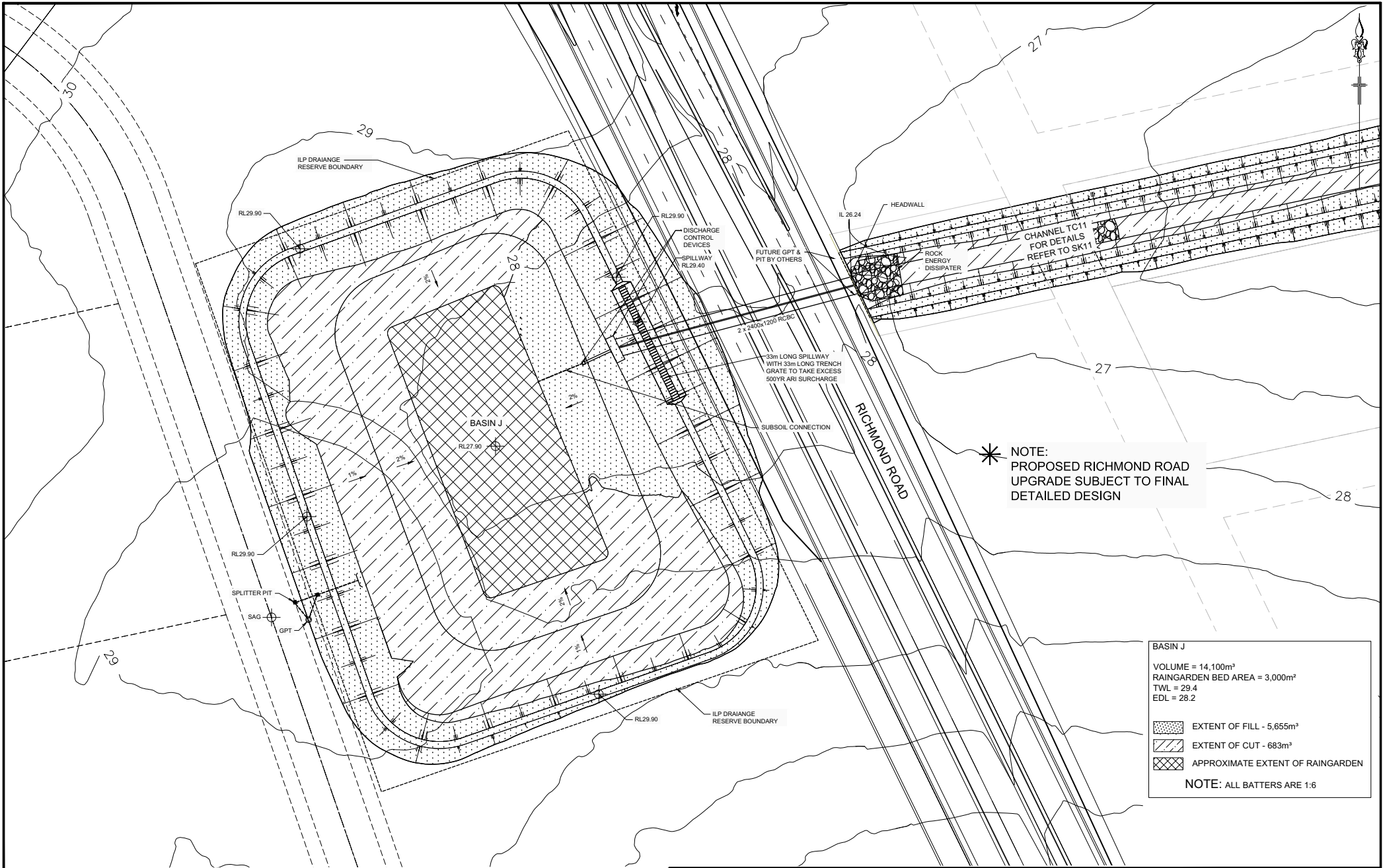


Project: 1 Feb 2011 10:31:11 AM File Name: J:\8955\Drawings\SK8\Concept Sketch Design\8955\_SK8.dwg



NOTE:  
PROPOSED RICHMOND ROAD  
UPGRADE SUBJECT TO FINAL  
DETAILED DESIGN

<b>BASIN J</b>	
VOLUME = 14,100m <sup>3</sup>	
RAINGARDEN BED AREA = 3,000m <sup>2</sup>	
TWL = 29.4	
EDL = 28.2	
EXTENT OF FILL - 5,655m <sup>3</sup>	
EXTENT OF CUT - 683m <sup>3</sup>	
APPROXIMATE EXTENT OF RAINGARDEN	
NOTE: ALL BATTERS ARE 1:6	



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E	ISSUED FOR EXHIBITION	01/02/11	GH
D	COUNCIL COMMENTS AMENDMENTS	30/11/10	MP
C	COUNCIL COMMENTS AMENDMENTS	30/11/10	MP
B	ISSUED FOR REVIEW	12/05/10	TK
A	FIRST ISSUE	23/04/10	TK
ISSUE	AMENDMENT	DATE	BY

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

DESIGNED D.J.H./C DATUM: AHD ORIGIN:  
DRAWN D.J.H. SCALES: 1:500 @ A1  
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MARSDEN PARK  
DRAFT S94 BASIN REVIEW  
BASIN J



PLAN No. <b>8955/SK8</b>	<b>E</b>
FILE No. 8955_SK8	

**BASIN M**  
 VOLUME = 10,500m<sup>3</sup>  
 RAINGARDEN BED AREA = 3,000m<sup>2</sup>  
 TWL = 25.20  
 EDL = 24.00

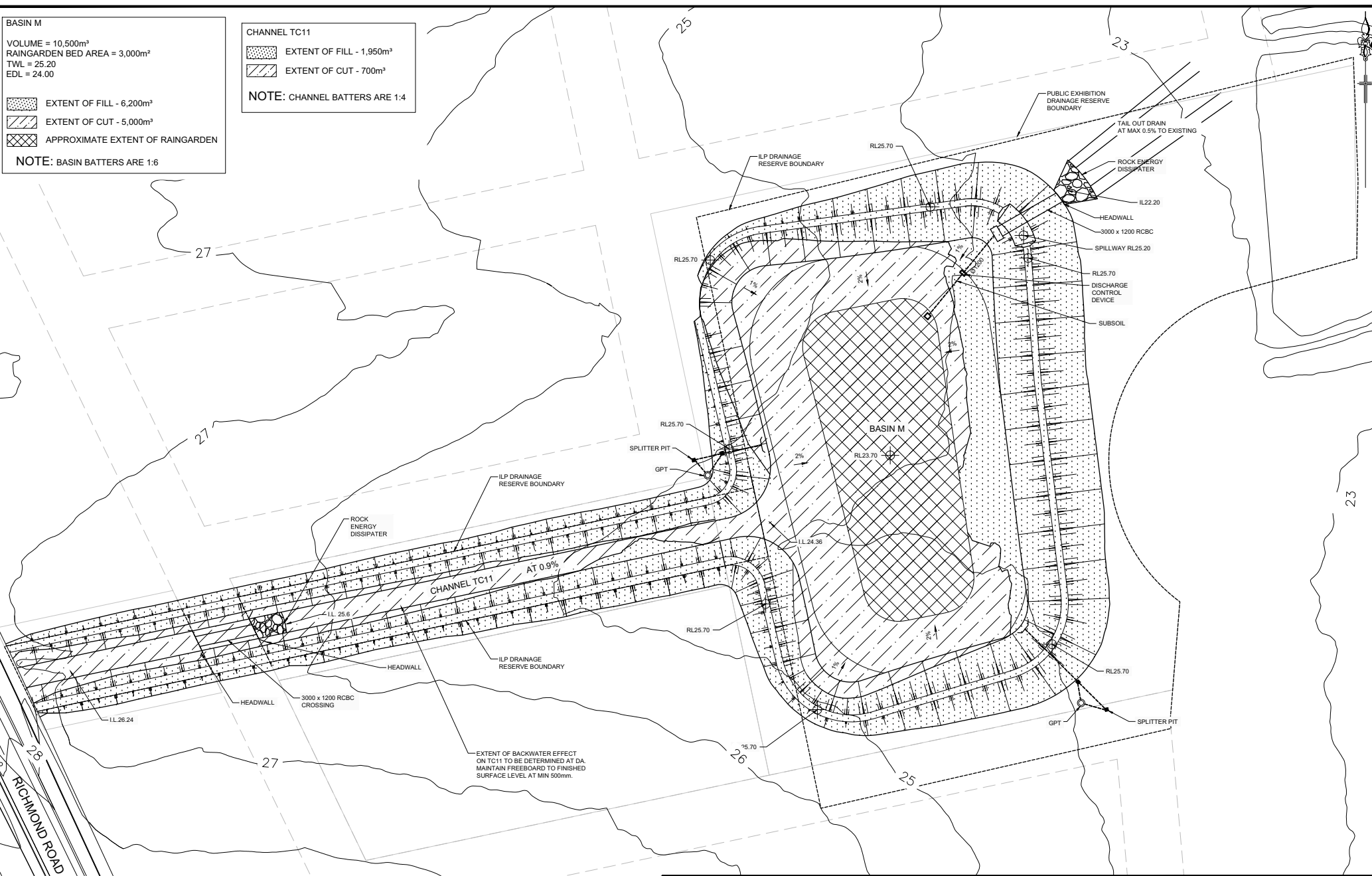
 EXTENT OF FILL - 6,200m<sup>3</sup>  
 EXTENT OF CUT - 5,000m<sup>3</sup>  
 APPROXIMATE EXTENT OF RAINGARDEN

**NOTE: BASIN BATTERS ARE 1:6**

**CHANNEL TC11**

 EXTENT OF FILL - 1,950m<sup>3</sup>  
 EXTENT OF CUT - 700m<sup>3</sup>

**NOTE: CHANNEL BATTERS ARE 1:4**



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B	ISSUED FOR REVIEW	12/05/10	TK
A	FIRST ISSUE	23/04/10	TK

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 DRAWN: DJH  
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DATUM: AHD ORIGIN:  
 SCALES: 1:500 @ A1

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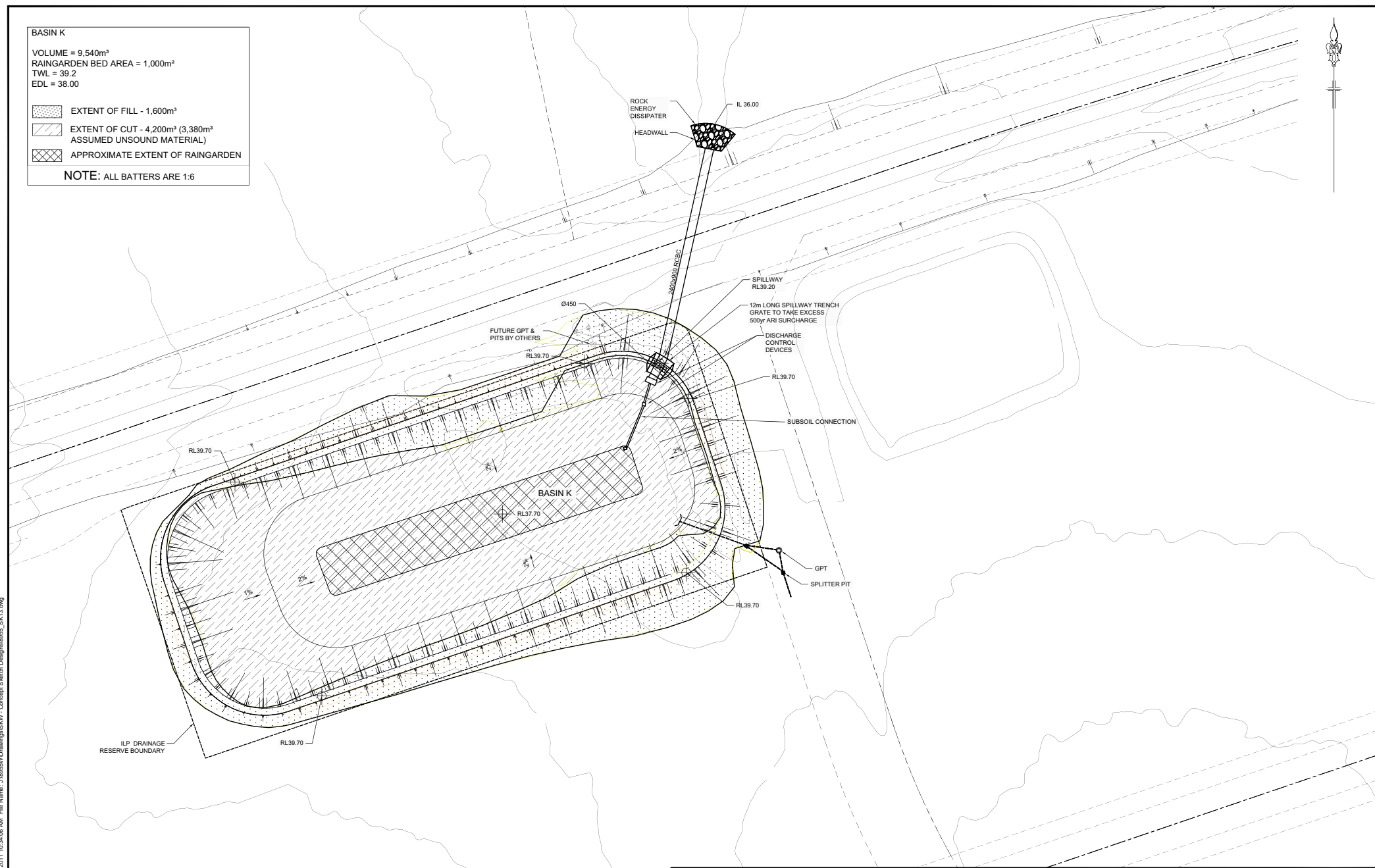
MARSDEN PARK  
 DRAFT S94 BASIN REVIEW  
 BASIN M & CHANNEL TC11

PLAN No.  
**8955/SK11** D  
 FILE No.  
 8955\_SK11

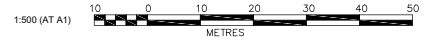
**BASIN K**  
 VOLUME = 9,540m<sup>3</sup>  
 RAINGARDEN BED AREA = 1,000m<sup>2</sup>  
 TWL = 39.2  
 EDL = 38.00

 EXTENT OF FILL - 1,600m<sup>3</sup>  
 EXTENT OF CUT - 4,200m<sup>3</sup> (3,380m<sup>3</sup> ASSUMED UNSOUND MATERIAL)  
 APPROXIMATE EXTENT OF RAINGARDEN

NOTE: ALL BATTERS ARE 1:6



Project: 1 Feb 2011 10:34:09 AM File Name: J:\8955\Drawings\SK13 - Concept Sketch Design\8955\_SK13.dwg



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F	ISSUED FOR EXHIBITION	01/02/11	GH
E	COUNCIL COMMENTS AMENDMENTS	30/11/10	MP
D	MINOR AMENDMENTS	24/06/10	DJH
C	ISSUED FOR REVIEW	12/05/10	TK
B	MINOR AMENDMENTS TO BASIN	27/04/10	TK
A	FIRST ISSUE	20/04/10	TK

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DESIGNED DJH  
 DRAWN TK  
 CHECKED \_\_\_\_\_

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 SCALES: 1:500 @ A1

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**MARSDEN PARK  
 DRAFT S94 BASIN REVIEW  
 BASIN K**

PLAN No. **8955/SK13** F  
 FILE No. 8955\_SK13

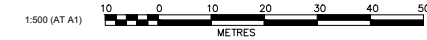
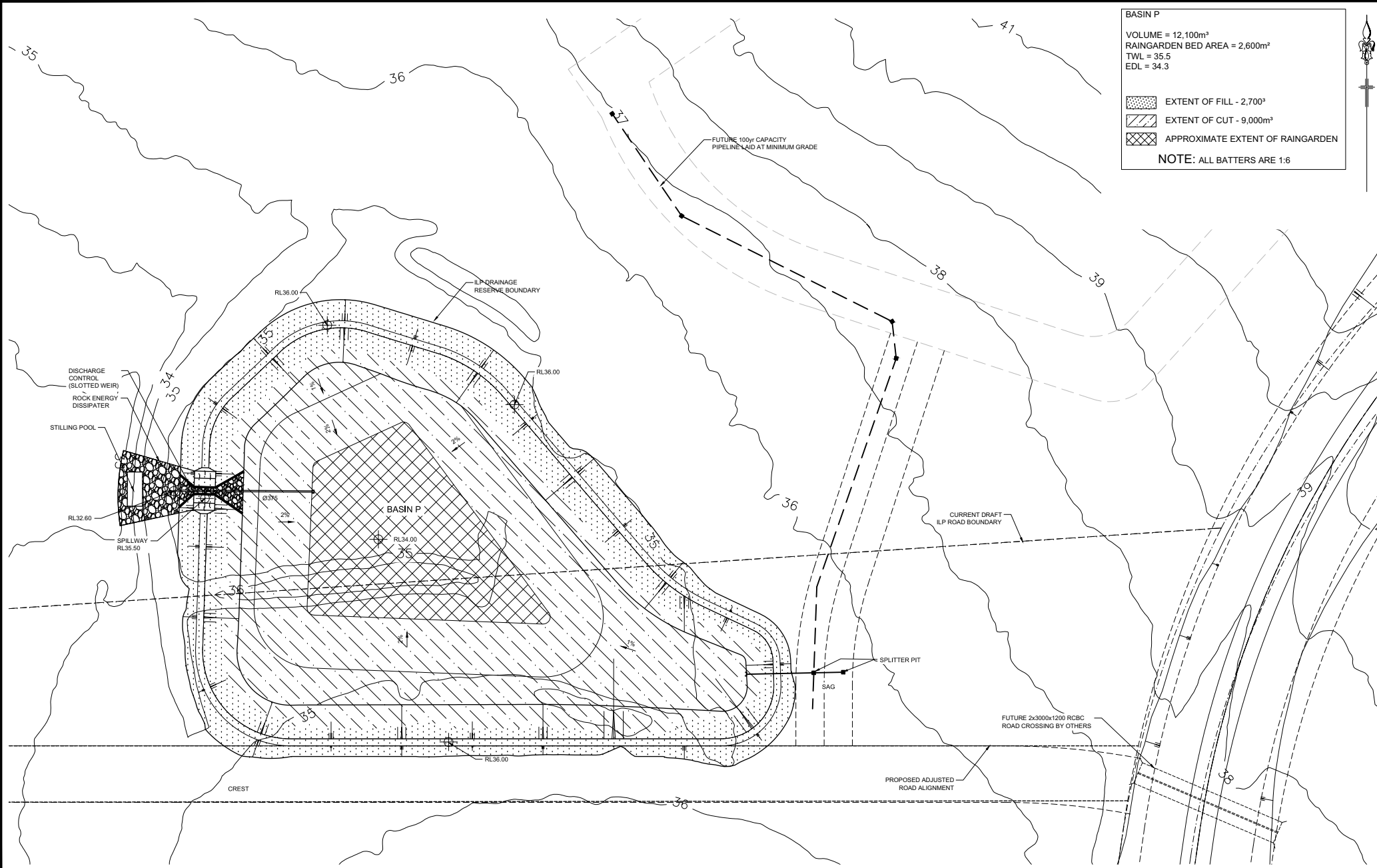
Project: 1 Feb 2011 10:54:36 AM File Name: J:\8955\Drawings\SRM - Concept Sketch Design\895\_SK14.dwg

**BASIN P**

VOLUME = 12,100m<sup>3</sup>  
 RAINGARDEN BED AREA = 2,600m<sup>2</sup>  
 TWL = 35.5  
 EDL = 34.3

EXTENT OF FILL - 2,700<sup>3</sup>  
 EXTENT OF CUT - 9,000m<sup>3</sup>  
 APPROXIMATE EXTENT OF RAINGARDEN

NOTE: ALL BATTERS ARE 1:6



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E	COUNCIL COMMENTS AMENDMENTS	30/11/10	MP
D	BASIN P ILP BOUNDARY ADJUSTED	23/06/10	DJH
C	ISSUED FOR REVIEW	12/05/10	TK
B	MINOR AMENDMENTS TO BASIN	28/04/10	TK
A	FIRST ISSUE	23/04/10	TK
ISSUE	AMENDMENT	DATE	BY

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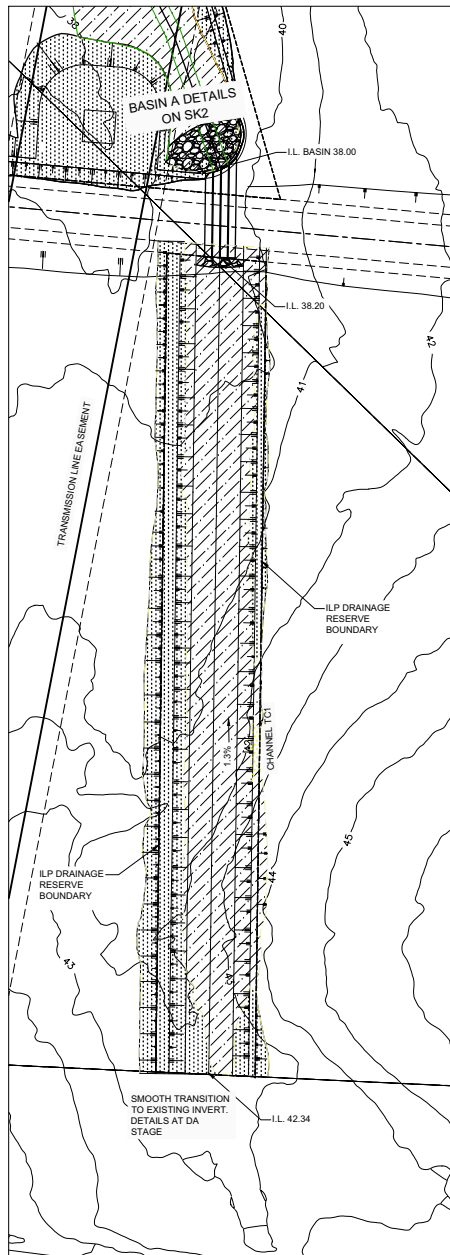
MARSDEN PARK  
 DRAFT S94 BASIN REVIEW  
 BASIN P

PLAN No.  
**8955/SK14** F

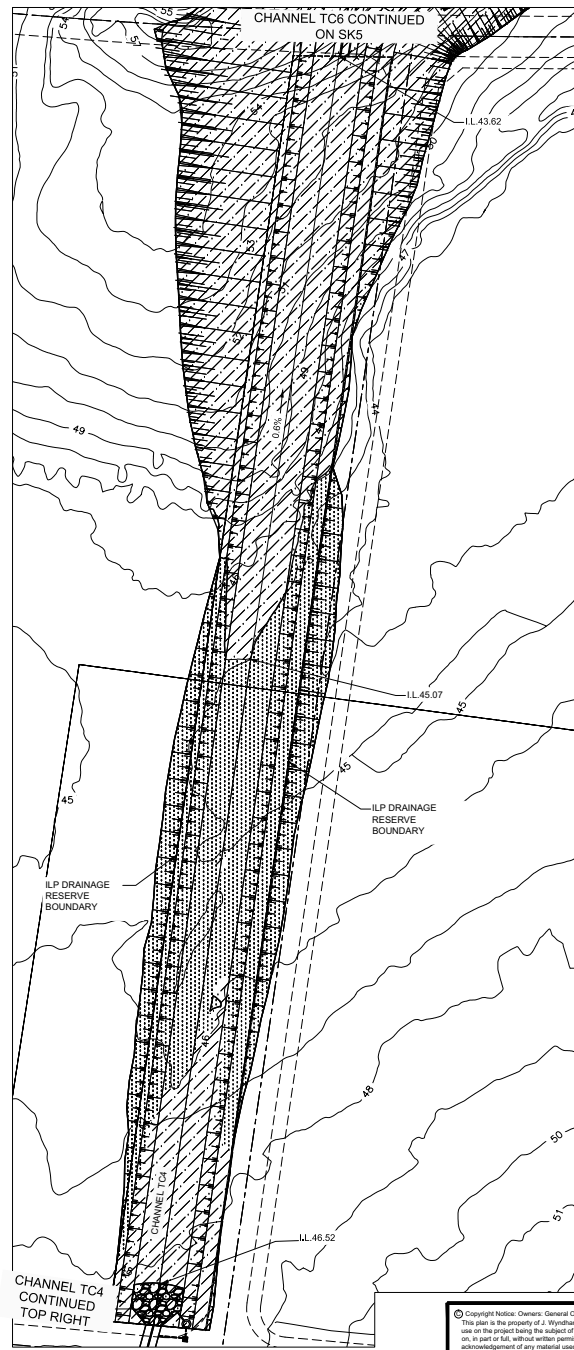
FILE No.  
 8955\_SK14



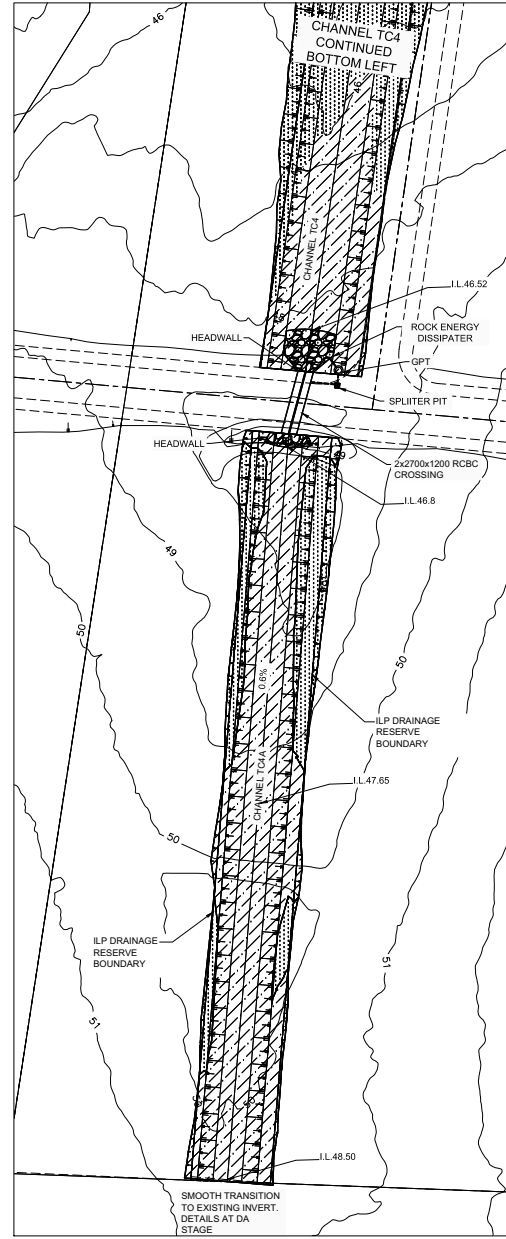
Project: 1 Feb 2011 10:35:35 AM File Name: J:\8955\Drawings\SRM - Concept Sketch Design\8955\_SK15.dwg



CHANNEL TC1



CHANNEL TC4



CHANNEL TC4 & TC4A

**CHANNEL TC1**

- EXTENT OF FILL - 4,090m<sup>3</sup>
- EXTENT OF CUT - 6,860m<sup>3</sup>

NOTE: ALL BATTERS ARE 1:4 UNO

**CHANNEL TC4**

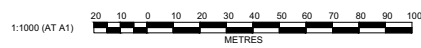
- EXTENT OF FILL - 8,570m<sup>3</sup>
- EXTENT OF CUT - 62,100m<sup>3</sup>

NOTE: ALL BATTERS ARE 1:4 UNO

**CHANNEL TC4A**

- EXTENT OF FILL - 950m<sup>3</sup>
- EXTENT OF CUT - 6,400m<sup>3</sup>

NOTE: ALL BATTERS ARE 1:4 UNO



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 DRAWN TK  
 CHECKED

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MARSDEN PARK  
 DRAFT S94 BASIN REVIEW  
 CHANNELS 1, 4 AND 4A

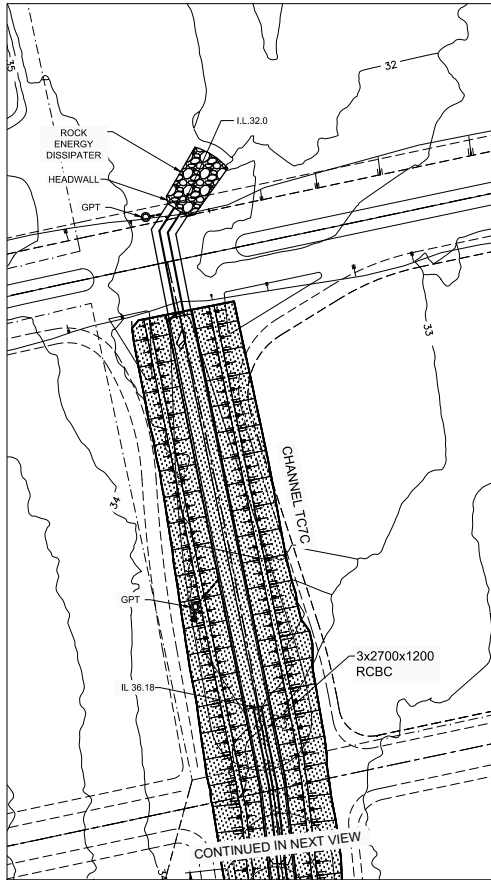
PLAN No.  
**8955/SK15** C  
 FILE No.  
 8955\_SK15

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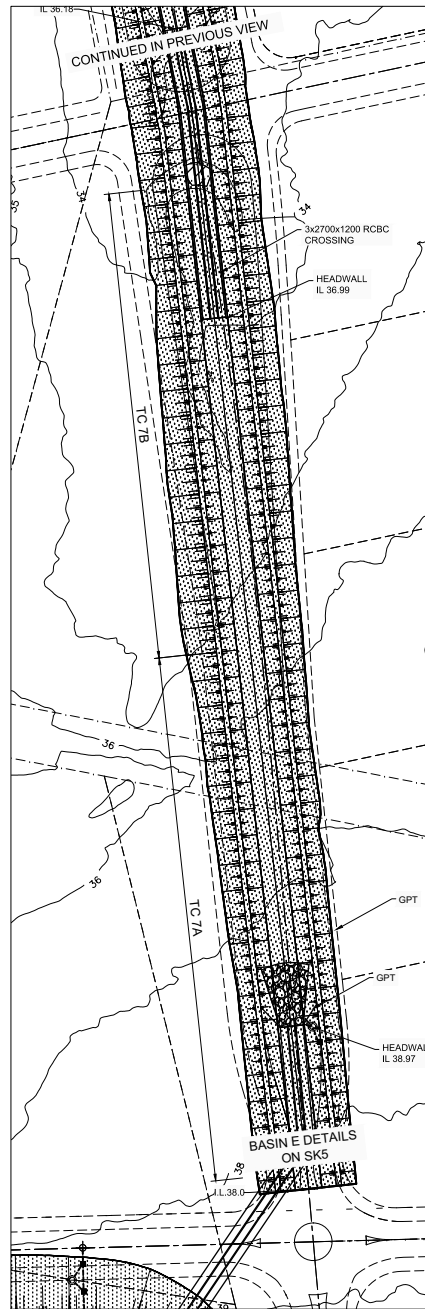
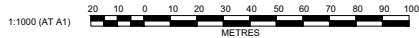
ISSUE	AMENDMENT	DATE	BY
C	ISSUED FOR EXHIBITION	01/02/11	GH
B	COUNCIL COMMENTS AMENDMENTS	30/11/10	NM
A	ISSUED FOR REVIEW	12/05/10	TK

Project: 1 Feb 2011 10:35:35 AM File Name: J:\8955\Drawings\SK16 - Concept Sketch Design\8955\_SK16.dwg



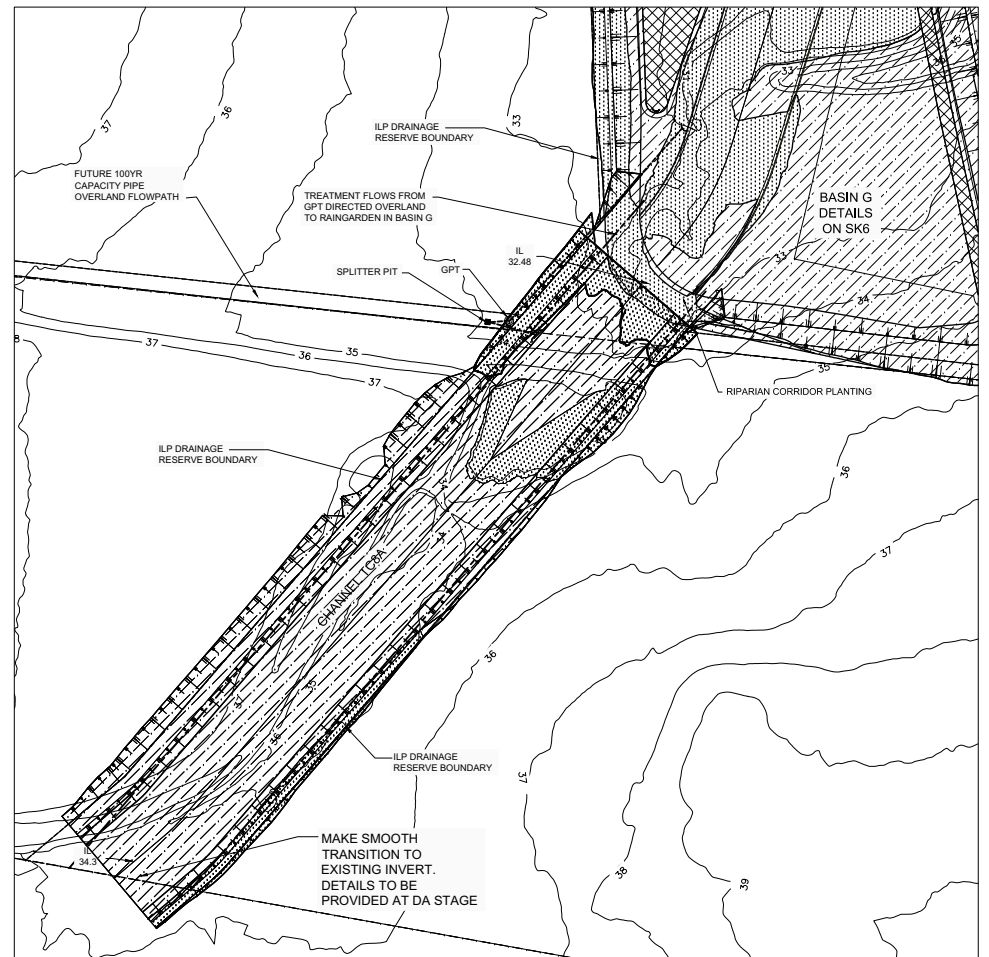
CHANNEL TC7C

**CHANNEL TC7**  
 [Stippled pattern] EXTENT OF FILL - 24,700m<sup>3</sup>  
 [Hatched pattern] EXTENT OF CUT - 0m<sup>3</sup>  
 NOTE: ALL BATTERS ARE 1:4



CHANNEL TC7 A & B (CONTINUED)

**CHANNEL TC8A**  
 [Stippled pattern] EXTENT OF FILL - 1,450m<sup>3</sup>  
 [Hatched pattern] EXTENT OF CUT - 16,670m<sup>3</sup>  
 - - - - - EXTENT OF RIPARIAN CORRIDOR  
 → → → → → LOW FLOW DIVERSION TO RAINGARDEN  
 NOTE: ALL BATTERS ARE 1:4



CHANNEL TC8A

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 DRAFT S94 BASIN REVIEW  
 CHANNELS 7 AND 8A

PLAN No.  
**8955/SK16** [C]  
 FILE No.  
 8955\_SK16

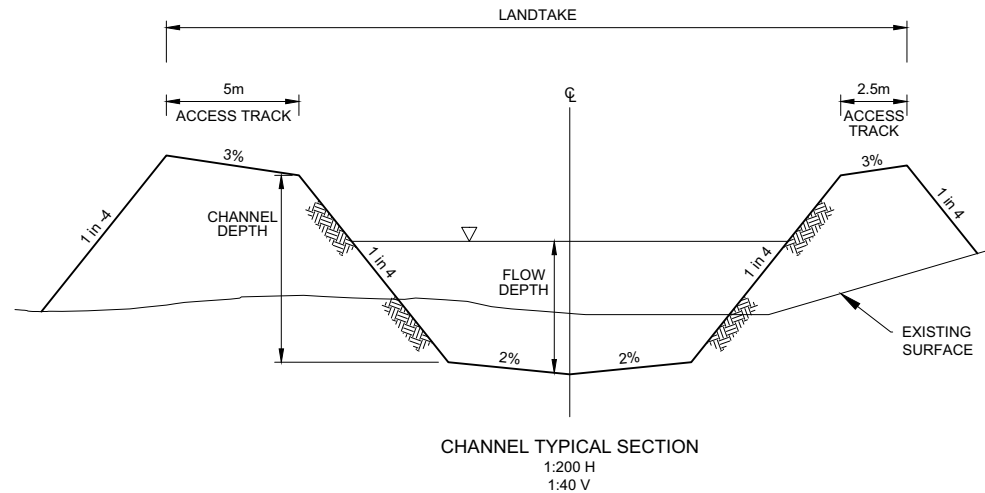
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Channel	Channel Length (m)	Channel Grade (%)	Manning's n	Base Width (m)	Batter Slope (H: 1V)	100yr Design Flow (m <sup>3</sup> /s)	Flow Depth (m)	Freeboard (m)	Channel Depth (m)	Channel Width (m) Hydraulic Conveyance	Overall Width (m)	Maintenance Provisions (looking downstream)	
												5m wide Major Access	2.5m wide Minor Access
TC1	310	1.3%	0.07	14.0	4	21.6	1.0	0.5	1.5	25.0	36	Left	Right
TC4A	280	0.6%	0.07	10.7	4	12.0	1.0	0.5	1.5	21.8	30	Right	Left
TC4	480	0.6%	0.07	18.8	4	18.3	1.0	0.5	1.5	29.3	32	Internal Road at Right	Left
TC6	400	0.5%	0.07	21.3	4	18.3	1.0	0.5	1.5	31.6	40	Left	Right
TC7A	200	0.8%	0.07	9.5	4	12.7	1.0	0.5	1.5	20.7	21	Internal Road at Left	Internal Road at Right
TC7B	200	0.8%	0.07	10.0	4	13.2	1.0	0.5	1.5	21.2	22	Internal Road at Left	Internal Road at Right
TC7C	175	0.8%	0.07	11.0	4	14.2	1.0	0.5	1.5	22.2	23	Internal Road at Left	Internal Road at Right
TC8A	300	0.8%	0.07	33.2	4	32.0	1.0	0.5	1.5	42.7	51	Left	Right
TC8B	215	existing grade retained	0.07	varies	varies (4H:1V max)	28.2*	varies	0.5	varies	varies	varies	Right	Left
TC11	210	0.5%	0.07	6.0	4	7.3	1.0	0.5	1.5	17.5	20	Internal Road at Left	Right
TC12A	272	0.5%	0.07	2.0	4	10.4	1.5	0.5	2.0	17.8	23	Left	Richmond Road at Right
TC13	103	0.5%	0.07	7.1	4	8.2	1.0	0.5	1.5	18.6	27	Left	Right

\*- POST CLIMATE CHANGE



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A	ISSUED FOR REVIEW	12/05/10	TG

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DESIGNED DJH/ER  
 DRAWN DJH/TG  
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 H 1:200  
 V 1:40

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MARSDEN PARK  
 DRAFT S94 BASIN REVIEW  
 CHANNEL TYPICAL SECTION & CHANNEL SUMMARY

PLAN No.  
**8955/SK17** C  
 FILE No.  
 8955\_SK17