

APPENDIX A - OPEN CUT AREA WATER MANAGEMENT PLANS

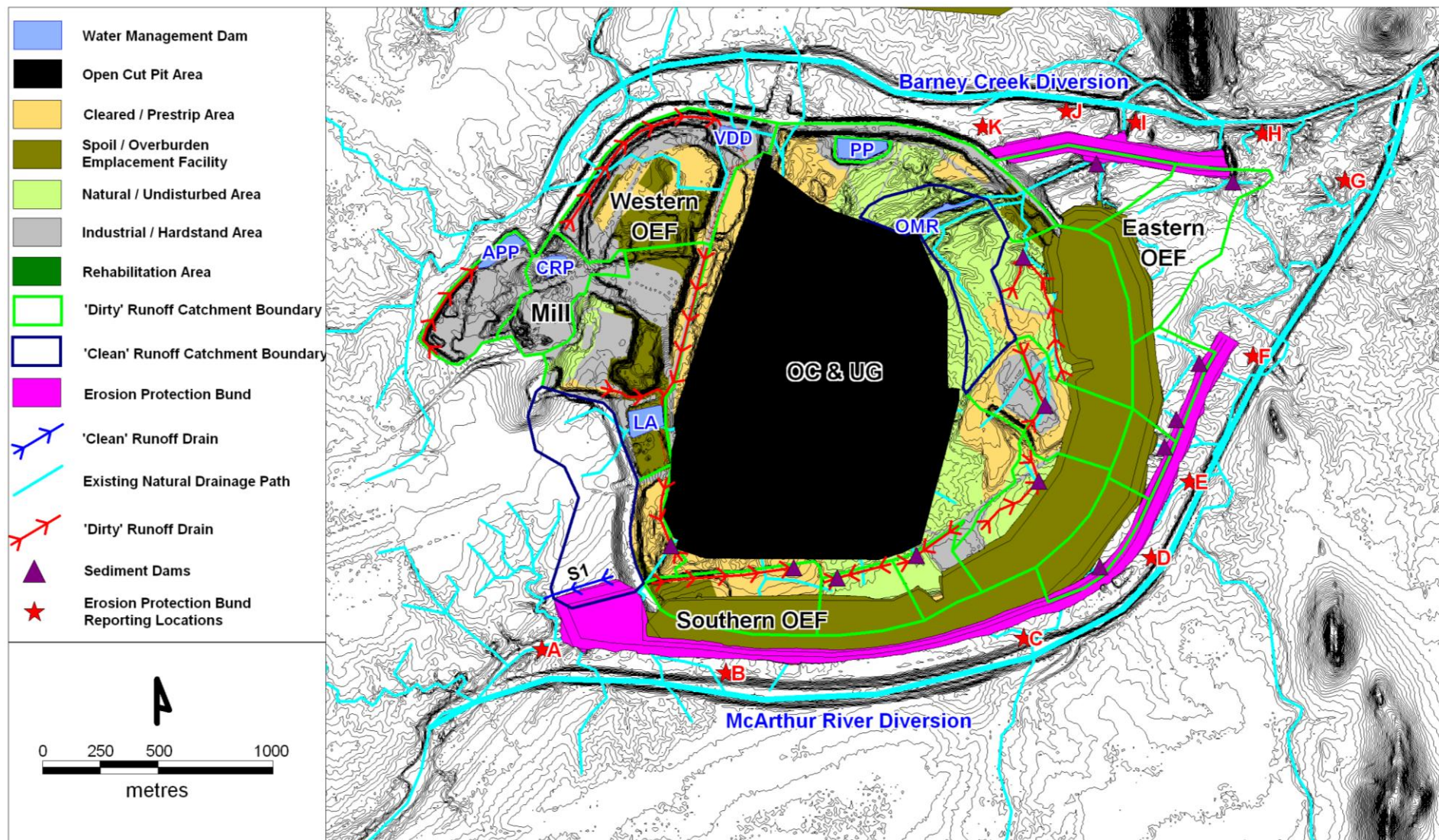


Figure A1 Proposed Open Pit Area Water Management System, McArthur River Mine Phase 3 Project Site, 2015

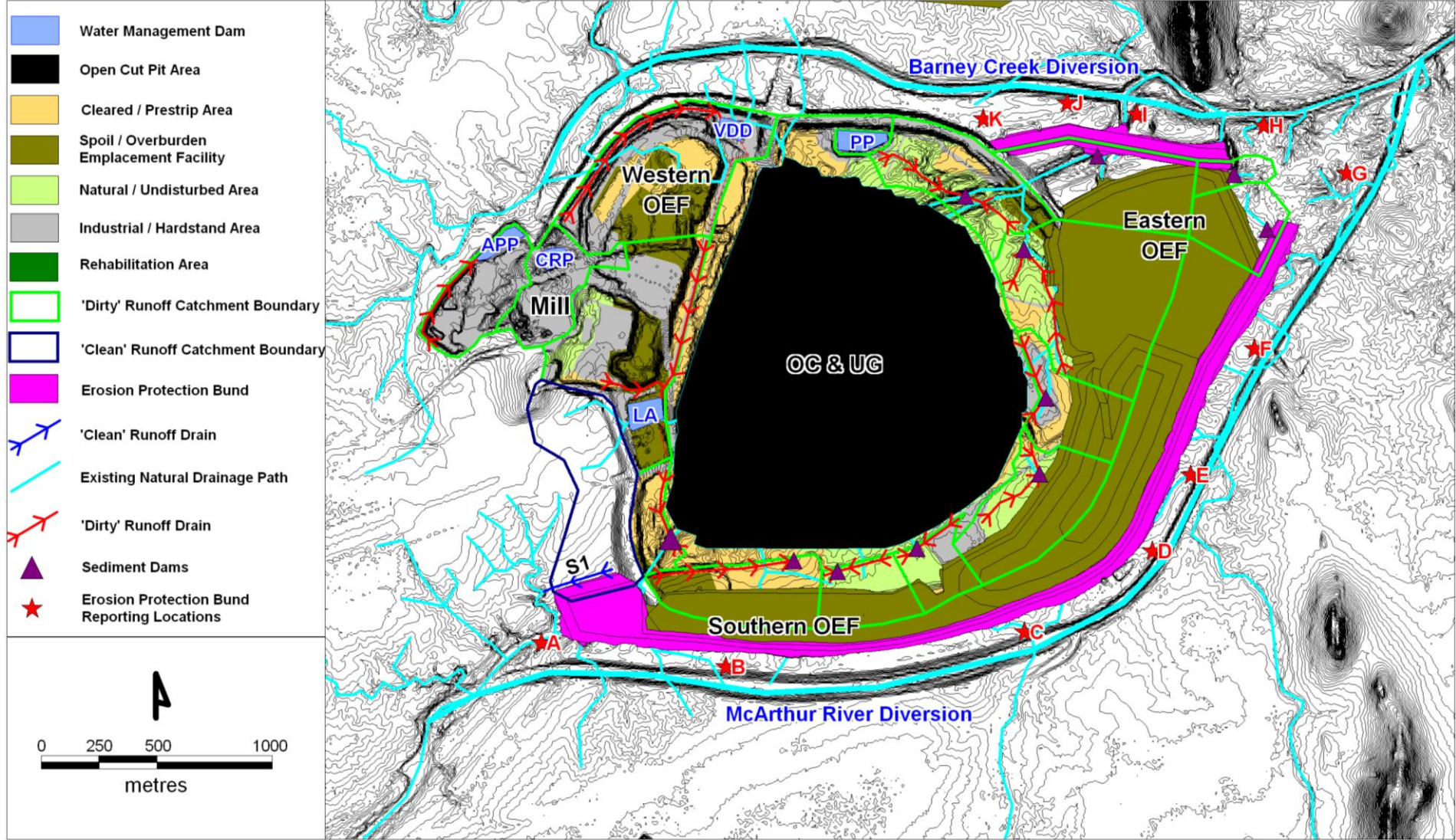


Figure A2 Proposed Open Pit Area Water Management System, McArthur River Mine Phase 3 Project Site, 2020

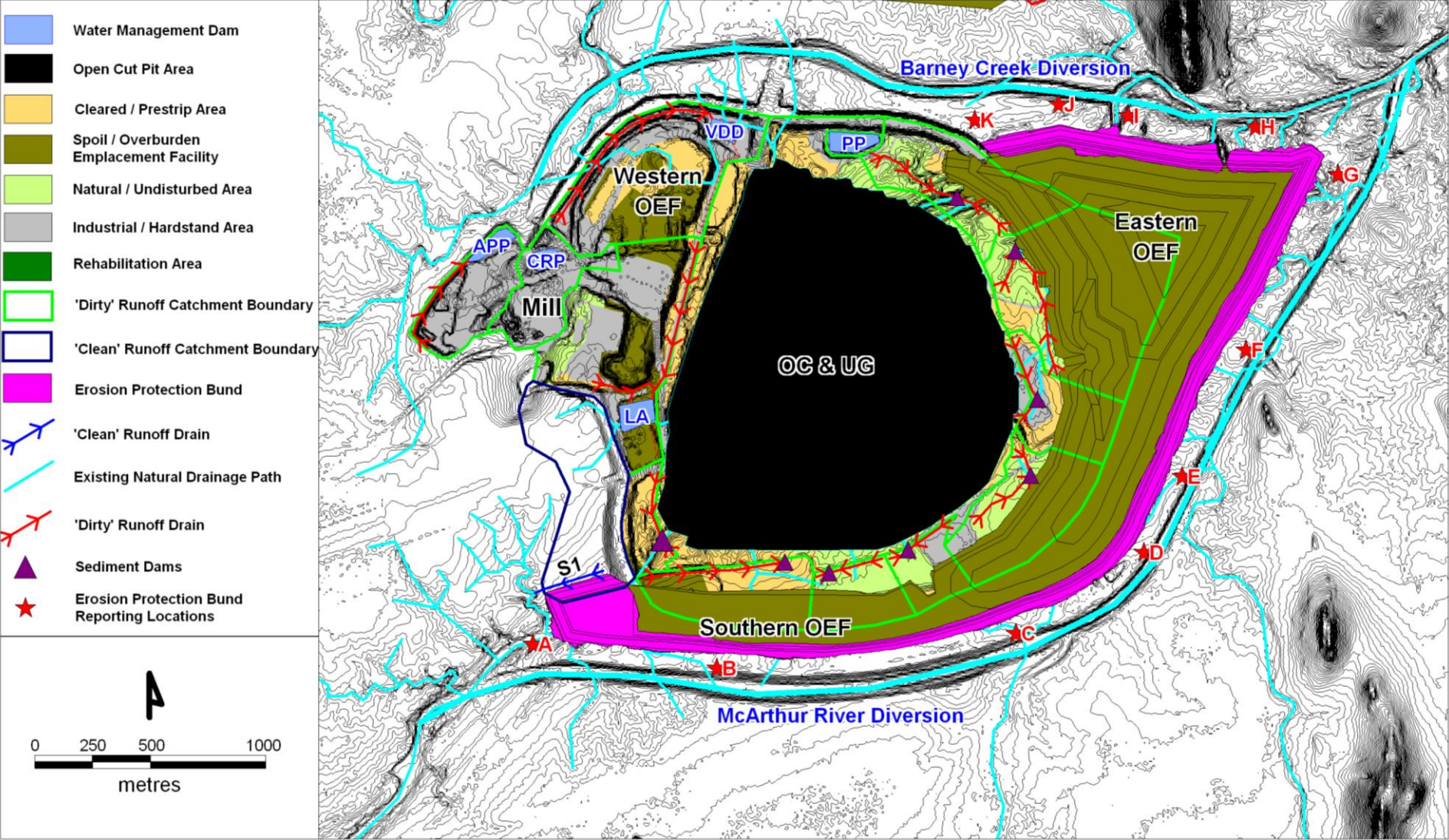


Figure A3 Proposed Open Pit Area Water Management System, McArthur River Mine Phase 3 Project Site, 2025 to 2035

APPENDIX B - TSF AREA WATER MANAGEMENT PLANS

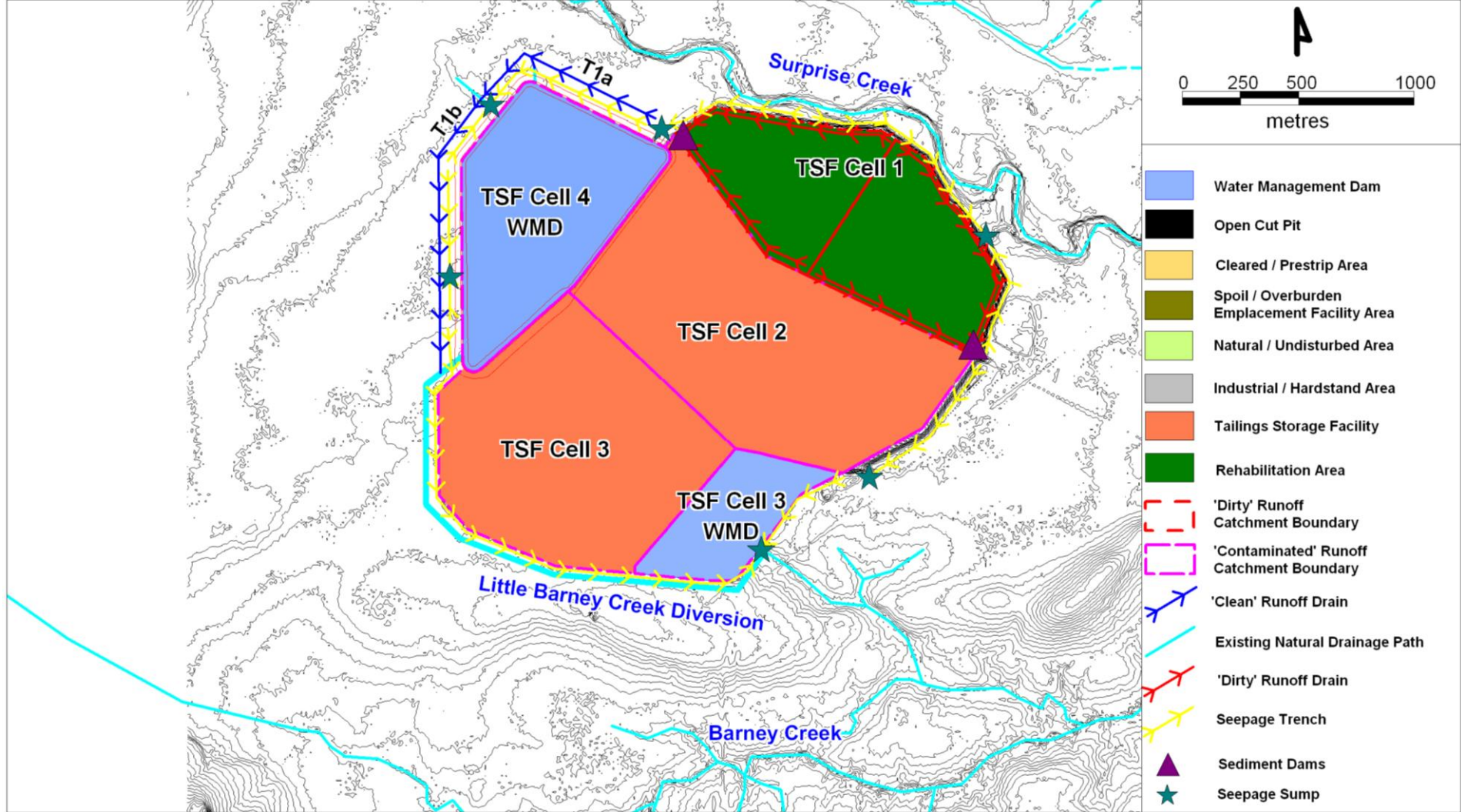


Figure B1 Proposed TSF Area Water Management System, McArthur River Mine Phase 3 Project Site, 2015 to 2030

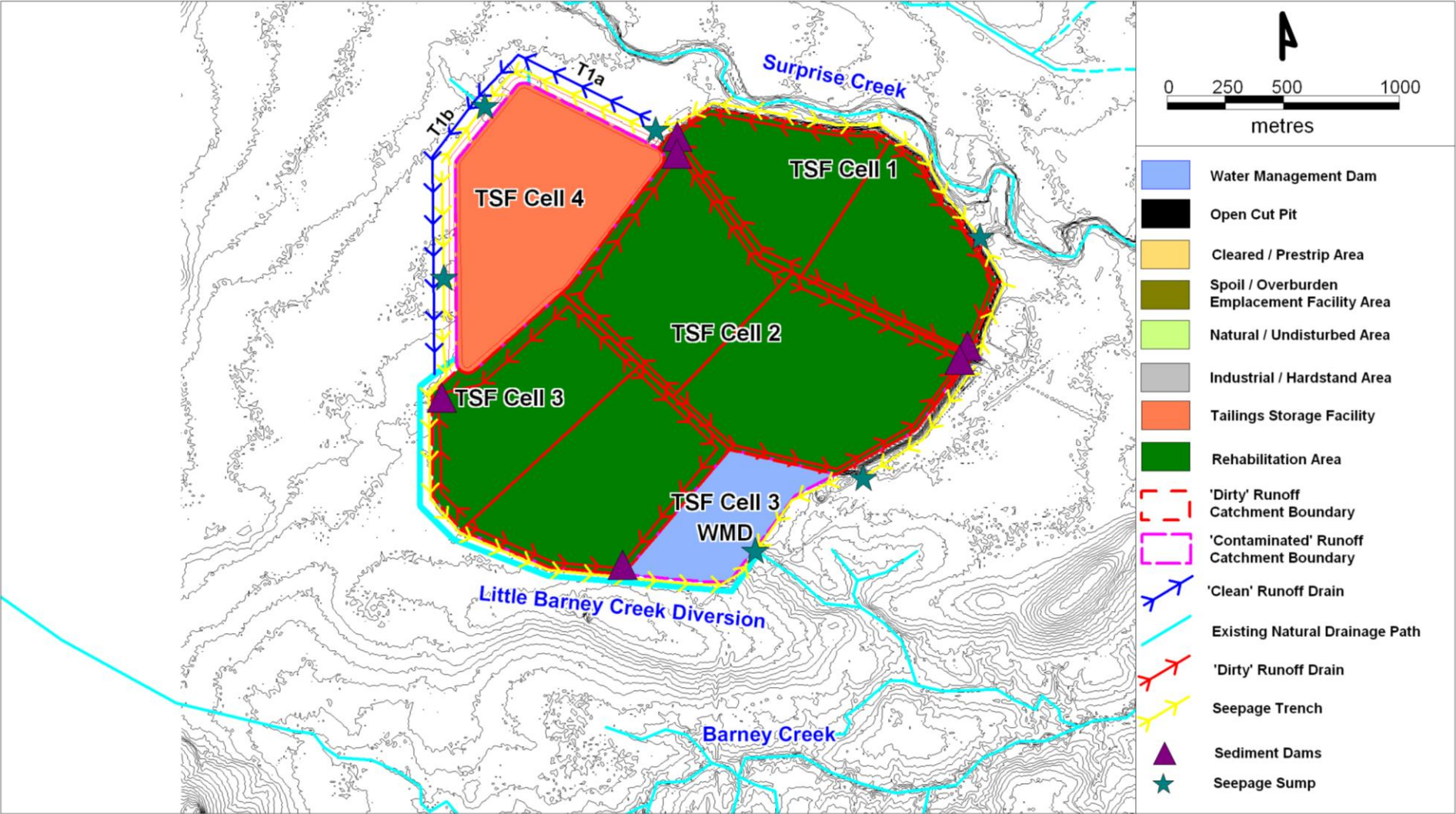


Figure B2 Proposed TSF Area Water Management System, McArthur River Mine Phase Project Site, 2035

APPENDIX C - NORTH OEF AREA WATER MANAGEMENT PLANS

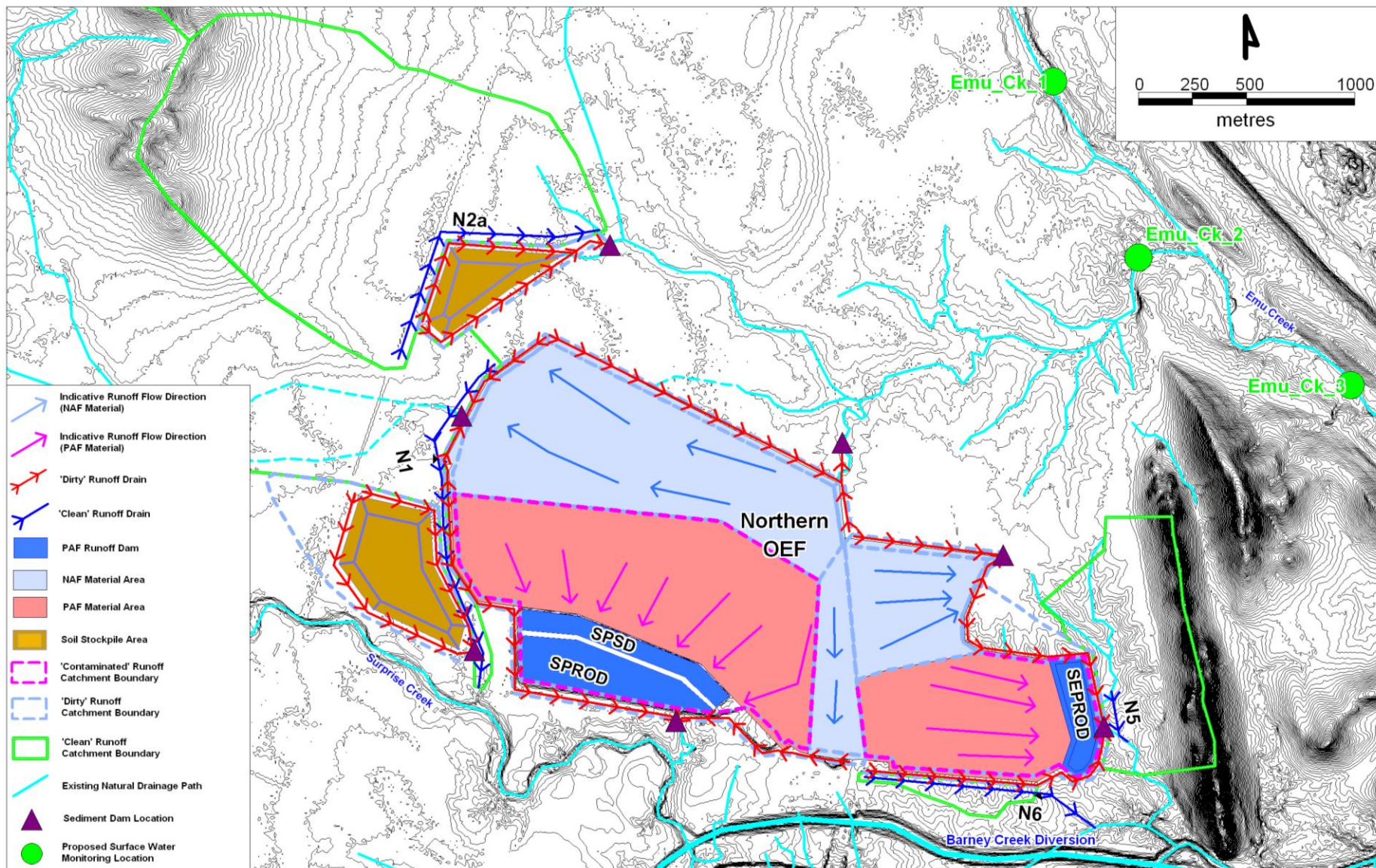


Figure C1 Proposed North OEF Area Water Management System, McArthur River Mine Phase Project Site, 2015

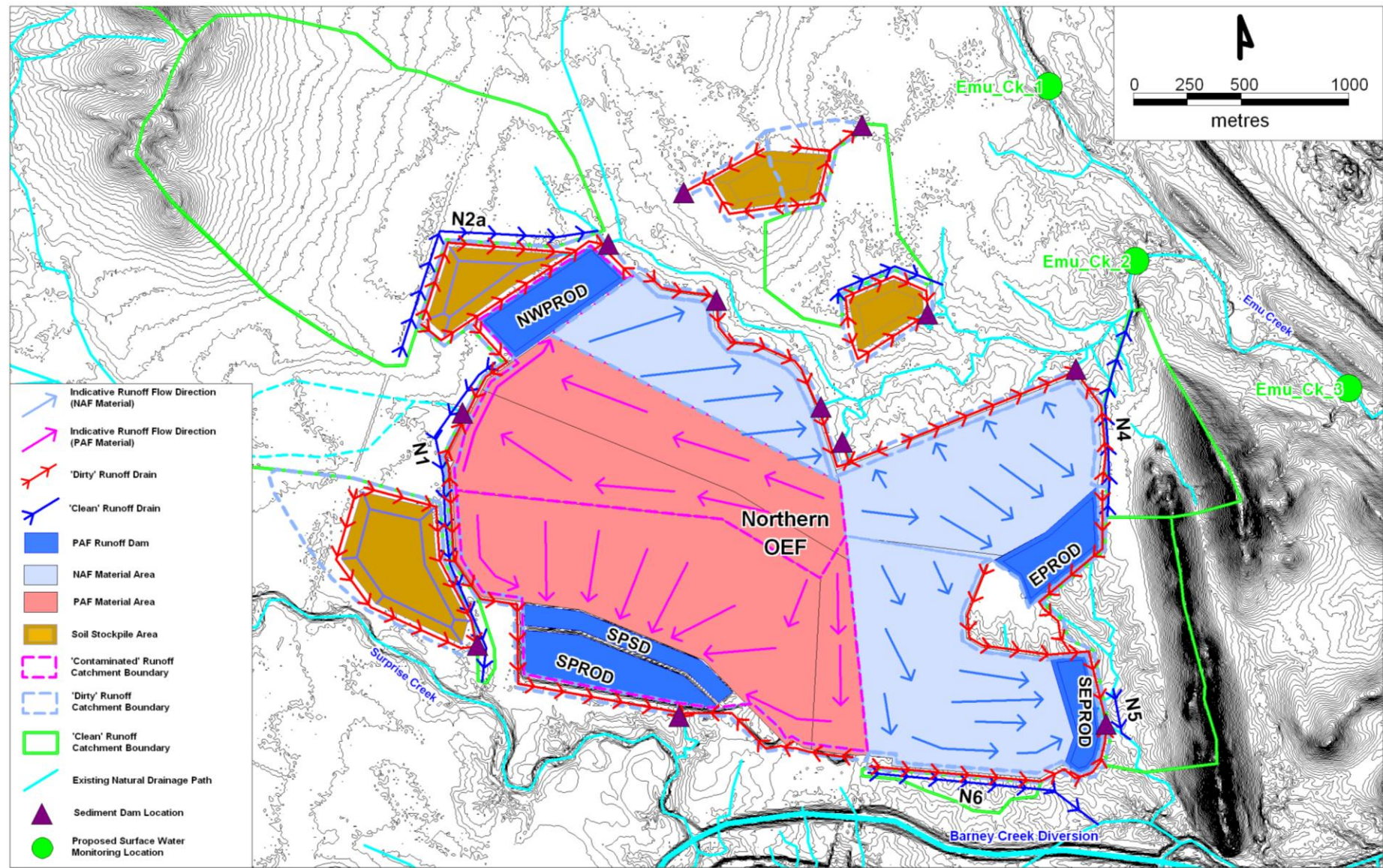


Figure C2 Proposed North OEF Area Water Management System, McArthur River Mine Phase 3 Project Site, 2020

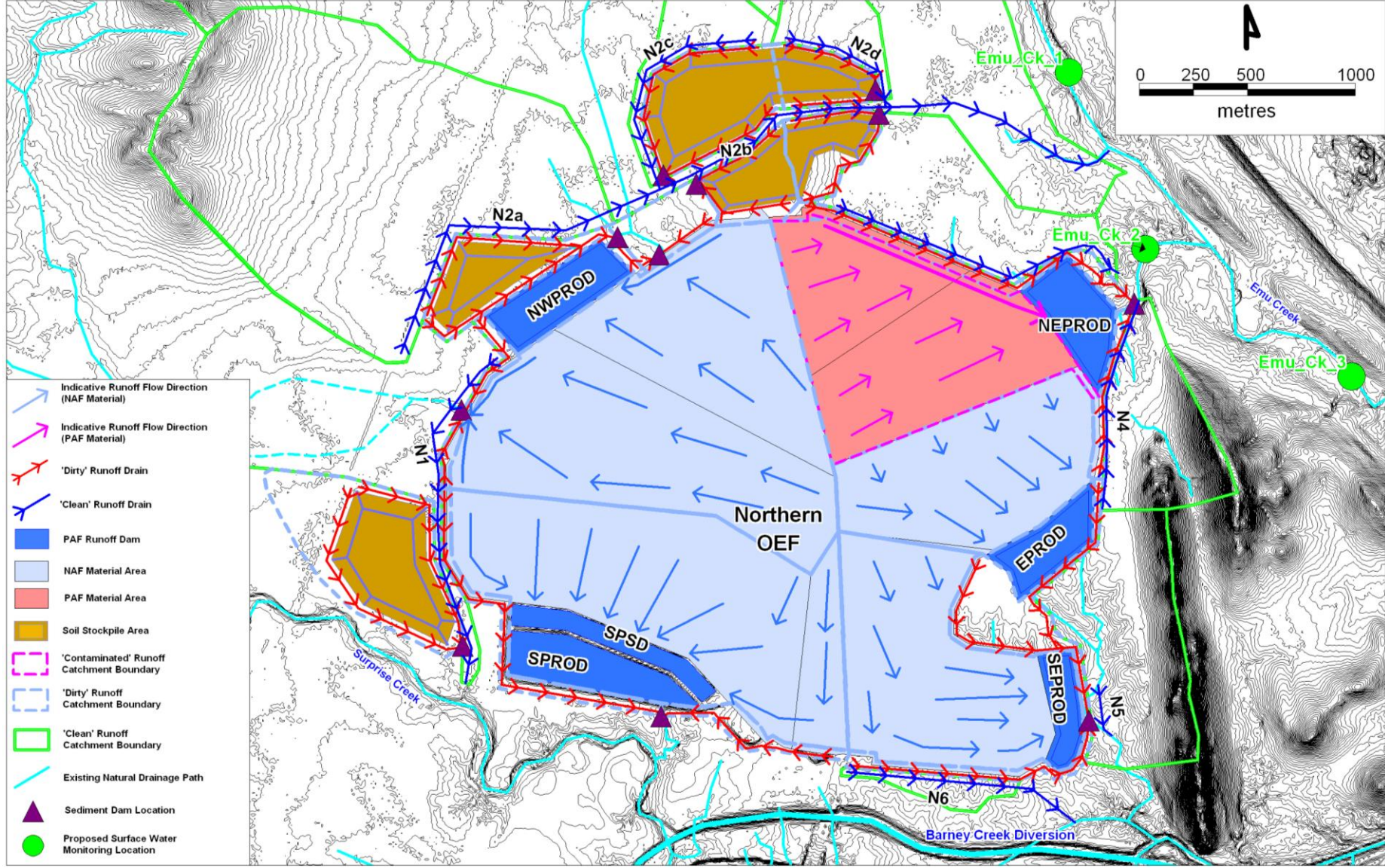


Figure C3 Proposed North OEF Area Water Management System, McArthur River Mine Phase 3 Project Site, 2025

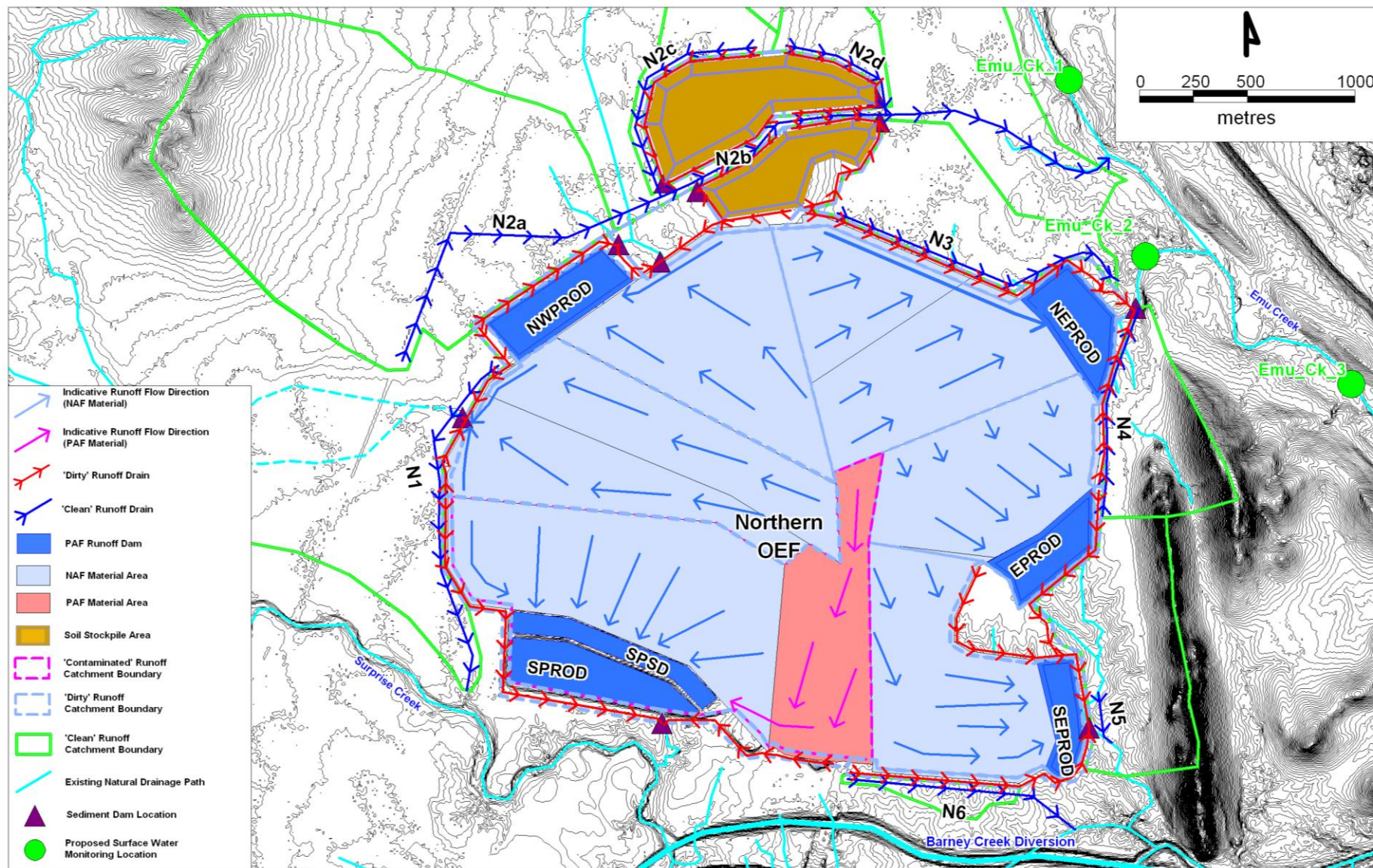


Figure C4 Proposed North OEF Area Water Management System, McArthur River Mine Phase 3 Project Site, 2030

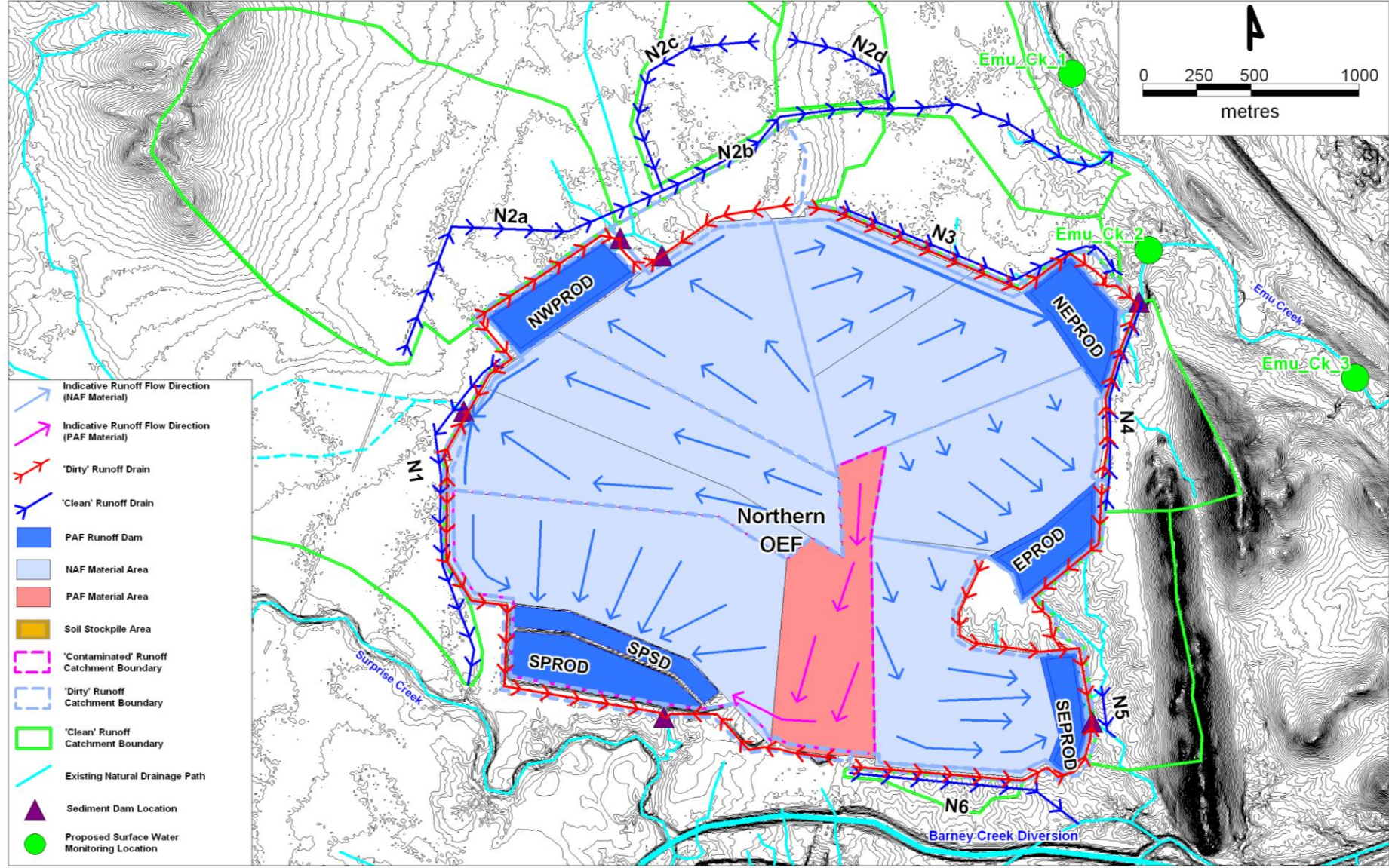


Figure C5 Proposed North OEF Area Water Management System, McArthur River Mine Phase 3 Project Site, 2035

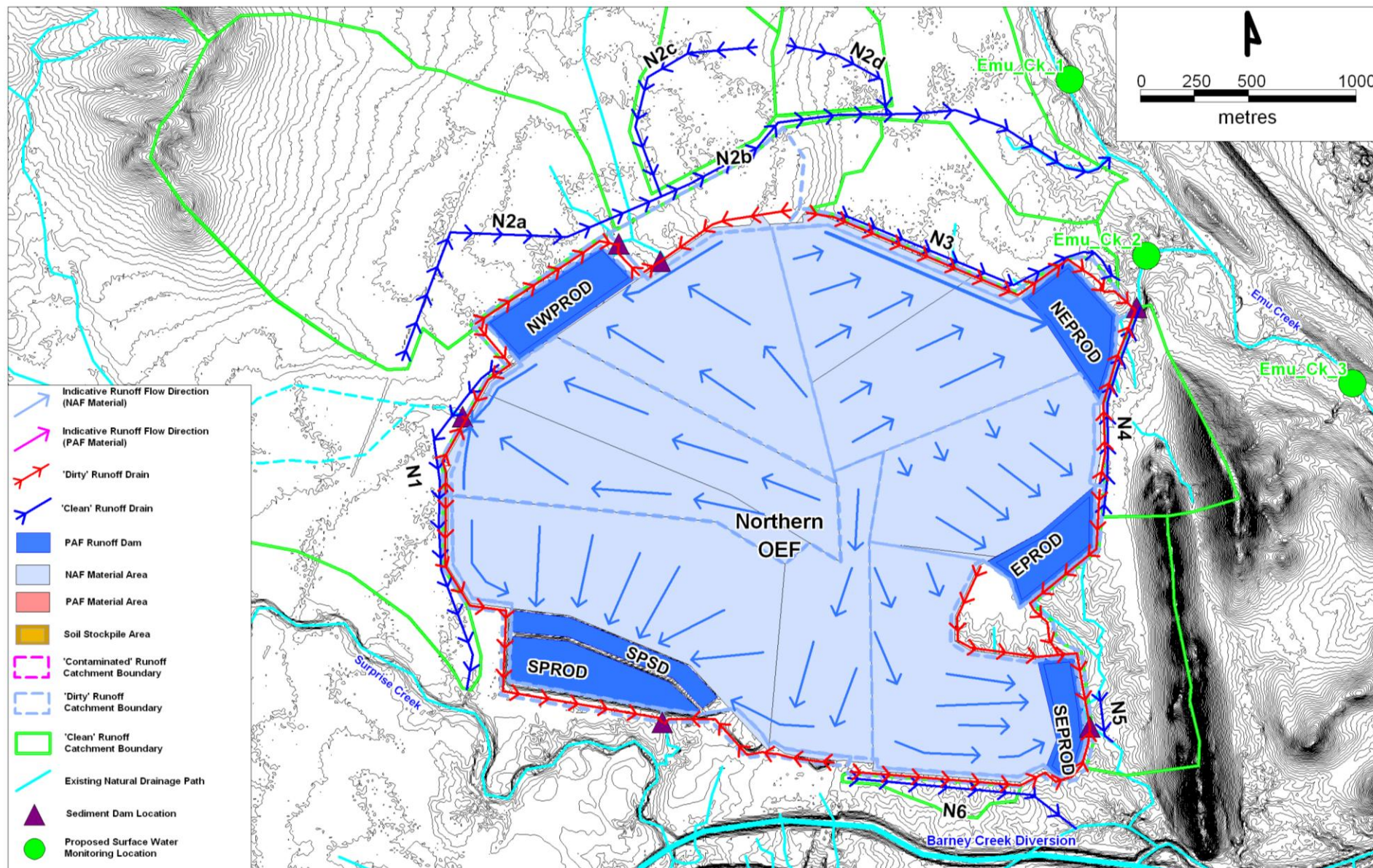


Figure C6 Proposed North OEF Area Water Management System, McArthur River Mine Phase 3 Project Site, Mine Closure

APPENDIX D - NORTH OEF STAGING OF NAF AND PAF AREAS

Table D1 Adopted Annual NAF and PAF Catchment Areas for Proposed North OEF Storages

Dam	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SPROD+SPSD	101.3	111	113.7	113.7	113.7	113.7	113.7	113.7	113.7	110.4
WPSD	0.0	86.8	105.3	105.3	105.3	0.0	0.0	0.0	0.0	0.0
NWROD	0.0	0.0	0.0	0.0	0.0	105.3	105.3	105.3	105.3	108.5
SEROD	51.0	51.0	51.0	51.0	51.0	51.0	42.5	85.0	85.0	85.0
EROD	0.0	34.0	53.9	67.2	67.2	67.2	75.6	33.2	33.2	33.2
NEROD	0.0	0.0	0.0	0.0	33.2	33.2	33.2	77.8	77.8	77.8
TOTAL	152.3	282.9	323.8	337.1	370.3	370.3	370.3	414.9	414.9	414.9

Dam	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
SPROD+SPSD	110.4	113.1	121	134.1	137.4	166.5	166.6	166.5	166.5	166.5
WPSD	0.0	105.9	98.0	84.8	81.6	71.8	71.8	71.8	71.8	71.8
NWROD	108.5	74.4	74.4	74.4	74.4	74.4	85.8	74.4	74.4	74.4
SEROD	85.0	85.0	85.0	85.0	85.0	72.2	72.2	72.2	72.2	72.2
EROD	33.2	66.3	66.3	66.3	66.3	59.7	59.7	59.7	59.7	59.7
NEROD	121.8	94.0	94.0	94.0	94.0	94.0	82.6	94.0	94.0	94.0
TOTAL	458.9	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7

Dam	2031	2032	2033	2034	2035	2036	2037
SPROD+SPSD	166.5	140.2	140.2	140.2	140.2	140.2	114.3
WPSD	71.8	98.2	98.2	98.2	98.2	98.2	104.7
NWROD	74.4	74.4	74.4	74.4	74.4	74.4	74.4
SEROD	72.2	72.2	72.2	72.2	72.2	72.2	85.0
EROD	59.7	59.7	59.7	59.7	59.7	59.7	66.3
NEROD	94.0	94.0	94.0	94.0	94.0	94.0	94.0
TOTAL	538.7	538.7	538.7	538.7	538.7	538.7	538.7

		Catchment Containing PAF Material
		Catchment Containing NAF Material Only

APPENDIX E - WATER BALANCE MODEL TRANSFERS, EXISTING AND PROPOSED MINING CONDITIONS

Table E1 Water Balance Storage Inflows and Outflows, Existing Conditions

Storage	Inflows	Outflows
<u>Open Pit Area</u>		
OC&UG	Direct Rainfall	Evaporation (OC only)
	Catchment Runoff	Pump to PP
	Groundwater Inflow	Pump to ELS
	Seepage from OMR	Pump to LA
	Evaporation Fans	
	Overflows from VDD, PP, OMR, LA	
PP	Direct Rainfall	Evaporation (including sprinklers and water fountain)
	Pumped inflows from OC&UG	Pump to VDD
	Pumped inflows from LA, SPSP, SPROD, OMR, VDD	Pump to CRP
		Pump to SPSP
		Pump to SPROD
		Evaporation Fans
VDD	Direct Rainfall	Evaporation (including water fountain)
	Catchment Runoff	Water Cart (dust suppression)
	Pumped Inflows from PP	Pump to PP
	Overflows from CRP	Overflows to OC&UG
CRP	Direct Rainfall	Evaporation (including water fountain)
	Catchment Runoff	Pump to APP
	Pumped Inflows from PP	Overflows to VDD
	Overflows from APP, DWT, Mill	
	Industrial wash down return water	
APP	Direct Rainfall	Evaporation (including water fountain)
	Catchment Runoff	Pump to DWT
	Pumped Inflows from TSF Cell2, CRP	Pump to DWT
	Truck wash down return water	Overflows to CRP
ELS	Direct Rainfall	Evaporation
	Catchment Runoff	Overflows to OMR
	Pumped Inflows from OC&UG	
OMR	Direct Rainfall	Evaporation
	Catchment Runoff	Seepage to OC&UG
	Overflows from ELS	Overflows to OC&UG
		Controlled Release to McArthur River
<u>TSF Area</u>		
TSF Cell2	Direct Rainfall	Evaporation
	Pumped inflows from Mill tailings	Moisture Retention
	Tailings Solids	Return water to APP
		Seepage
TSF Cell 3 WMD	Direct Rainfall	Evaporation
	Overflows from TSF Cell 2	Controlled Releases to Barney Creek
<u>North OEF</u>		
North OEF SPSD	Direct Rainfall	Evaporation (including sprinklers)
	Catchment Runoff	Overflows to North OEF SPROD
	Pumped Inflows from PP	
North OEF SPROD	Direct Rainfall	Evaporation (including sprinklers)
	Overflows from North OEF SPSP	Overflows to Surprise Creek
	Pumped Inflows from PP	

Table E2 Water Balance Storage Inflows and Outflows, Proposed MRM Phase 3 Conditions

Storage	Inflows	Outflows
<u>Open Pit Area</u>		
OC&UG	Direct Rainfall Catchment Runoff Groundwater Inflow Evaporation Fans Overflows from VDD, PP, LA	Evaporation (OC only) Pump to PP
PP	Direct Rainfall Pumped inflows from OC&UG Pumped inflows from VDD, SPSP, SPROD, TSF Cell 4 WMD	Evaporation (including sprinklers and water fountain) Pump to TSF Cell4 WMD Pump to VDD Pump to CRP Pump to SPSP Pump to SPROD Evaporation Fans
VDD	Direct Rainfall Catchment Runoff Pumped Inflows from PP Overflows from CRP	Evaporation (including water fountain) Water Cart (dust suppression) Pump to PP Overflows to OC&UG
CRP	Direct Rainfall Catchment Runoff Pumped Inflows from PP Overflows from APP, DWT, Mill Industrial wash down return water	Evaporation (including water fountain) Pump to APP Overflows to VDD
APP	Direct Rainfall Catchment Runoff Pumped Inflows from TSF Cell2, CRP Truck wash down return water	Evaporation (including water fountain) Pump to DWT Pump to DWT Overflows to CRP
<u>TSF Area</u>		
TSF Cell2/Cell 3	Direct Rainfall Pumped inflows from Mill tailings Tailings Solids	Evaporation Moisture Retention Return water to APP Seepage
TSF Cell3 WMD	Direct Rainfall Overflows from TSF Cell 2/Cell3 Pumped Inflows from LA	Evaporation Pump to TSF Cell4 WMD Controlled Releases to Barney Creek Pump to Irrigation Supply Overflow to Barney Creek
TSF Cell 4 WMD	Direct Rainfall Pumped inflow from PP Pumped inflow from TSFCell3 WMD	Evaporation Pump to PP Evaporative Fans Overflow to Barney Creek
<u>North OEF</u>		
North OEF SPSP ^{ab}	Direct Rainfall Catchment Runoff Pumped Inflows from PP	Evaporation (including sprinklers) Overflows to North OEF SPROD
North OEF SPROD ^{ab}	Direct Rainfall Overflows from North OEF SPSP Pumped Inflows from PP	Evaporation (including sprinklers) Overflows to Surprise Creek
North OEF SEPROD ^b	Direct Rainfall Catchment Runoff	Evaporation (including sprinklers) Overflows to Barney Creek
North OEF EPROD ^b	Direct Rainfall Catchment Runoff	Evaporation (including sprinklers) Overflows to Barney Creek
North OEF NEPROD ^b	Direct Rainfall Catchment Runoff	Evaporation (including sprinklers) Overflows to Emu Creek
North OEF NWPROD ^b	Direct Rainfall Catchment Runoff	Evaporation (including sprinklers) Overflows to Emu Creek

^a Assumed that bottom 150 ML and 50 ML of SPROD and SPSP respectively used for pit water evaporation.

^b Modelled using the North OEF GoldSim model, which varied catchment areas annually