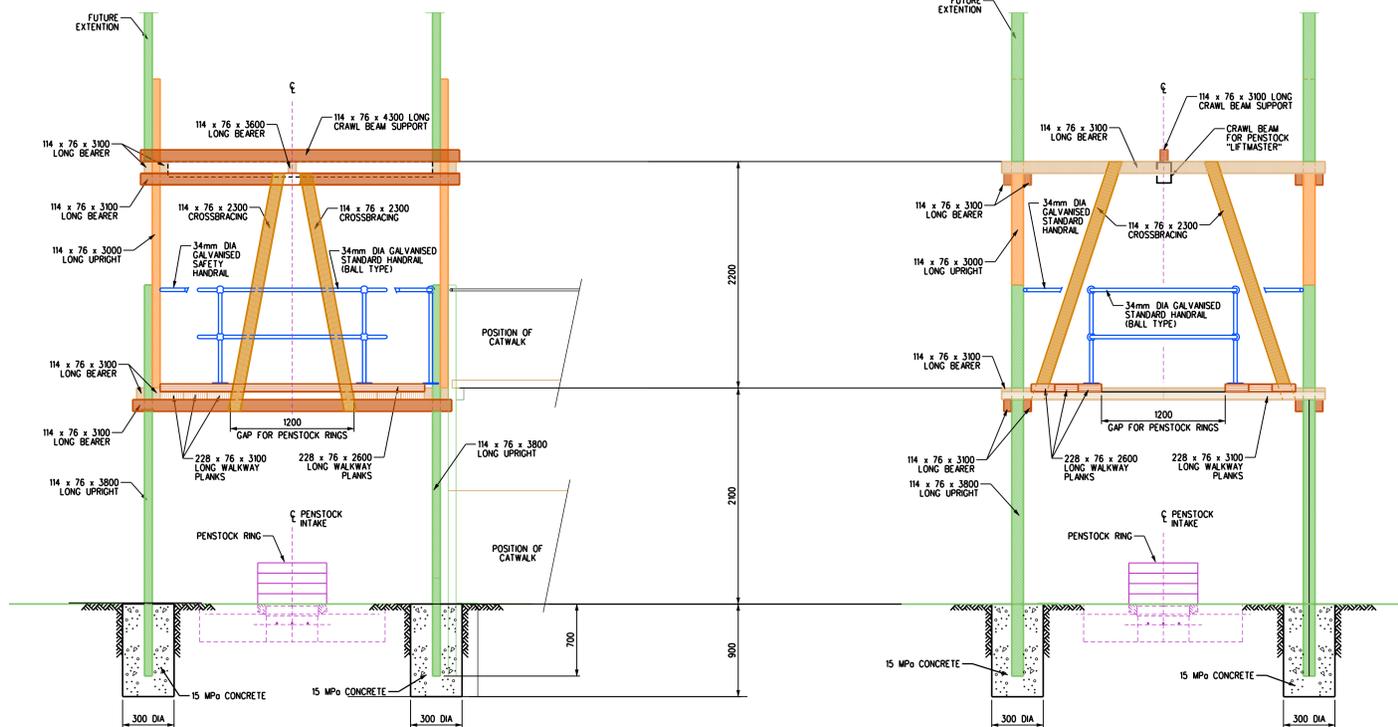
REVISION
1



PLAN - PLATFORM
AT SINGLE PENSTOCK INTAKE
SCALE 1:25

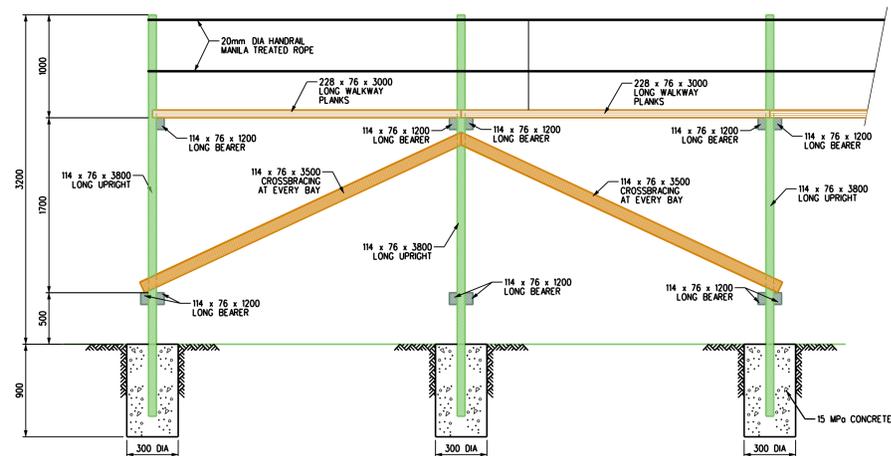


DETAIL 1
SHOWING ROPE HANDRAIL AT UPRIGHT
N.T.S.

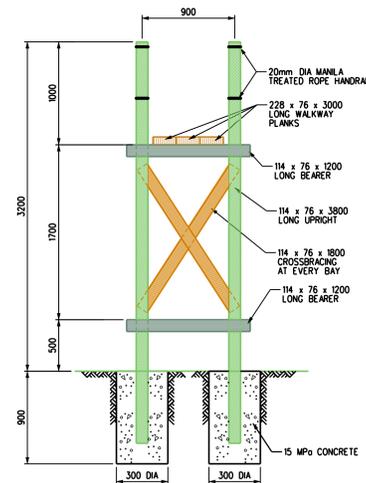


TYPICAL ELEVATION THROUGH PLATFORM
AT SINGLE PENSTOCK INTAKE
SCALE 1:25

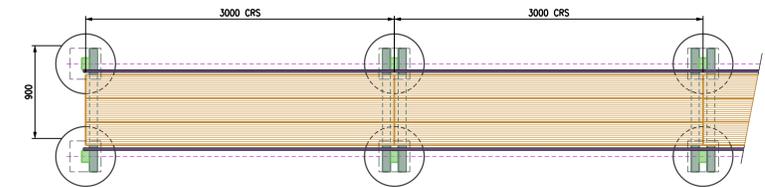
SECTION THROUGH PLATFORM
AT SINGLE PENSTOCK INTAKE
SCALE 1:25



SIDE ELEVATION - CATWALK
SCALE 1:25



TYPICAL SECTION THROUGH CATWALK
SCALE 1:25



PLAN - CATWALK
SCALE 1:25

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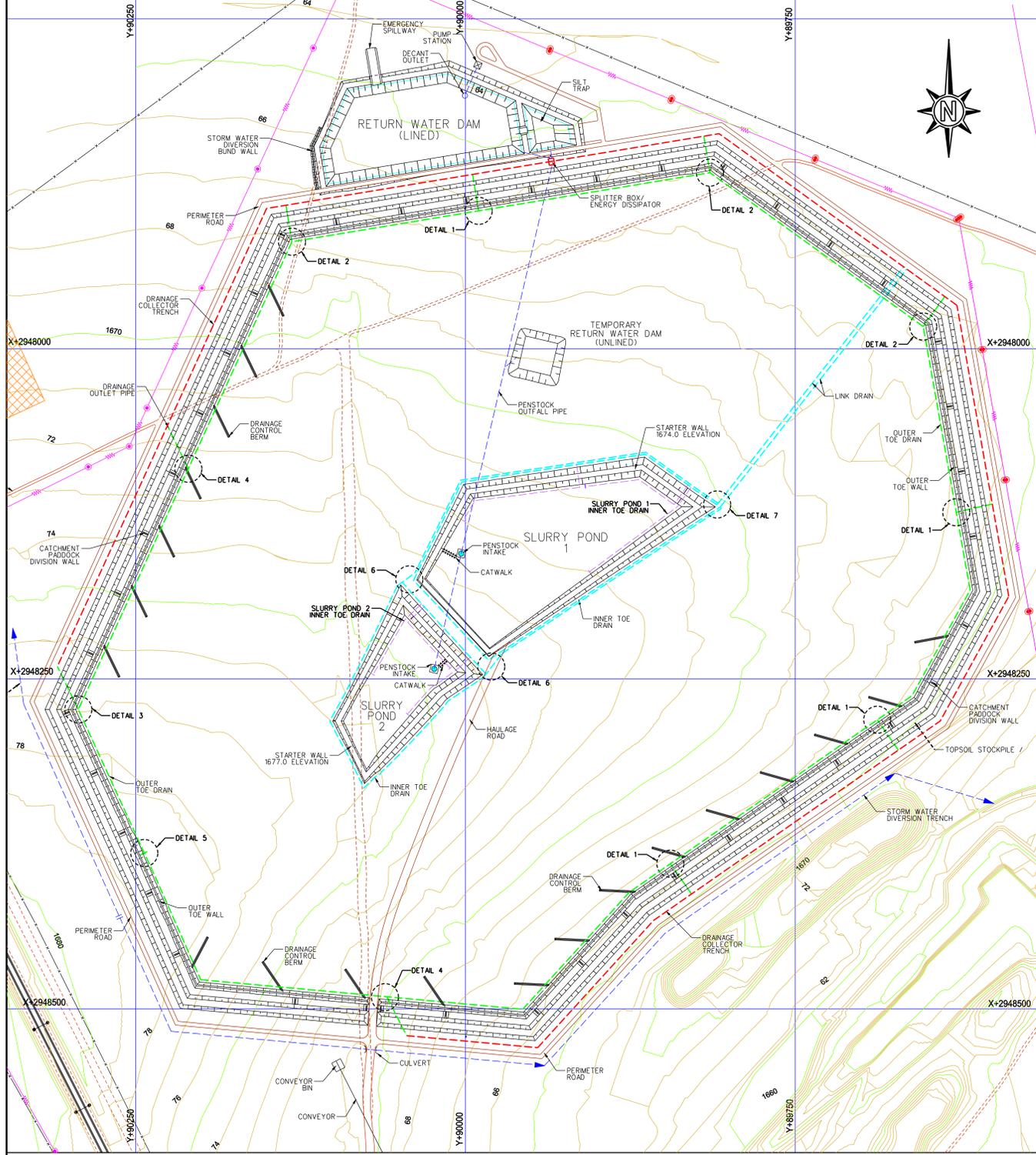
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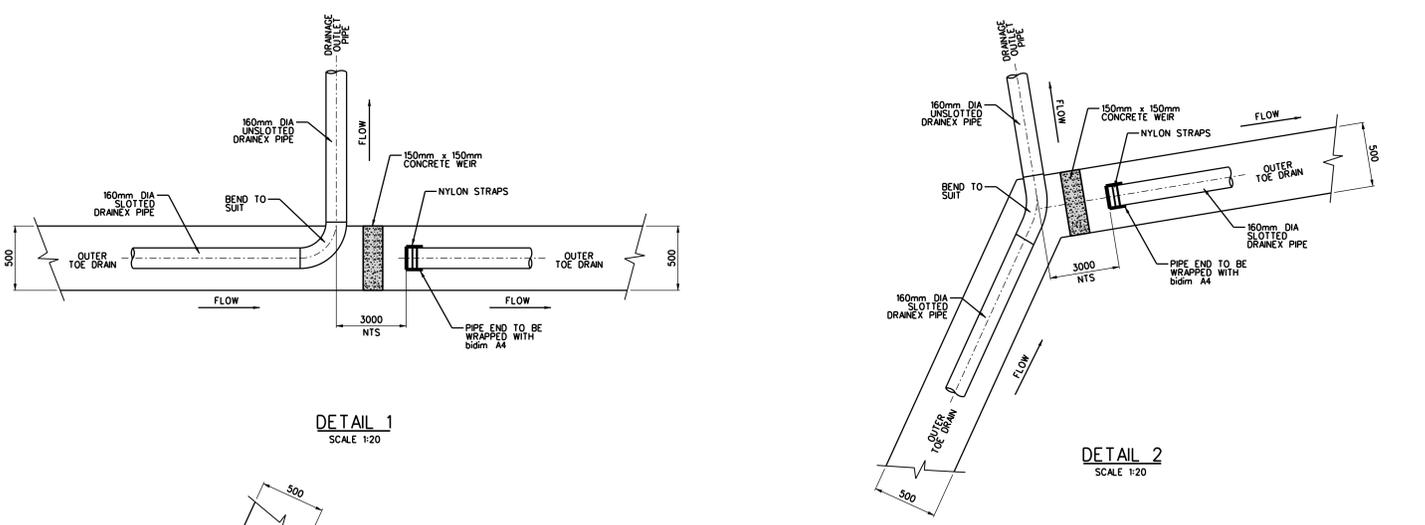
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1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT		
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED				

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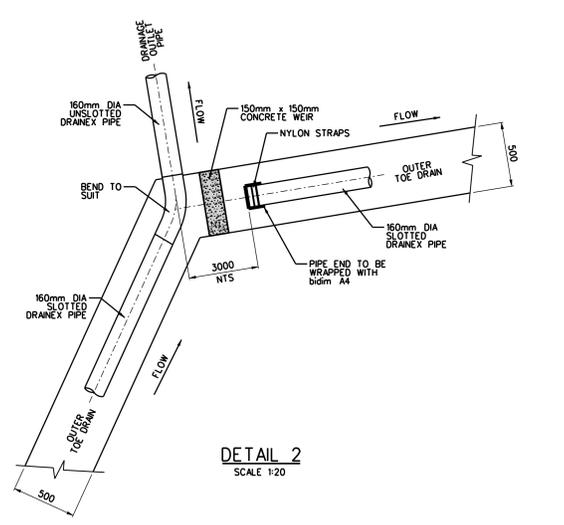
CLIENT BADGER MINING & CONSULTING (PTY) LTD		BY	DATE
TITLE MOOPLAATS COAL DISCARD DUMP CATWALK DETAILS		N.S.	MAR.09
DESIGNED	DRAWN	S.A.	MAR.09
CHECKED	SCALE AS SHOWN		
DRAWING No.	REVISION		
T994-009	2		



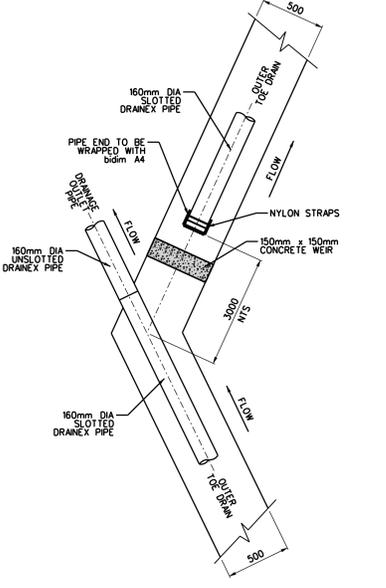
PLAN
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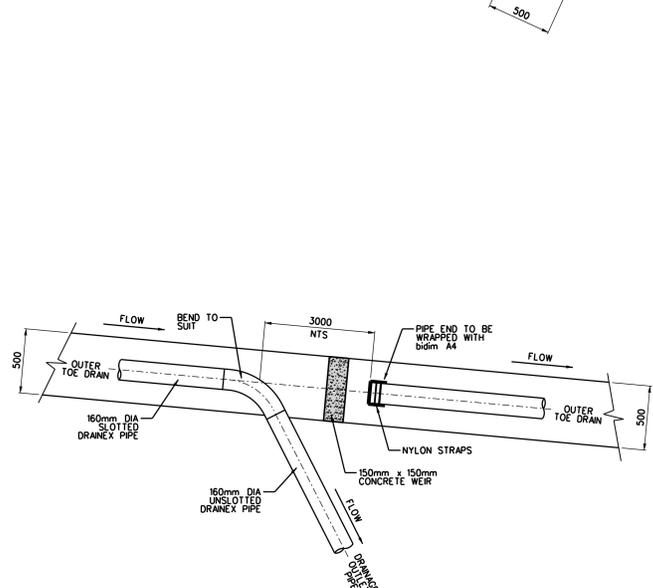
DETAIL 1
SCALE 1:20



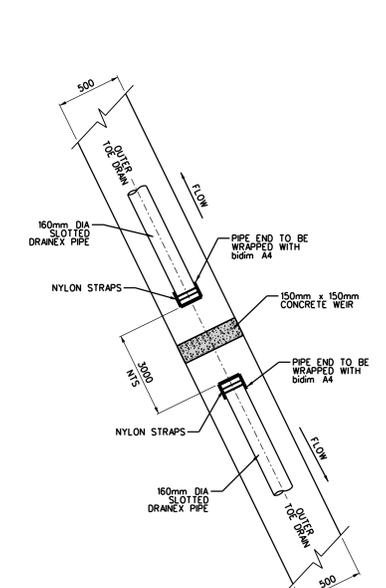
DETAIL 2
SCALE 1:20



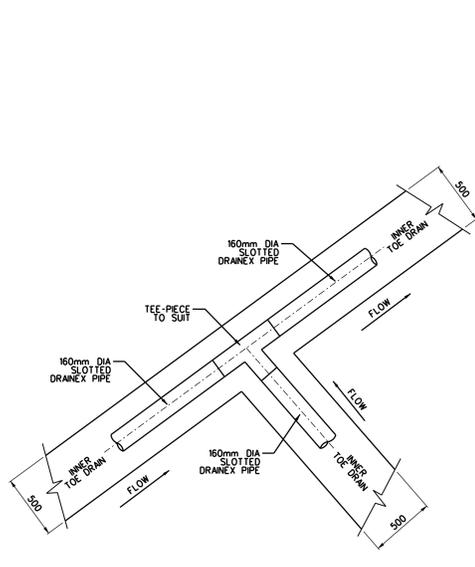
DETAIL 3
SCALE 1:20



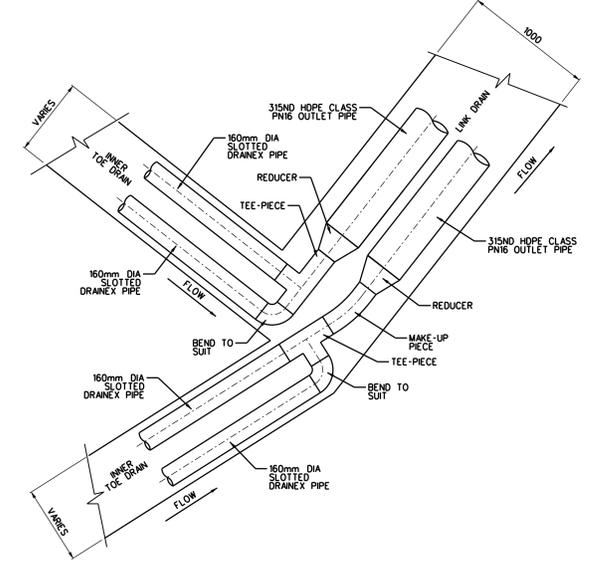
DETAIL 4
SCALE 1:20



DETAIL 5
SCALE 1:20



DETAIL 6
SCALE 1:20



DETAIL 7
SCALE 1:20

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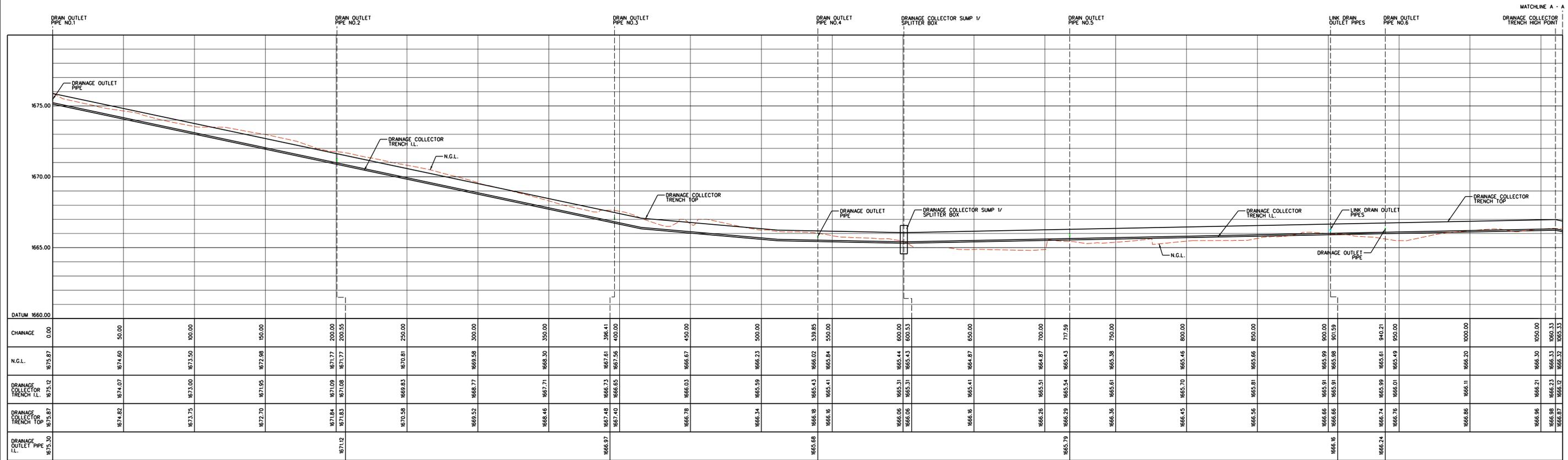
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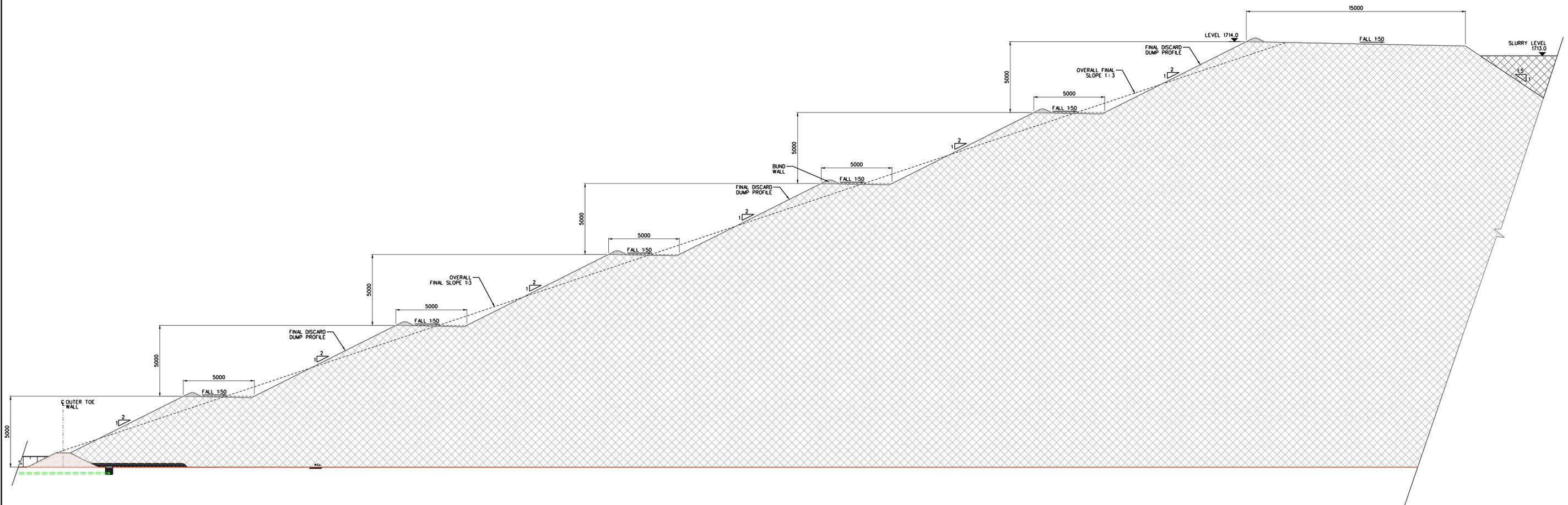
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1	NS/SA	07-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT		
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED	004	DRAINAGE DETAILS		
3	NS/SA	22-07-2009	DUMP ALTERED TO SUIT LOADING BIN	011	DRAINAGE COLLECTOR TRENCH LONG SECTION & DETAILS		

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TITLE MOOPLAATS COAL DISCARD DUMP DRAINAGE PIPE DETAILS	DRAWN N.S.	MAR.09
CHECKED		
SCALE A0-150		
DRAWING No. T994-010	REVISION 3	





SECTION - FINAL DISCARD DUMP PROFILE
SCALE 1:100

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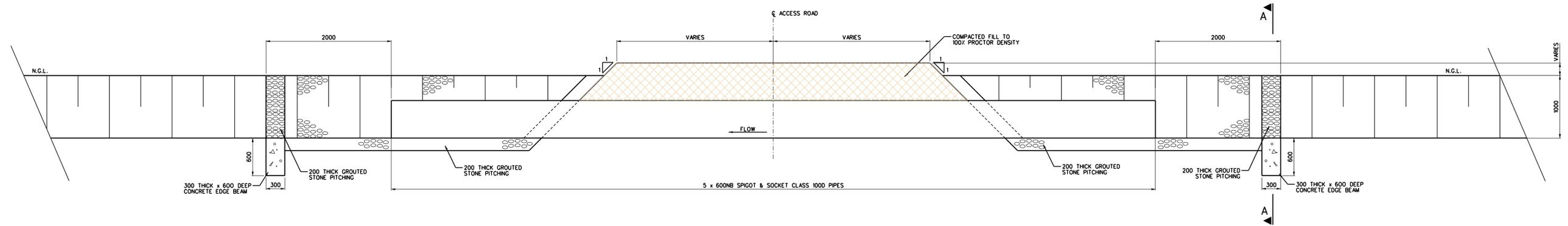
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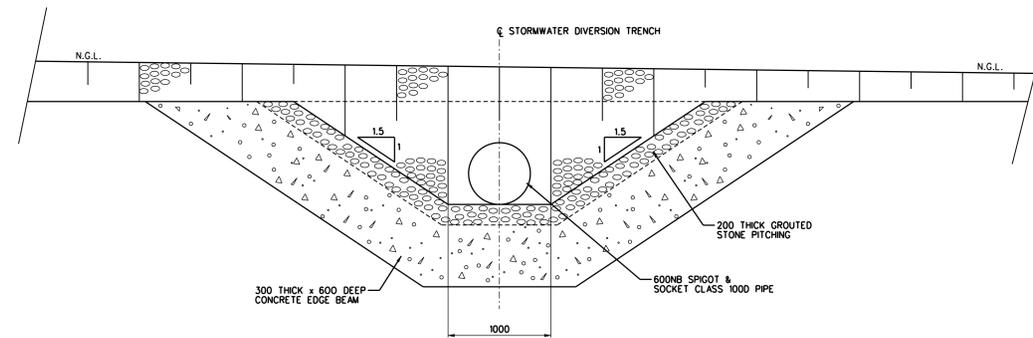
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									DRAWN	S.A.	APR.09
									CHECKED		
									SCALE	A0-1:50	
									DRAWING No.	T994-013	REVISION
											1

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TITLE
MOOPLAATS COAL DISCARD DUMP
FINAL PROFILE



SECTION - CULVERT
SCALE 1:25



SECTION A - A
SCALE 1:25

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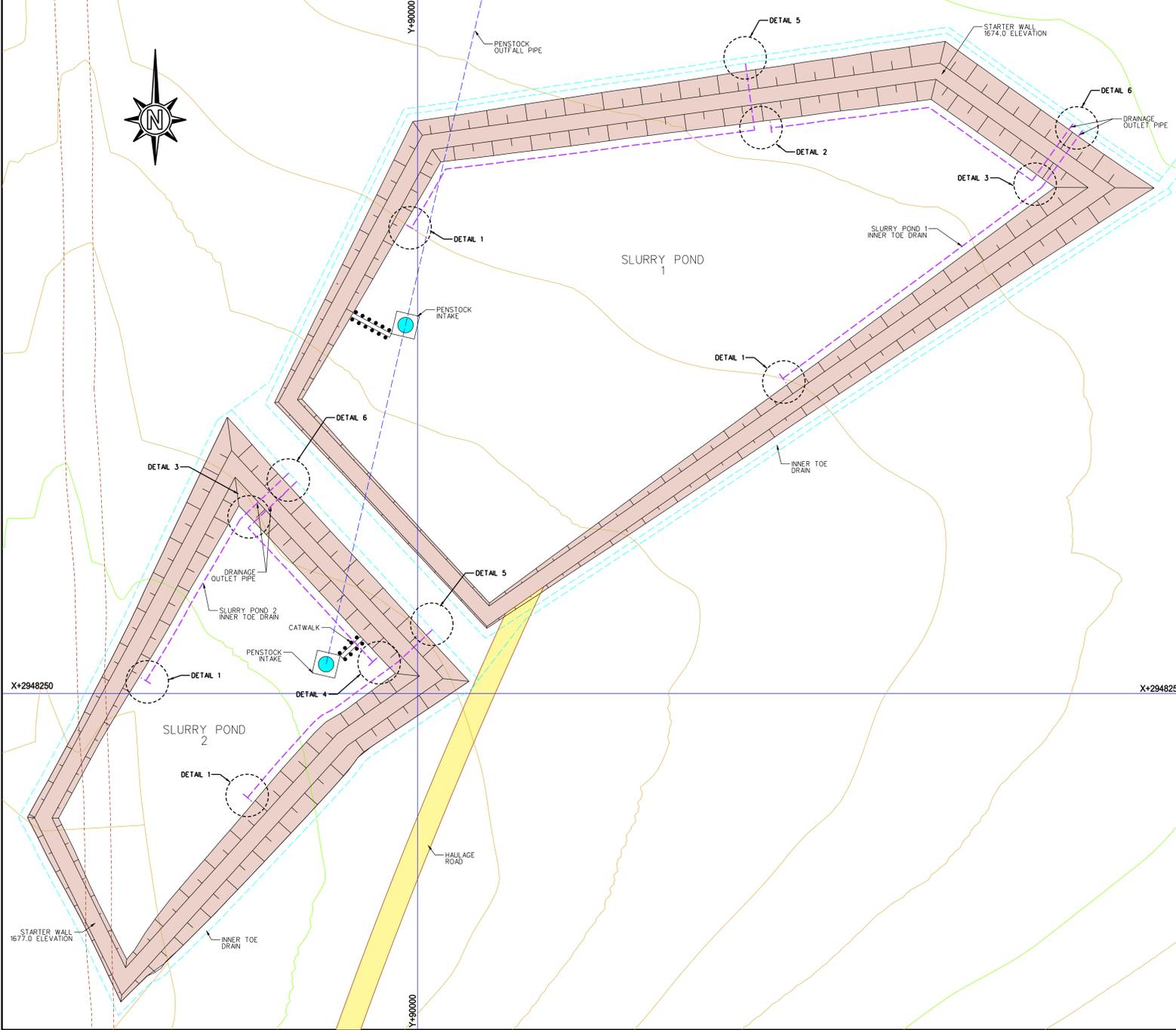
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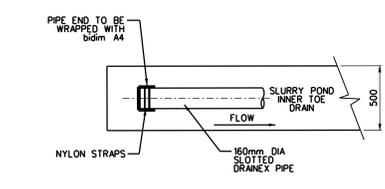


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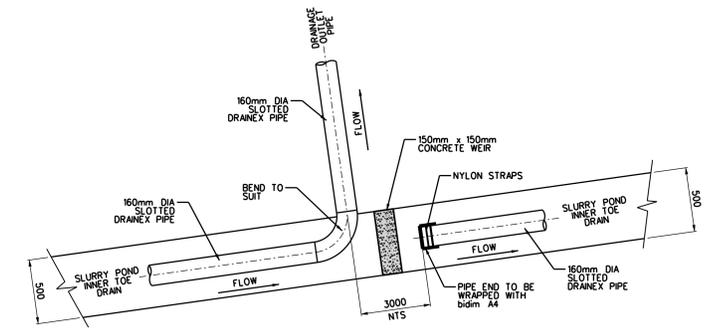
CLIENT		BY	DATE
BADGER MINING & CONSULTING (PTY) LTD		N.S.	APR.09
TITLE		DRAWN	S.A.
MOOPLAATS COAL DISCARD DUMP PIPE CULVERT SECTIONS AND DETAILS			
SCALE		CHECKED	
AS SHOWN			
DRAWING No.		REVISION	
T994-014		1	



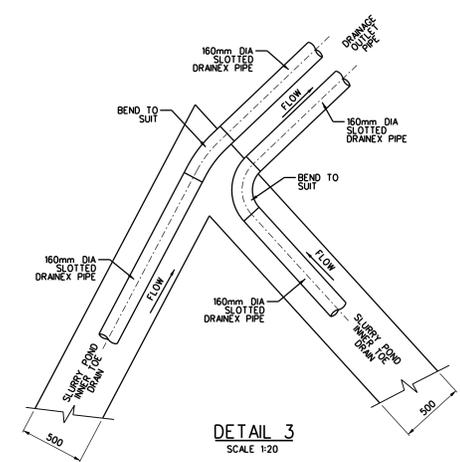
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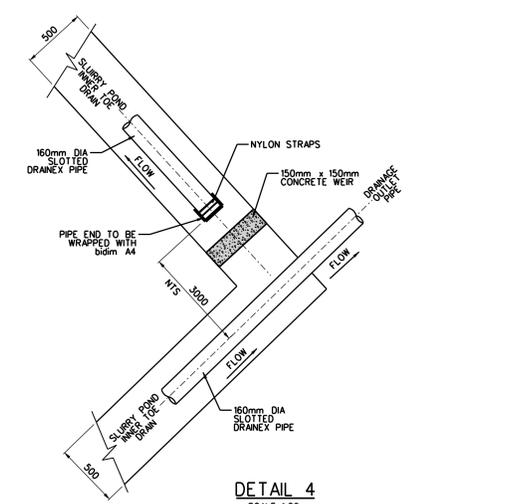
DETAIL 1
SCALE 1:20



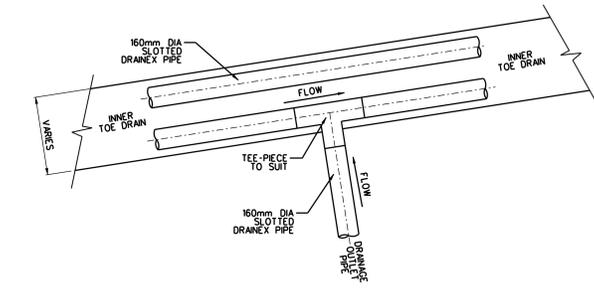
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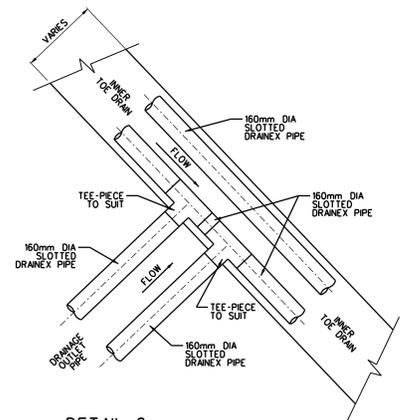
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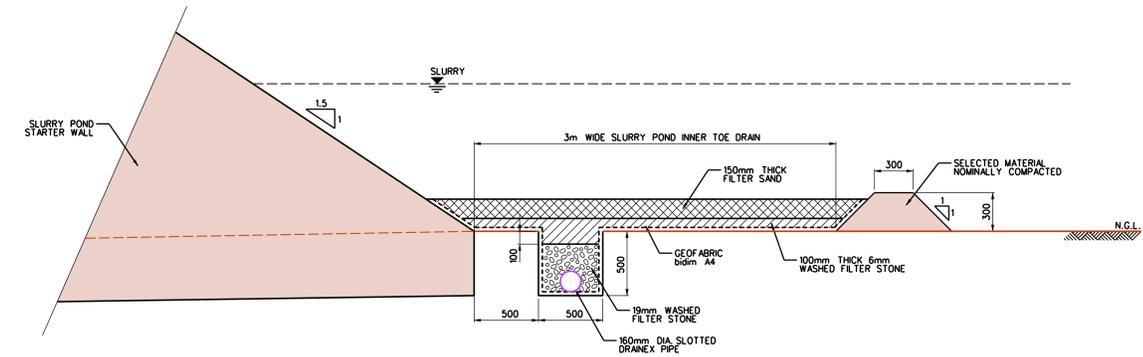
DETAIL 4
SCALE 1:20



DETAIL 5
SCALE 1:20



DETAIL 6
SCALE 1:20



TYPICAL SECTION - SLURRY POND
INNER TOE DRAIN
SCALE 1:20

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1	NS/SA	11-05-2009	DRAWING UPDATED	001	GENERAL ARRANGEMENT		
2	NS/SA	13-05-2009	SLURRY POND 2 WALL ALTERED	004	DRAINAGE DETAILS		

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TITLE MOOPLAATS COAL DISCARD DUMP SLURRY PONDS DRAINAGE PIPE DETAILS	DRAWN	N.S.	MAY.09
SCALE A0:1:20	CHECKED	S.A.	MAY.09
DRAWING No. T994-015	REVISION		2