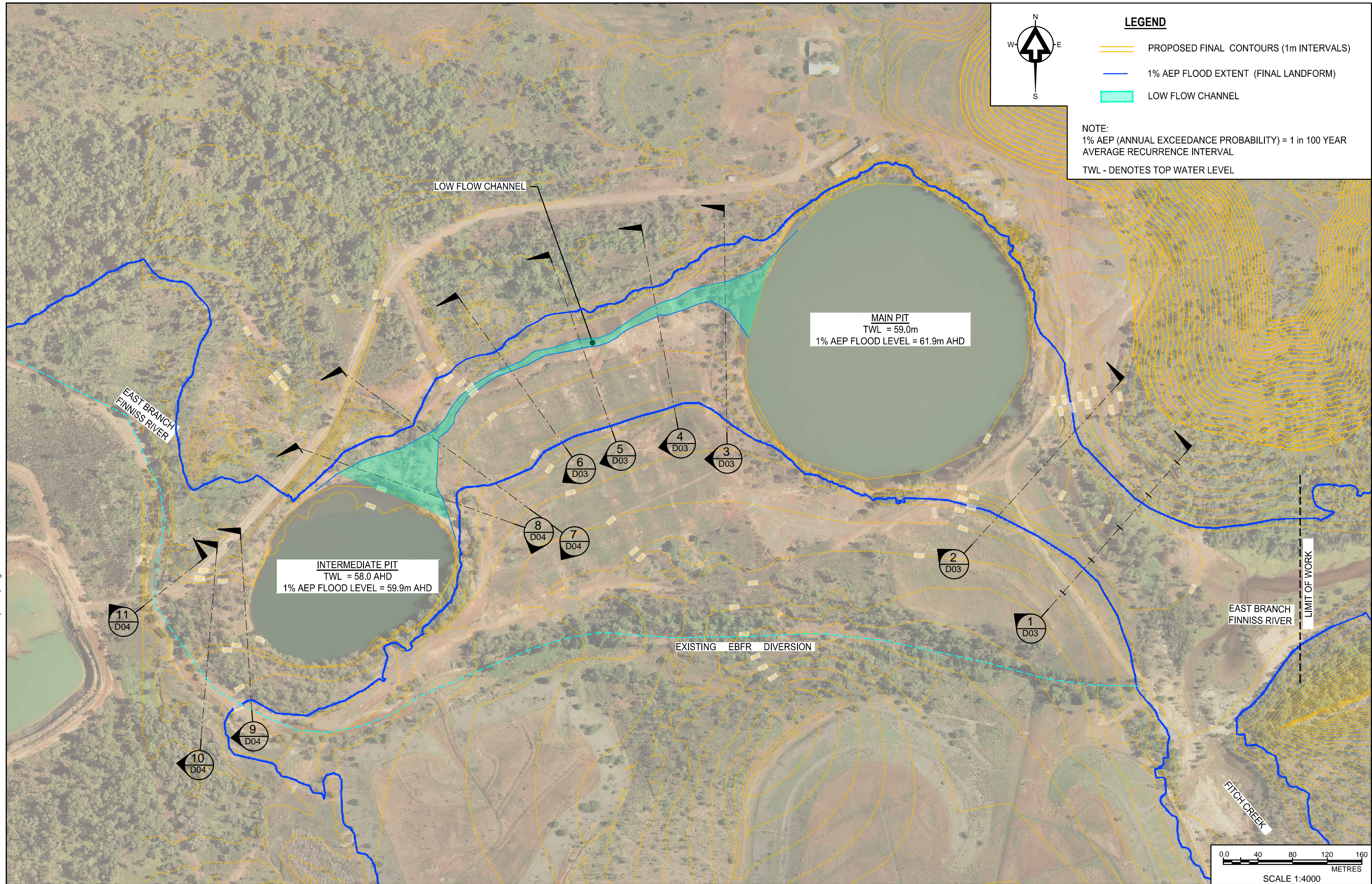


# Appendix 24.

SLR Consulting Australia (2020o) *Reinstatement of EBFR Design Drawings*. Issued to the Department of Primary Industry and Resources, Northern Territory.



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1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR
No.	DESCRIPTION	DATE	INIT.	DEPT/COMPANY.
AMENDMENTS		Plot Date: 11/06/2020		



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DRAWN M Skoljarev DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGNED P Cupitt DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGN PROJECT LEADER D O'Toole DATE: 20.05.2020	NTG PROJECT MANAGER J Hartnett DATE: 20.05.2020



RUM JUNGLE REHABILITATION  
STAGE 2A DETAILED ENGINEERING DESIGN

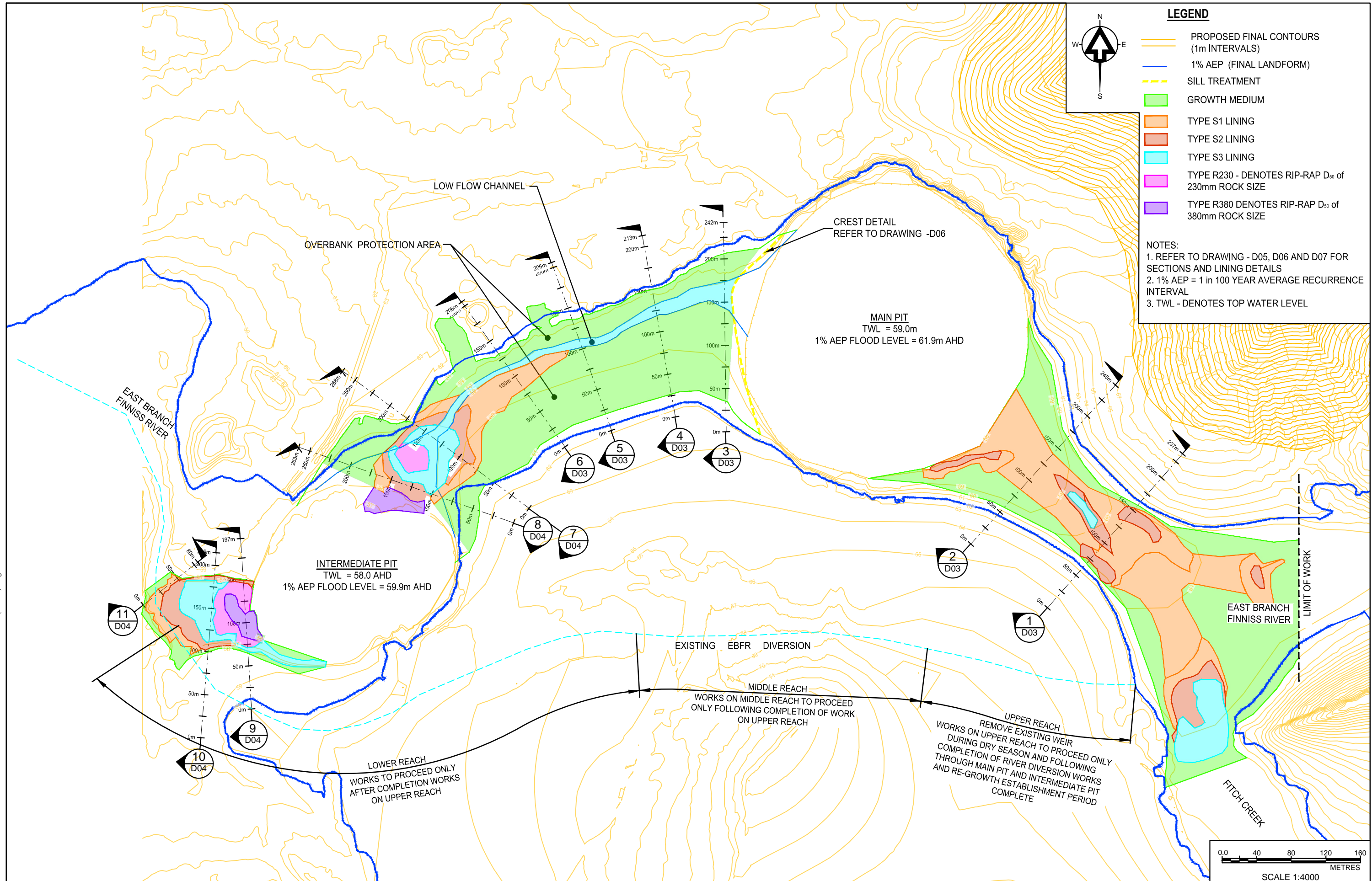
**REINSTATEMENT OF EAST BRANCH FINNISS RIVER  
GENERAL ARRANGEMENT**

NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT	SHEET SIZE
N/A	N/A	1 OF 7	680.10421.RFR.D01	1	A3

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1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR
No.	DESCRIPTION	DATE	INIT.	DEPT./COMPANY.
AMENDMENTS				
Plot Date: 11/06/2020				



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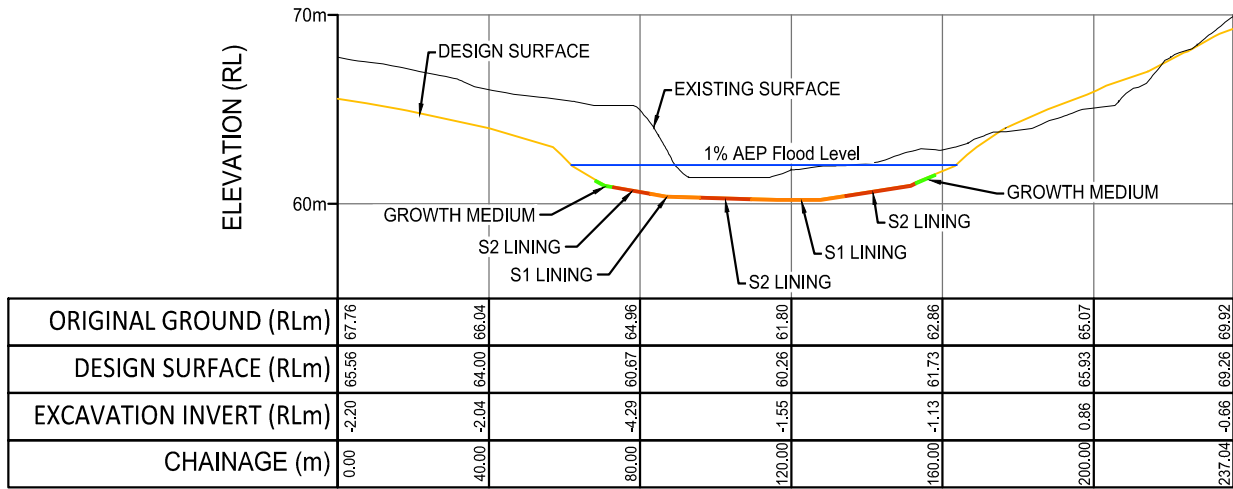
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DESIGNED P Cupitt DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGN PROJECT LEADER D O'Toole DATE: 20.05.2020	NTG PROJECT MANAGER J Hartnett DATE: 20.05.2020



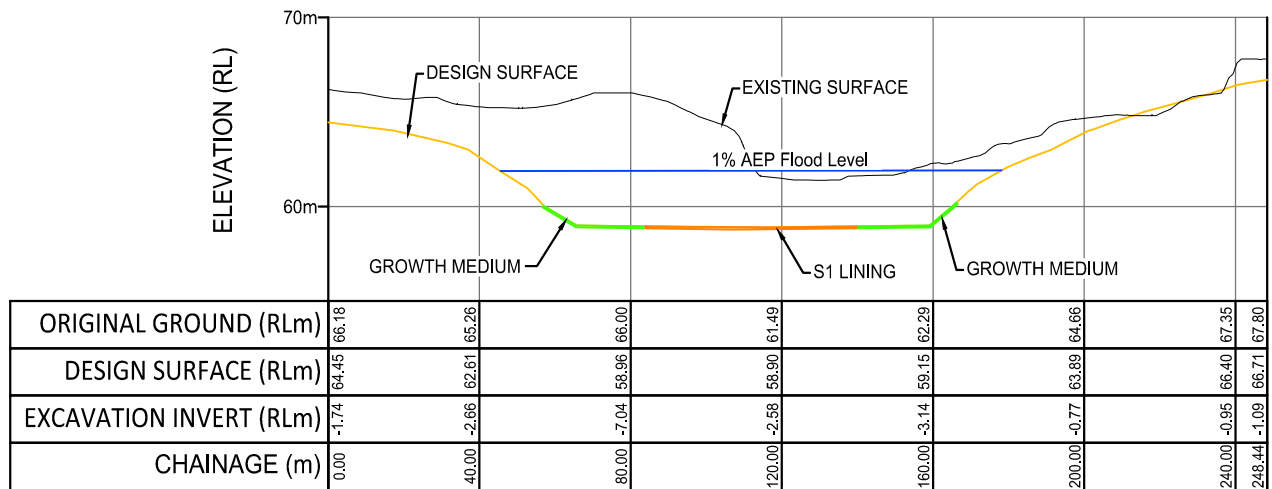
**Northern Territory  
Government**

RUM JUNGLE REHABILITATION STAGE 2A DETAILED ENGINEERING DESIGN				
REINSTATEMENT OF EAST BRANCH FINNISS RIVER EXISTING AND FINAL CONTOURS PLAN				
NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT
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				SHEET SIZE A3

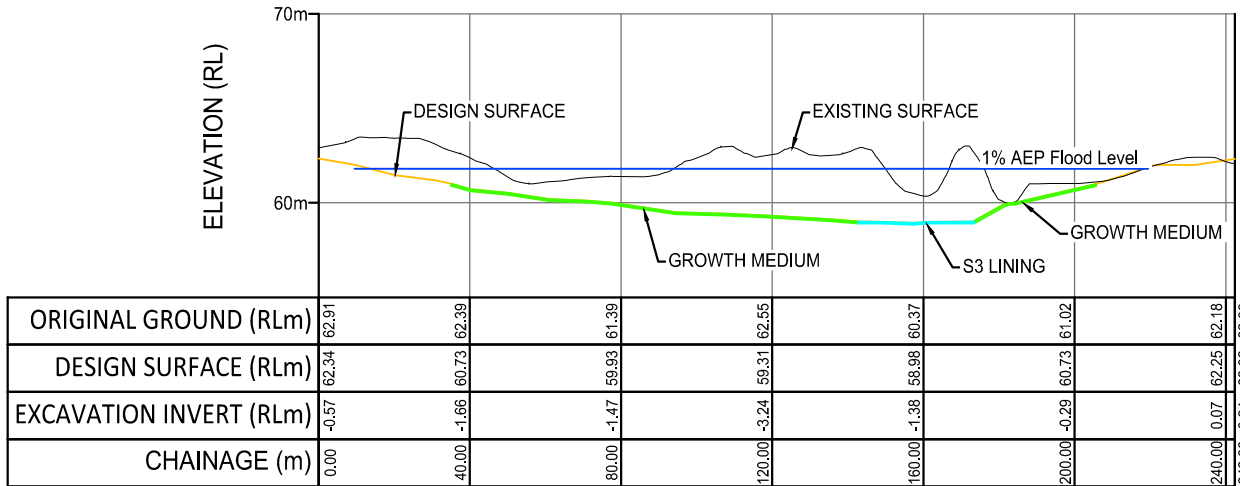
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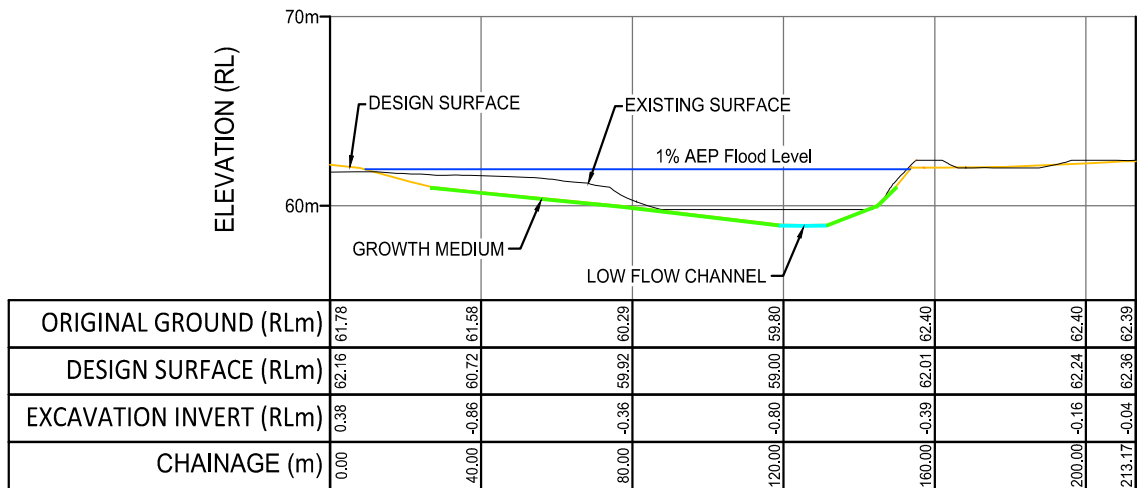
SECTION 1  
D02  
SCALE H - 1: 2000  
V - 1: 400



SECTION 2  
D02  
SCALE 1: 2000  
V - 1: 400



SECTION 3  
D02  
SCALE 1: 2000  
V - 1: 400

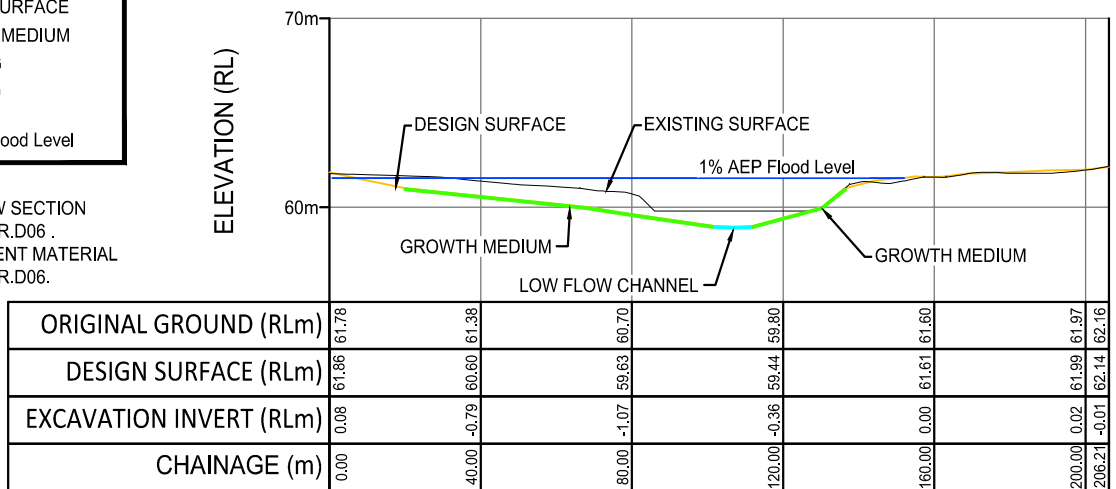


SECTION 4  
D02  
SCALE 1: 2000  
V - 1: 400

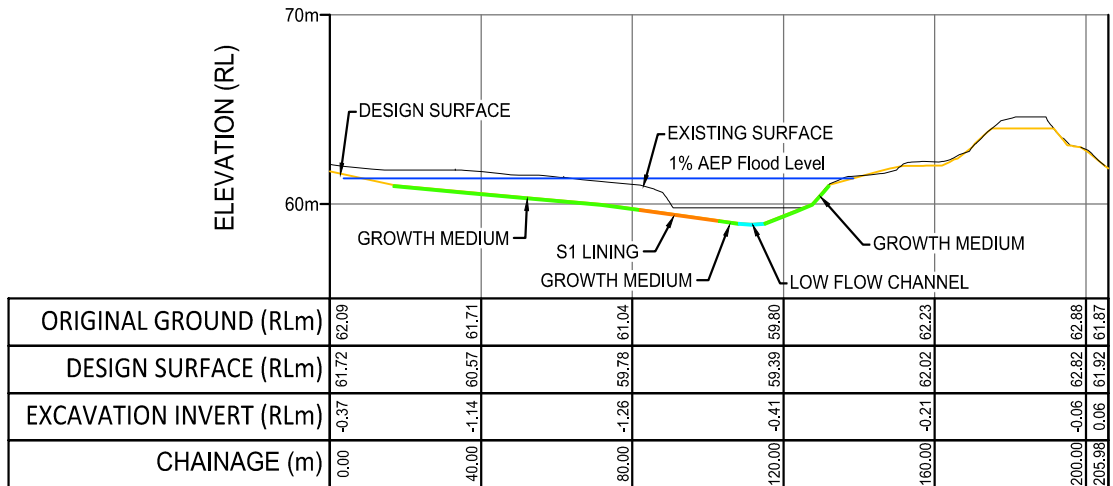
**LEGEND**

- EXISTING SURFACE
- DESIGN SURFACE
- GROWTH MEDIUM
- S1 LINING
- S2 LINING
- S3 LINING
- 1% AEP Flood Level

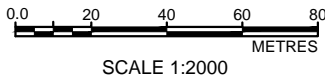
NOTE:  
FOR TYPICAL LOW FLOW SECTION  
REFER TO DRAWING RFR.D06 .  
FOR SURFACE TREATMENT MATERIAL  
REFER TO DRAWING RFR.D06.



SECTION 5  
D02  
SCALE 1: 2000  
V - 1: 400



SECTION 6  
D02  
SCALE 1: 2000  
V - 1: 400



1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR	
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AMENDMENTS					Plot Date: 11/06/2020

**SLR**

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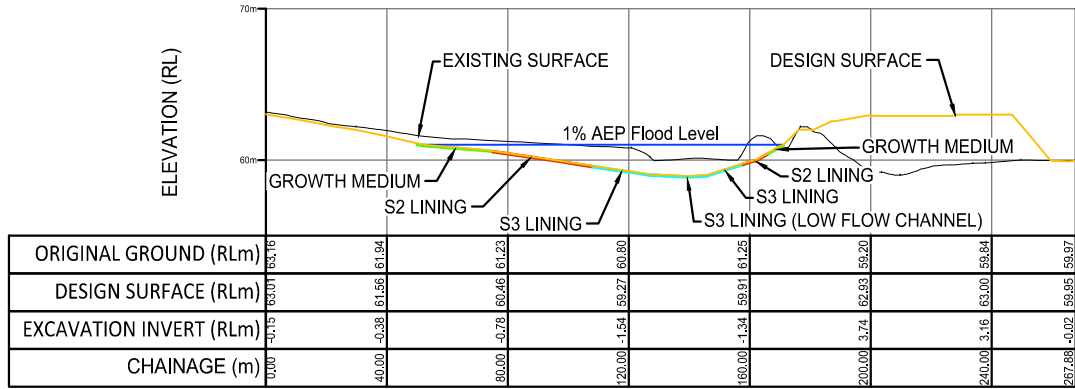
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DESIGNED P Cupitt DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGN PROJECT LEADER D O'Toole DATE: 20.05.2020	NTG PROJECT MANAGER J Hartnett DATE: 20.05.2020



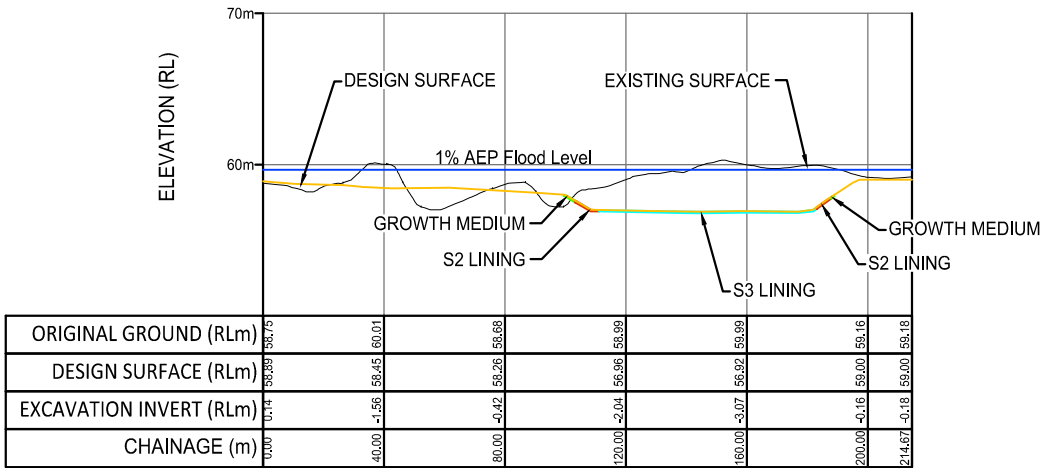
RUM JUNGLE REHABILITATION STAGE 2A DETAILED ENGINEERING DESIGN					
SURFACE TREATMENT SECTIONS SHEET 1 OF 2					
NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT	SHEET SIZE
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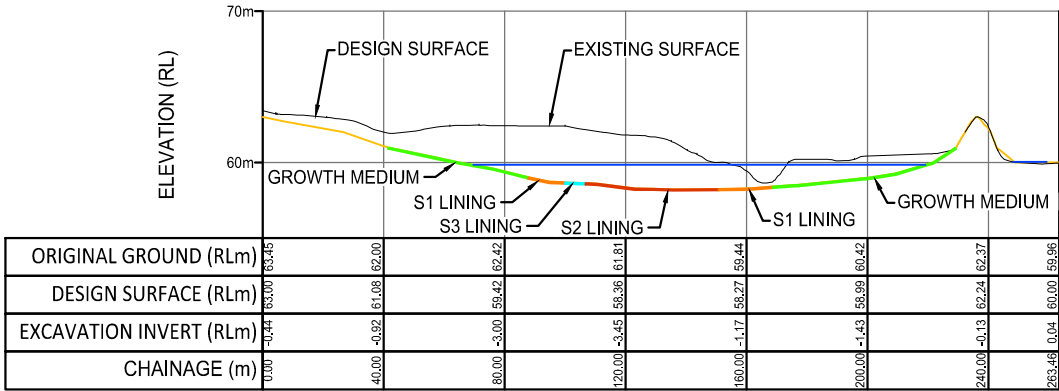
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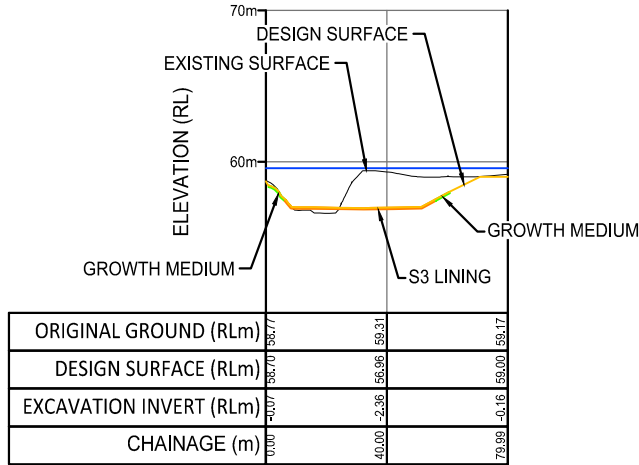
SECTION 7  
SCALE H - 1: 2000  
V - 1: 400



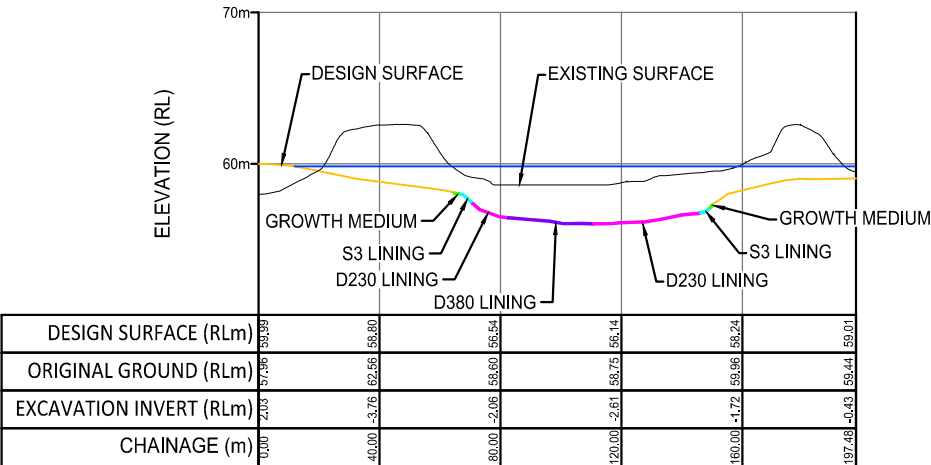
SECTION 10  
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SECTION 8  
SCALE H - 1: 2000  
V - 1: 400



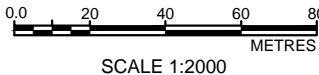
SECTION 11  
SCALE H - 1: 2000  
V - 1: 400



SECTION 9  
SCALE H - 1: 2000  
V - 1: 400

- LEGEND**
- EXISTING SURFACE
  - DESIGN SURFACE
  - GROWTH MEDIUM
  - S1 LINING
  - S2 LINING
  - S3 LINING
  - D230 LINING
  - D380 LINING
  - 1% AEP Flood Level

NOTE:  
FOR TYPICAL LOW FLOW SECTION  
REFER TO DRAWING RFR.D06.  
FOR SURFACE TREATMENT MATERIAL  
REFER TO DRAWING RFR.D06.



1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR
No.	DESCRIPTION	DATE	INIT.	DEPT/COMPANY.
AMENDMENTS				
Plot Date: 11/06/2020				



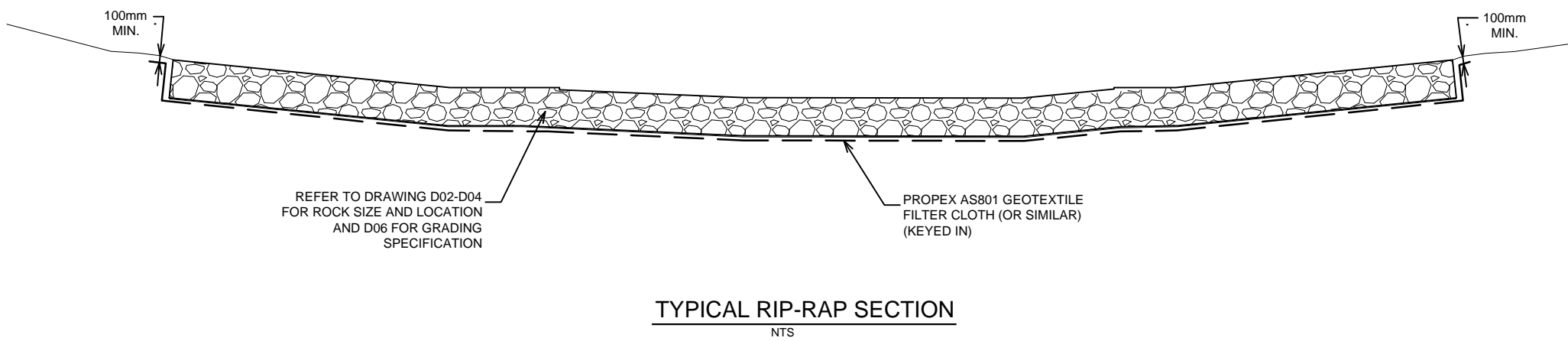
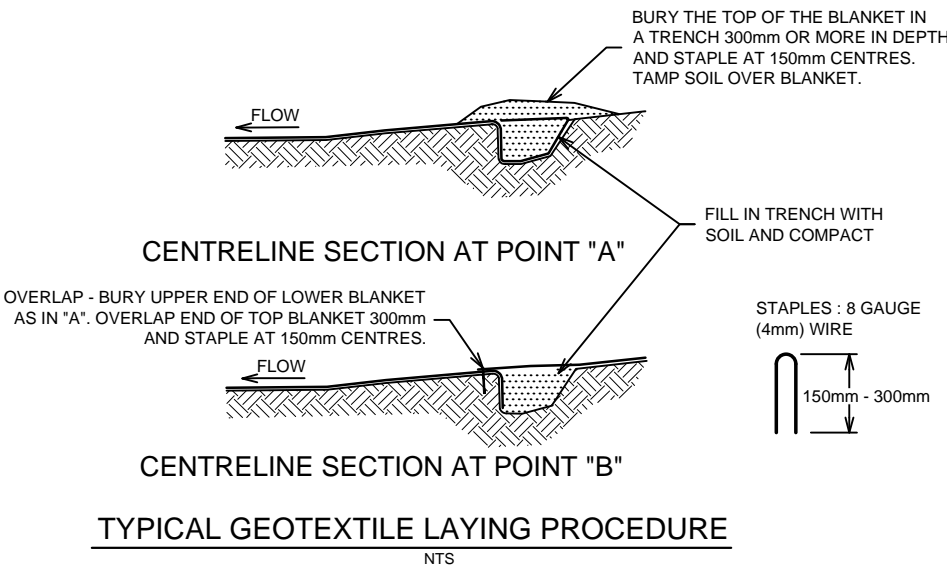
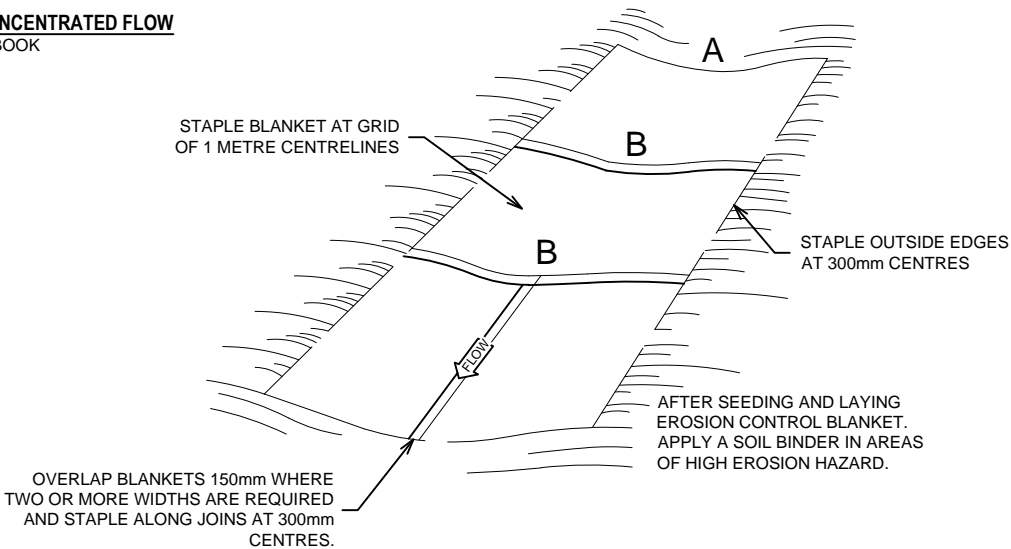
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DRAWN M Skoljarev DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGNED P Cupitt DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGN PROJECT LEADER D O'Toole DATE: 20.05.2020	NTG PROJECT MANAGER J Hartnett DATE: 20.05.2020



RUM JUNGLE REHABILITATION STAGE 2A DETAILED ENGINEERING DESIGN				
SURFACE TREATMENT SECTIONS SHEET 2 OF 2				
NTG PROJECT No. N/A	NTG ASSET No. N/A	SHEET No. 4 OF 7	NTG DRAWING No. 680.10421.RFR.D04	AMENDMENT 1
				SHEET SIZE A3





CONSTRUCTION NOTES:

1. RIP-RAP SHOULD OVERLAY A 1M DEEP BASE OF STABILISED AND WELL COMPACTED MATERIAL WHICH IS NON-DISPERSIVE AND WITH PERMEABILITY NON GREATER THAN  $1 \times 10^{-6}$  m/s.
2. USE GRADED DURABLE RIP-RAP (ROCK). RIP-RAP SHOULD NOT BE SINGLE SIZED, BUT SHOULD BE A WELL-GRADED MIXTURE DESIGNED TO ENSURE THAT ALL GAPS BETWEEN LARGE ROCKS ARE FILLED WITH ROCK OF PROGRESSIVELY SMALLER SIZE SO THAT NO SIGNIFICANT VOIDS OCCUR IN THE RIP-RAP BLANKET. GRADING RECOMMENDATIONS ARE PROVIDED IN TABLE 1 BELOW.
3. ROCK FOR RIP RAP SHOULD BE HARD, TOUGH AND DURABLE WITH A CRUSHING STRENGTH OF AT LEAST 25MPa. THE ROCK SHOULD BE FREE OF DEFINED CLEAVAGE PLANES AND SHOULD NOT BE ADVERSELY AFFECTED BY REPEATED WETTING AND DRYING. ROCK SHOULD PREFERABLY BE PREDOMINANTLY ANGULAR IN SHAPE WITH NOT MORE THAN 25% OF ROCKS, DISTRIBUTED THROUGH THE GRADATION, HAVING A LENGTH MORE THAN TWICE THE BREADTH AND THICKNESS.
4. USE PROPEX AS801 NON-WOVEN GEOTEXTILE FILTER CLOTH (GEOTEXTILE) (OR SIMILAR) BETWEEN THE RIP RAP AND THE PARENT MATERIAL. MAXIMUM RESISTANCE BETWEEN THE RIP RAP AND THE CLOTH IS REQUIRED. THIS CAN BE ACHIEVED BY:
  - ENSURING PREPARATION OF THE BANK TO A ROUGH AND UNEVEN BATTER BEFORE PLACING THE CLOTH.
  - NOT STRETCHING CLOTH TIGHTLY OVER THE UNDERLYING BANK
  - AVOID CLOTHS WITH LOW FRICTION SURFACES
  - LAY GEOTEXTILE IN "SHINGLE-FASHION", WITH THE END OF EACH UPSTREAM ROLL OVERLAPPING THOSE DOWNSTREAM. ENSURE EACH ROLL IS ANCHORED PROPERLY AT ITS UPSLOPE END.
5. REFER TO DRAWING RFR.D06 FOR RIP-RAP DETAILS

NOTE:  
ALL DISTURBED AREAS (OUTSIDE ROCK RIP RAP) SHOULD BE REVEGETATED AS PER PROJECT REVEGETATION PLAN.

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1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR
No.	DESCRIPTION	DATE	INIT.	DEPT/COMPANY.
AMENDMENTS				
Plot Date: 11/06/2020				



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DRAWN M Skoljarev DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGNED P Cupitt DATE: 20.05.2020	CHECKED P Delaney DATE: 20.05.2020
DESIGN PROJECT LEADER D O'Toole DATE: 20.05.2020	NTG PROJECT MANAGER J Hartnett DATE: 20.05.2020



RUM JUNGLE REHABILITATION STAGE 2A DETAILED ENGINEERING DESIGN					
REINSTATEMENT OF EAST BRANCH FINNISS RIVER DETAILS SHEET 1					
NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT	SHEET SIZE
N/A	N/A	5 OF 7	680.10421.RFR.D05	1	A3





OVERBANK SECTION  
WIDTH VARIES  
(REFER TO DRAWINGS .D02 TO .D04)

MAIN FLOW PATH  
REFER TO DRAWING .D02 TO .D05  
FOR SURFACE TREATMENT

OVERBANK SECTION  
WIDTH VARIES  
(REFER TO DRAWINGS .D02 TO .D04)

0.3m DEPTH OF  
GROWTH MEDIA

2m

0.25m

1:3

1:3

SUBGRADE  
EXCAVATED NATURAL  
MATERIAL OR IN-SITU SOIL

GROWTH MEDIA  
1.5m DEPTH  
UNDER SURFACE  
TREATMENT

CREEK BED LINING  
TYPE S1, S2, S3, R230 OR R380

2m

LOW PERMEABILITY NON-DISPERSIVE FILL  
WITH PERMEABILITY NOT TO EXCEED  $1 \times 10^{-5} \text{ m/s}$   
TEST EXISTING MATERIAL AND REPLACE IF  
NON-COMPLIANT

MINIMUM THICKNESS  
TYPE S1 - 250mm

TYPICAL SECTION FOR CHANNEL REINSTATEMENT DESIGN

NOTE 1  
THE CONTRACTOR IS REQUIRED TO IMPLEMENT THE LANDFORM AS SPECIFIED. REVEGETATION IS NOT PART OF THIS CONTRACT.

1	ISSUED FOR IMPLEMENTATION	10/06/20	MS	SLR
No.	DESCRIPTION	DATE	INIT.	DEPT/COMPANY
AMENDMENTS				Plot Date: 11/06/2020



DRAWN <b>M Skoljarev</b>	CHECKED <b>P Delaney</b>
DATE: 20.05.2020	DATE: 20.02.2020
DESIGNED <b>P Cupitt</b>	CHECKED <b>P Delaney</b>
DATE: 20.05.2020	DATE: 20.05.2020
DESIGN PROJECT LEADER <b>D O'Toole</b>	NTG PROJECT MANAGER <b>J Hartnett</b>
DATE: 20.05.2020	DATE: 20.05.2020

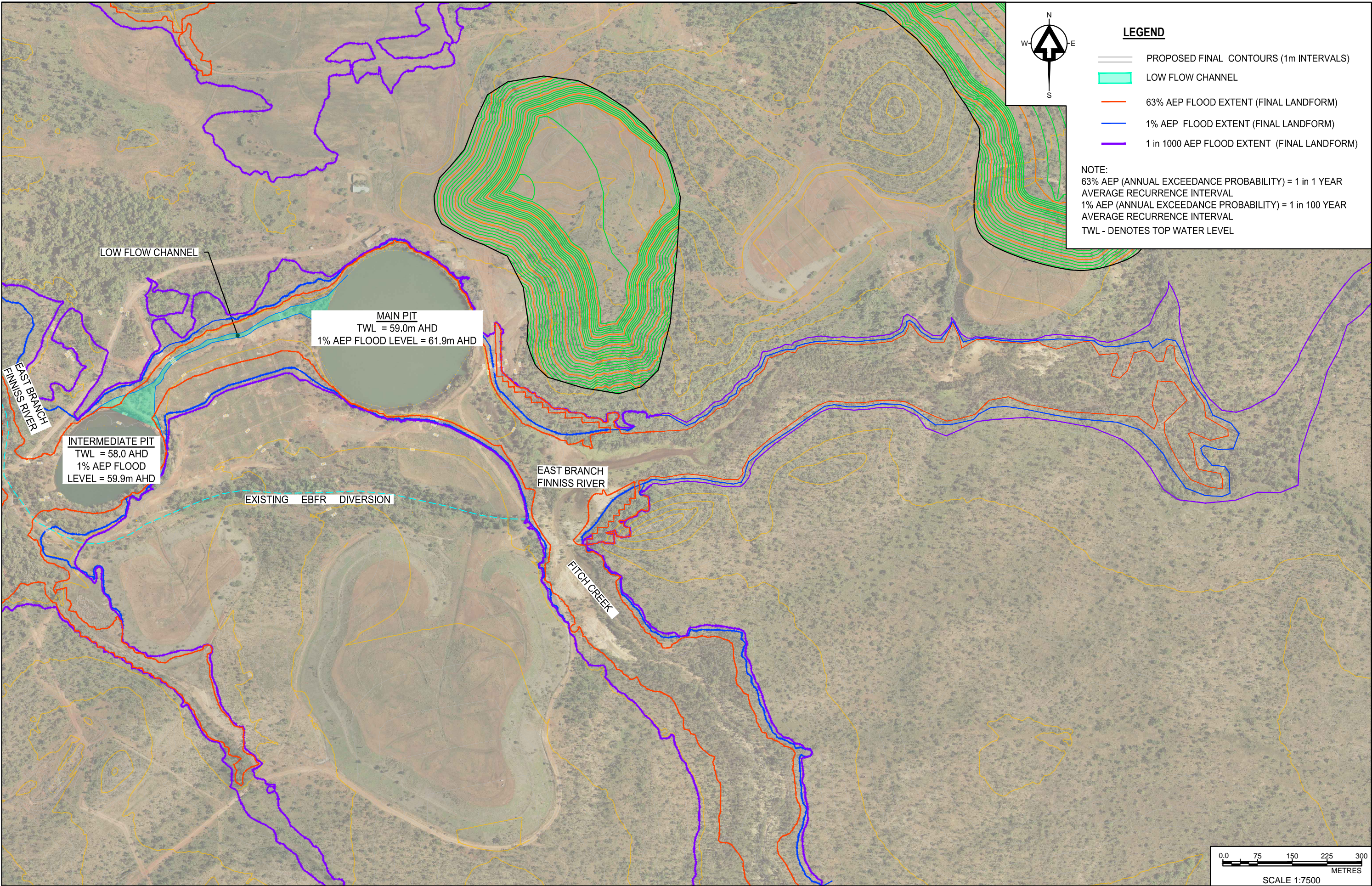


# REINSTATEMENT OF EAST BRANCH FINNISS RIVER DETAILS SHEET 2

NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT	SHEET SIZE
N/A	N/A	6 OF 7	680.10421.RFR.D06	1	A3



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AMENDMENTS		Plot Date: 11/06/2020		



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DRAWN	M Skoljarev	CHECKED	P Delaney
DATE: 22.05.2020		DATE: 22.05.2020	
DESIGNED	P Cupitt	CHECKED	P Delaney
DATE: 22.05.2020		DATE: 22.05.2020	
DESIGN PROJECT LEADER	D O'Toole	NTG PROJECT MANAGER	J Hartnett
DATE: 22.05.2020		DATE: 22.05.2020	



RUM JUNGLE REHABILITATION STAGE 2A DETAILED ENGINEERING DESIGN				
REINSTATEMENT OF EAST BRANCH FINNISS RIVER FLOOD INUNDATION AND WSF POSITION				
NTG PROJECT No.	NTG ASSET No.	SHEET No.	NTG DRAWING No.	AMENDMENT
N/A	N/A	7 OF 7	680.10421.RFR.D07	1
				SHEET SIZE A3

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