

DECEMBER 2022

KLOOF TAILINGS
 STORAGE FACILITY (TSF) 2

DETAILS OF TAILINGS STORAGE FACILITY

Tailings Storage Facility (TSF) Name	Kloof TSF 2
Operation	Kloof
Operational Status	Active
Operating Segment	RSA - Gold
Location	Near Westonaria, southwest of Johannesburg - please refer to Figure 1
Latitude, Longitude (decimals)	-26.4434417, 27.5908444
Ore Source	Underground
Type of Storage Facility	Impoundment (upstream development)
Deposition Methodology	Day-Wall Paddock
Year of Commissioning	1960
Consequence Classification (GISTM, 2020)	High
Operating Contractor	Stefanutti Stocks Inland (SSI)
Engineer of Record (EoR)	Knight Piesold (Pty) Ltd
Current Maximum Height (m)	65
Final Maximum Height (m)	67
Maximum Storage Capacity (tons/month)	170 000
Life of TSF (year)	2022 (December) @1,5m/year

TECHNICAL ASPECTS:

Adopted Factor of Safety	Australian National Committee on Large Dams (ANCOLD) (July 2019)
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Stability Assessment and Mitigation Measures (if applicable)

A detailed stability assessment based on piezocone probing was conducted in 2022. This assessment will be updated based on laboratory testing once the results become available in Q1 2023.
 (KP Reference: RI301-00726/21 Rev A, 12 December 2022)

Dam Breach Assessment

Assessment completed in 2022
 (KP Reference: RI301-00726/22 Rev A, 15 December 2022)

Area of Inundation

Has been identified by EoRs – please refer to Figures 2 to 7

Summary of Human Exposure

Consequence classification has been based on Population at Risk (PAR). Communities have been identified and are being engaged through various means including Community Engagement Forums (CEF)

DOCUMENTATION:

Site Specific OMS Manual

Version 2022 available

Dam Safety Review (DSR)

Carried out by an independent third party in 2019/2020 with no material findings
 (KP Reference: 301-00840/02-004 Rev 1, February 2020)

Design Basis Report (DBR)

Version 2022 available
 (KP Reference: RI301-00726/28-A Rev 0, 9 December 2022)

Environmental Management Programme (EMPr)

In place

Surveillance:

Surveillance Frequency

Daily by the Operator and monthly reports of critical controls submitted to and reviewed by the EoR

Surveillance Technology/System

K2Fly Decipher

Deformation Monitoring

Interferometric Synthetic Aperture Radar (InSAR)

Phreatic Surface Levels & Pore Pressure Measurements

Standpipe piezometers
 AquaSense Retrofit piezometers (IoT device)
 Vibrating Wire Piezometers (VWP's) to be installed in 2023



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RISK MANAGEMENT / EMERGENCY PREPAREDNESS:

Risk Assessment

Annual Risk Assessment (Bowtie) completed with no untoward risk identified

Risk Management

Site specific OMS Manual in place
 Site specific Trigger Action Response Plans (TARPs) in place
 Critical controls established and implemented

Site Specific Emergency Preparedness & Response Plans (EPRP)

Version 2022 available

Annual emergency mock drill for a catastrophic TSF failure – undertaken on 15 December 2022 with SSW employees and contractors.

CLOSURE & POST CLOSURE

Closure Planning

In place - report prepared by Golder Associates (Golder Reference: 20360027-341339-2, April 2021)

Closure Costing

Adequate financial capacity in place
 Financials prepared by Golder Associates (Golder Reference: 20447293-349383-5, December 2021)

Asset Insurance Cover

In place – July 2022 to June 2023

Independent Reviews:

Independent Tailings Review Board (ITRB)

25 August 2021 with no material concerns identified

Future ITRB Review

2024

Performance Reviews

Annual and quarterly reports with inspections completed by EoR (KP Reference: RI301-00726/08 Rev 0, 1 April 2022)



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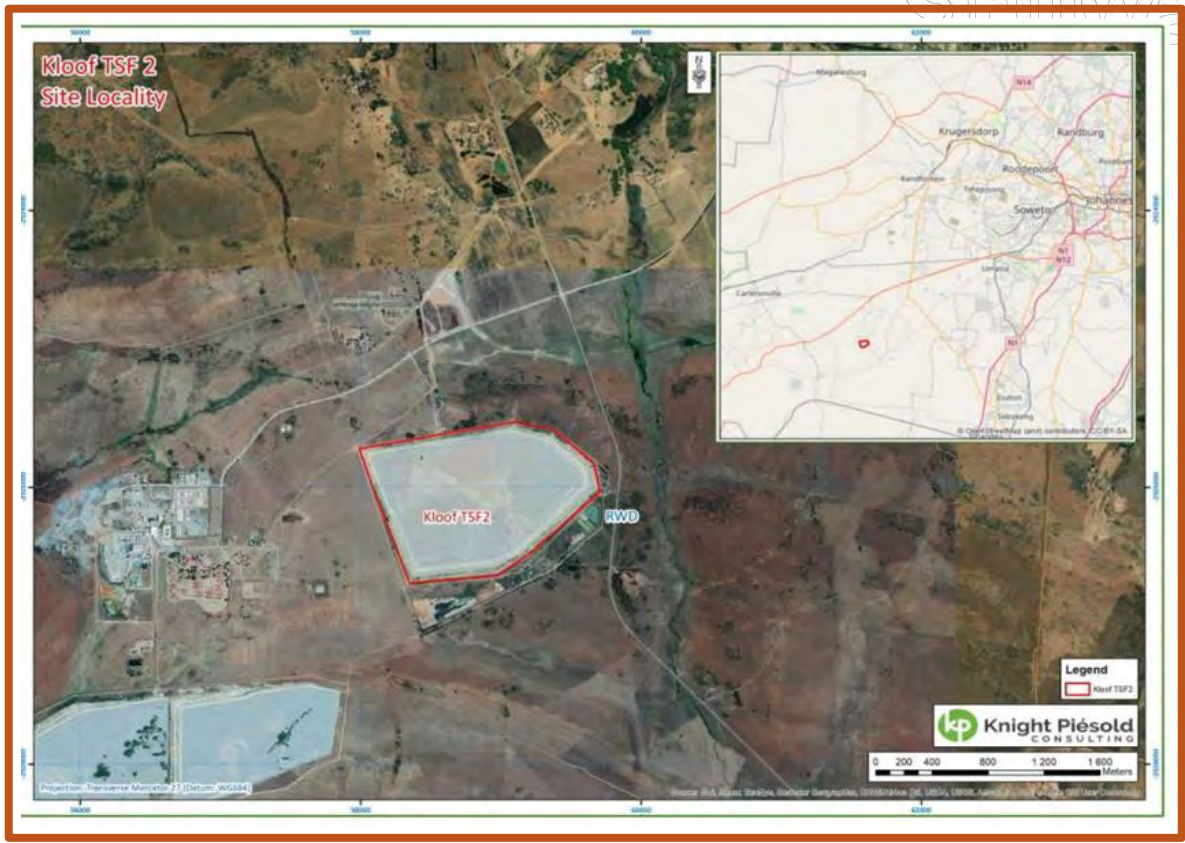


Figure 1: Layout of Kloof TSF 2

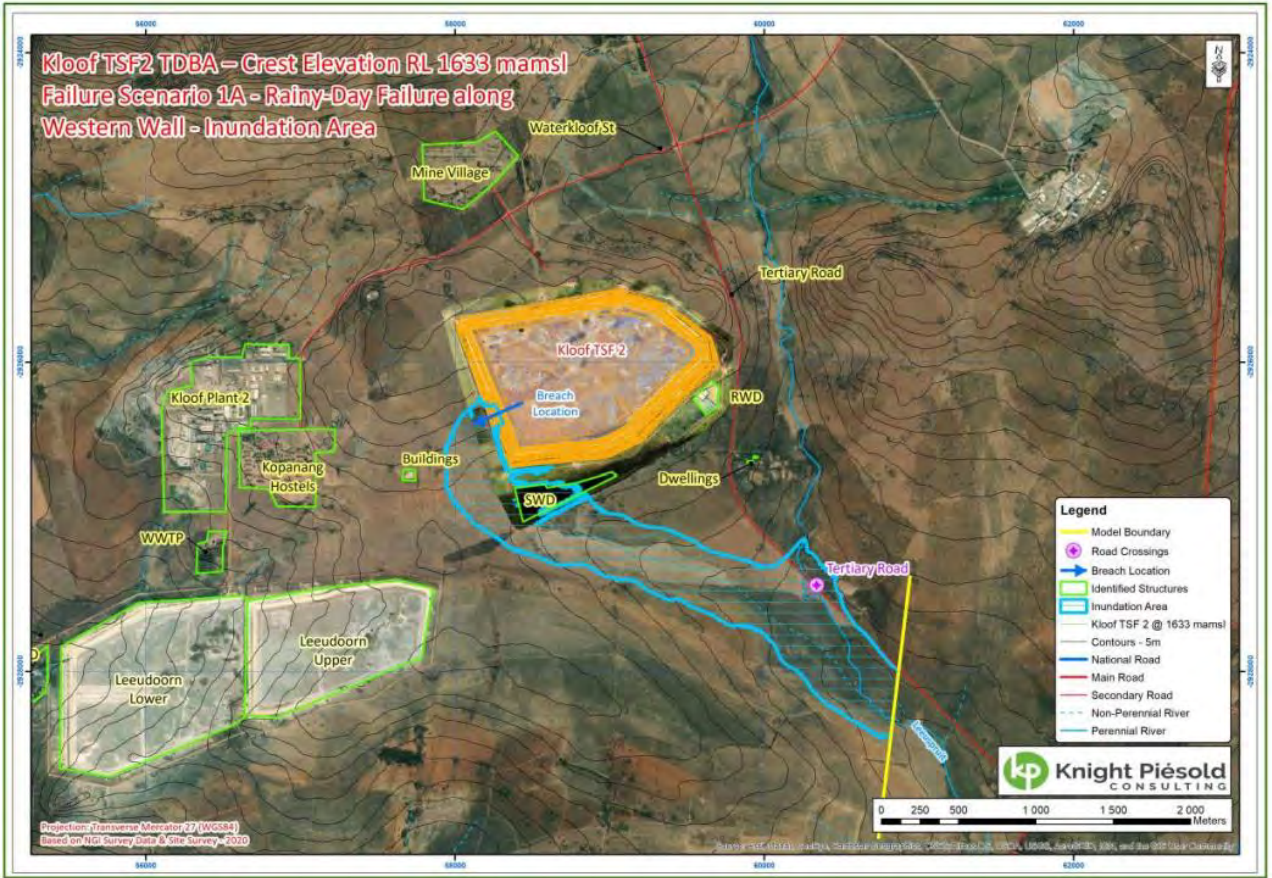


Figure 2: : Inundation Map for a Breach at the Western Wall (preliminary)

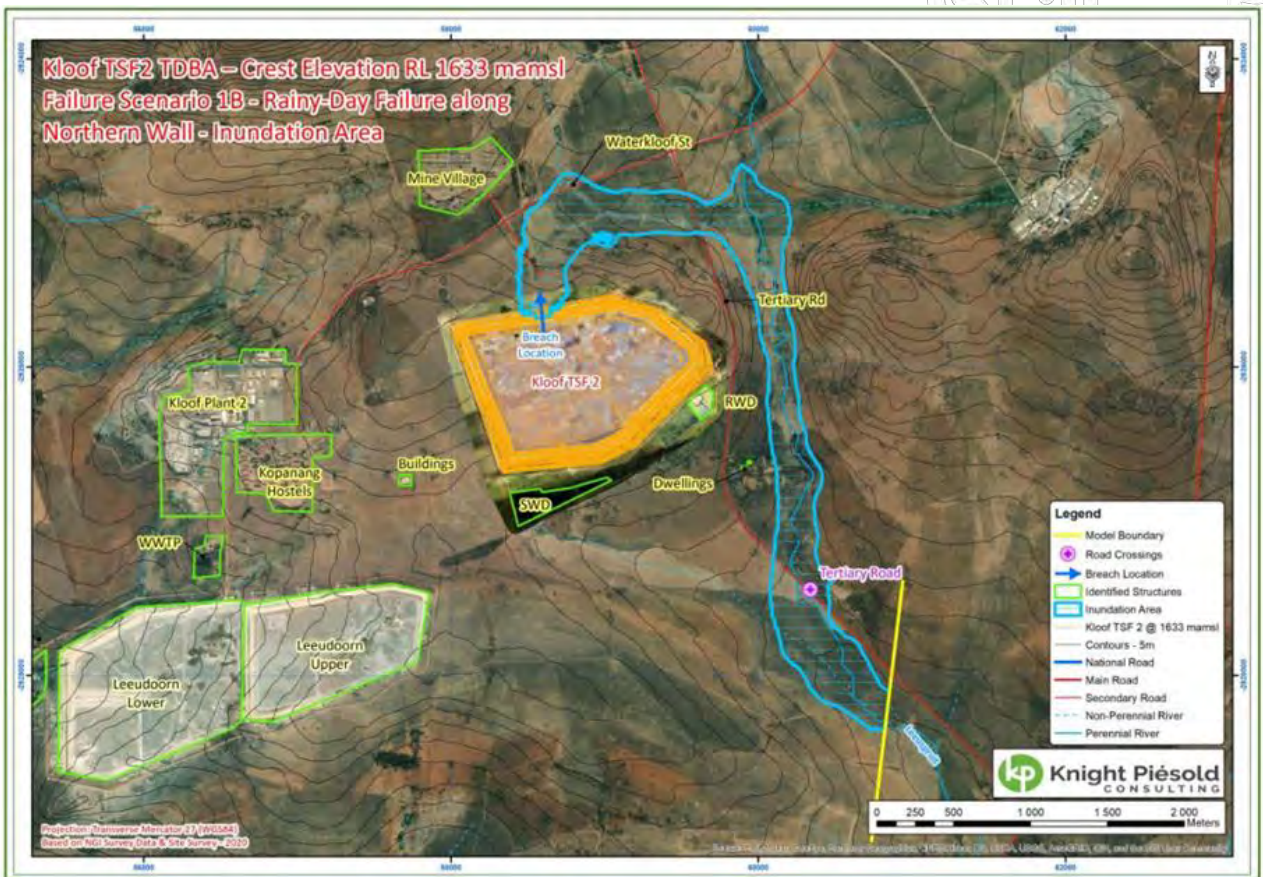


Figure 3: Inundation Map for a Breach at the Northern Wall (preliminary)

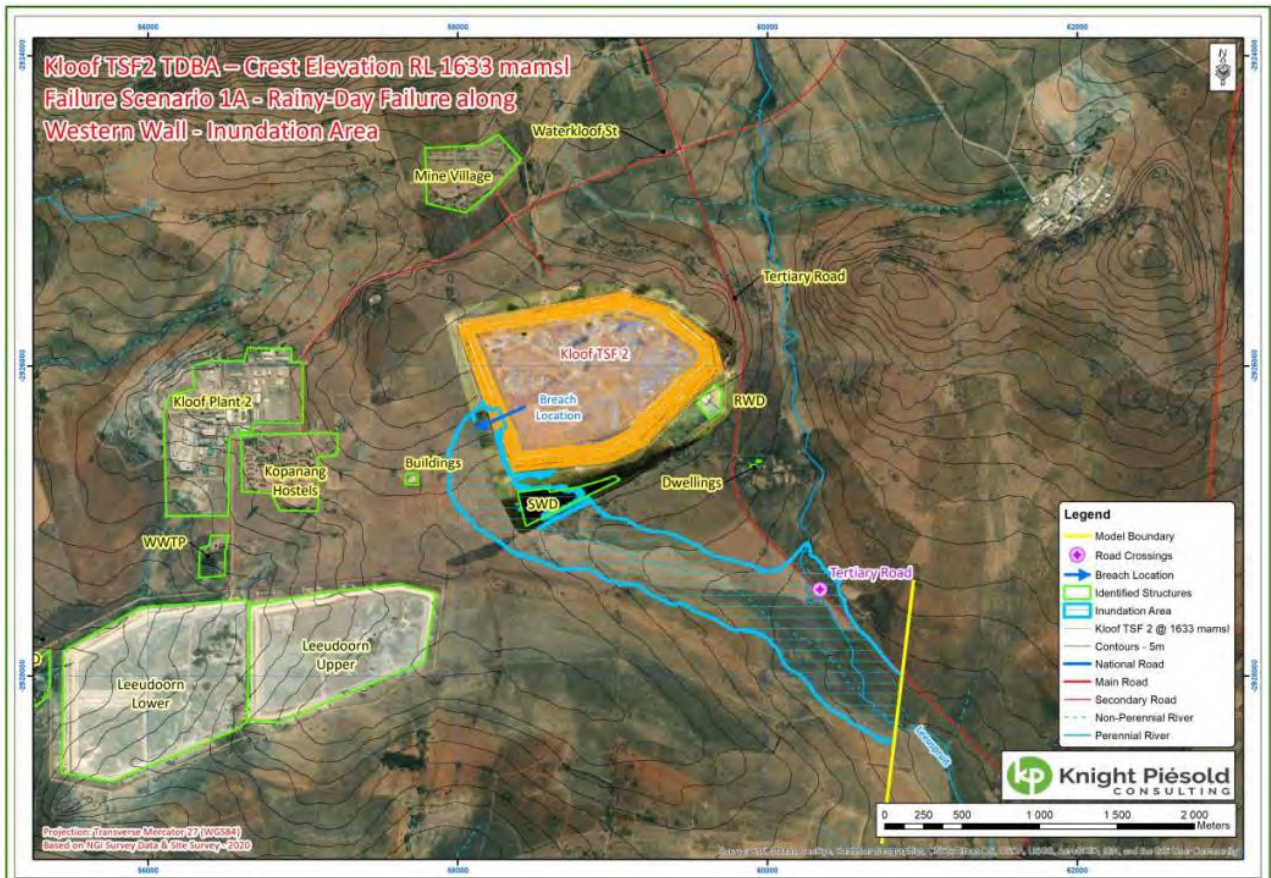


Figure 4: Inundation Map for a Breach at the South-Eastern Wall (preliminary)

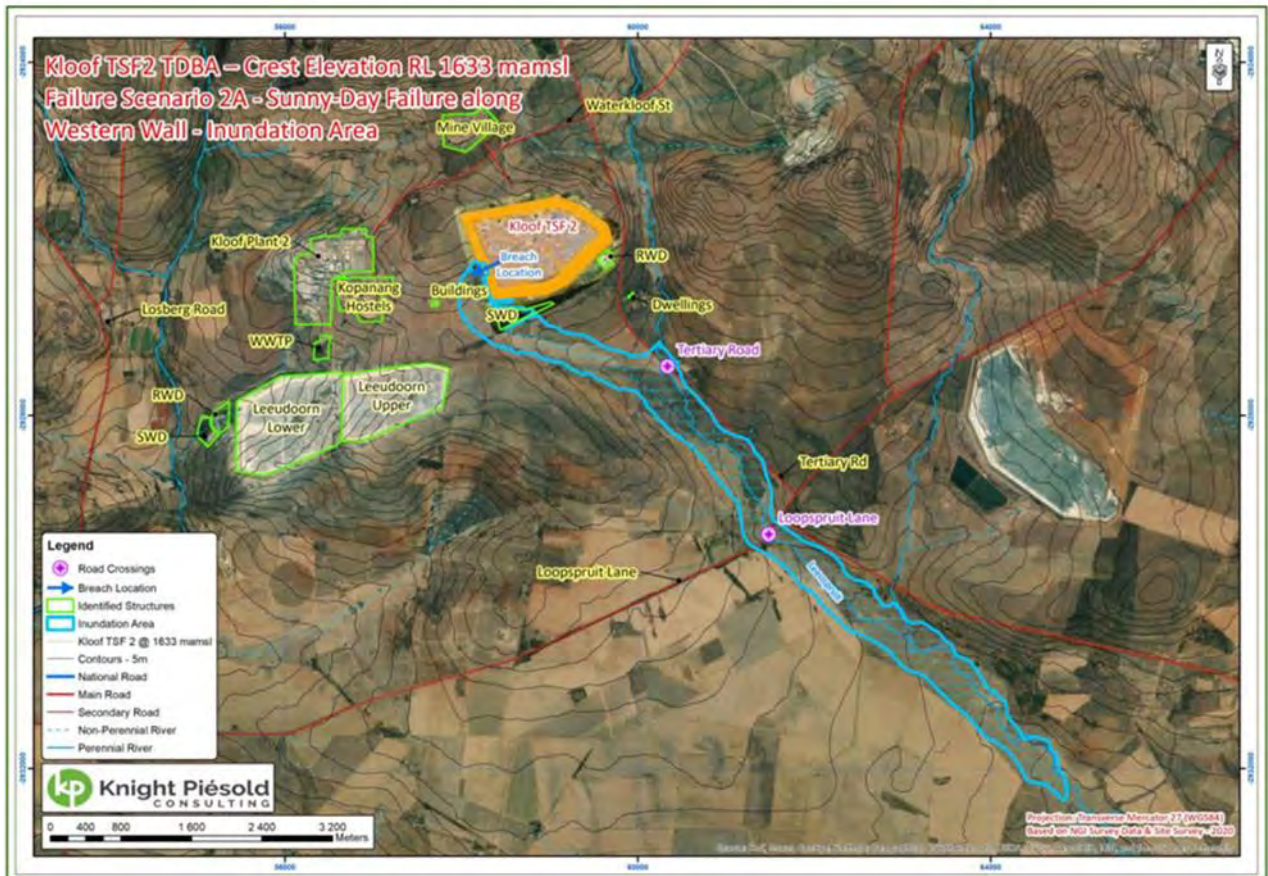


Figure 5: Inundation Map for a Breach at the Western Wall (preliminary)

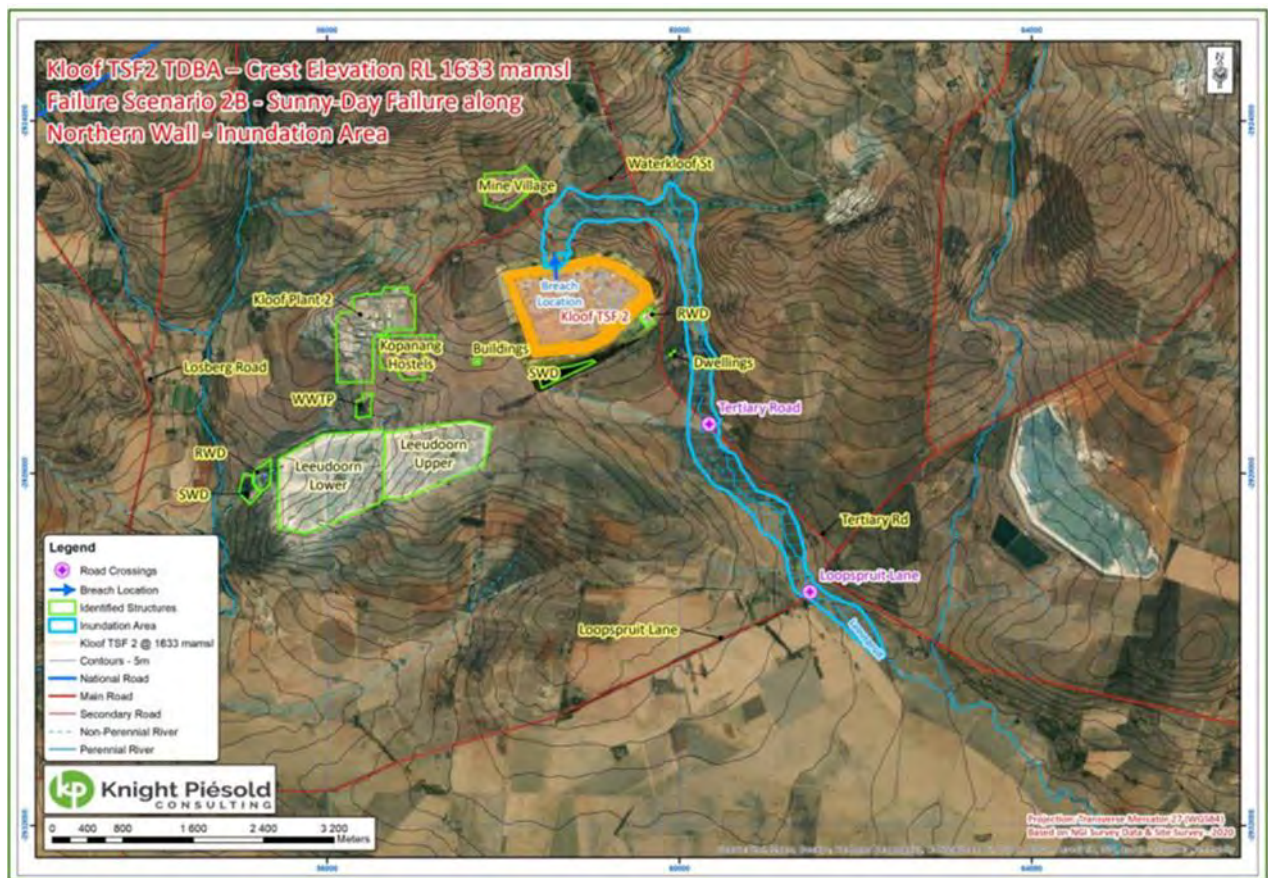


Figure 6: Inundation Map for a Breach at the Northern Wall (preliminary)

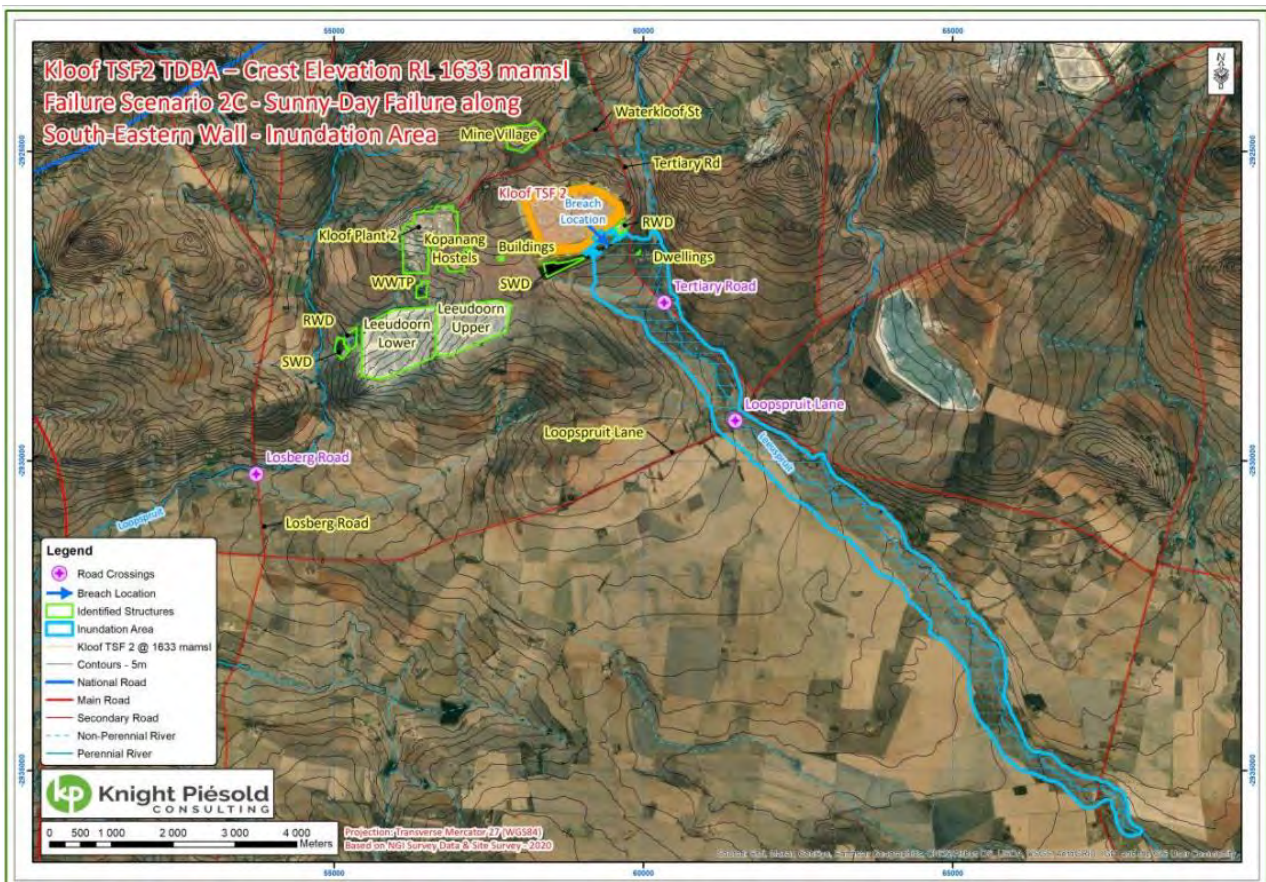


Figure 7: Inundation Map for a Breach at the South-Eastern Wall (preliminary)