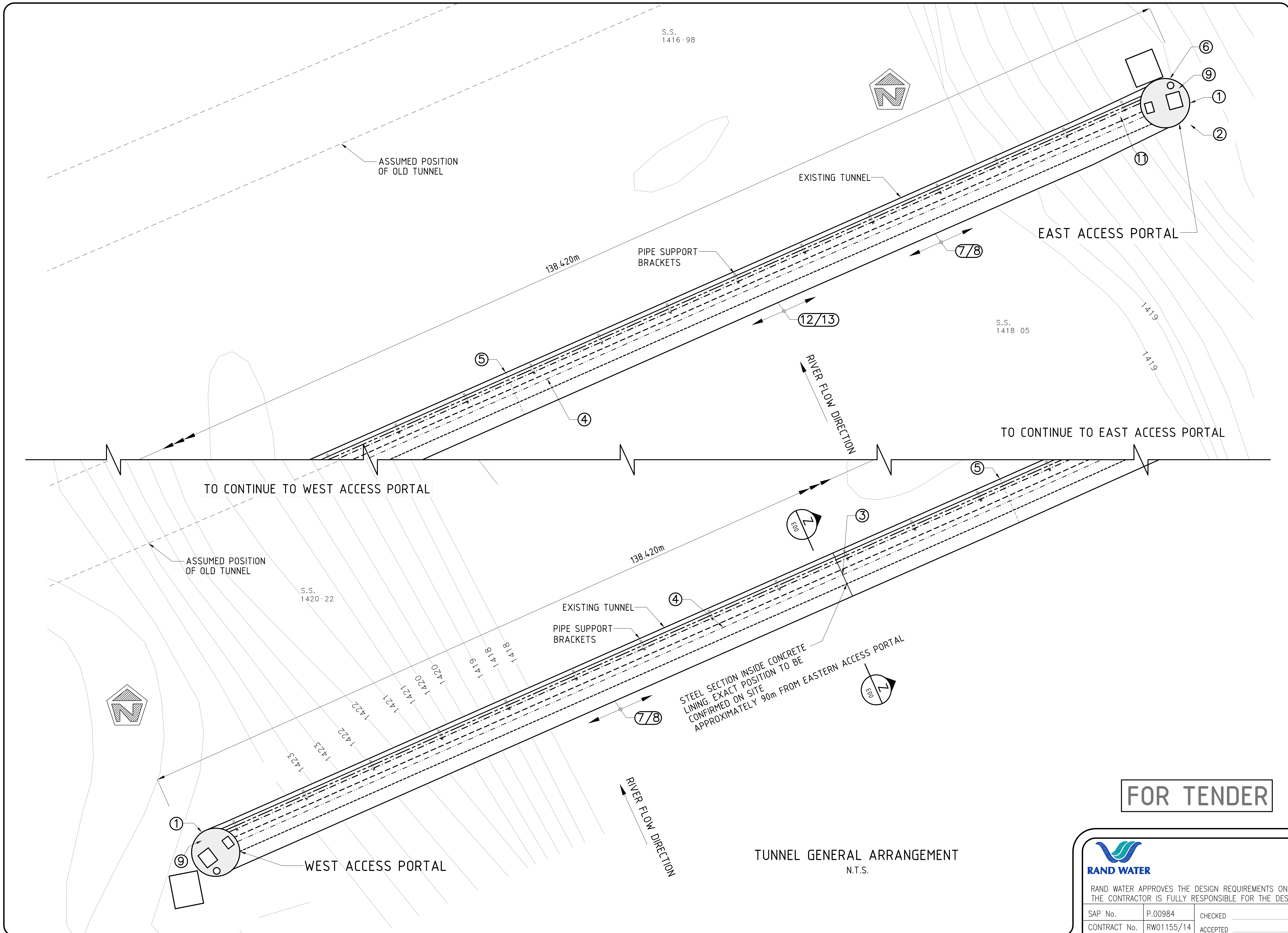
RO 28319/001



TUNNEL GENERAL ARRANGEMENT

N.T.S.

FOR TENDER

REPAIR WORK LEGEND	
ITEM NO.	DESCRIPTION
1	REFURBISHMENT OF STEEL IN THE ACCESS SHAFT
	REMOVE AND REPLACE LADDERS LANDING PLATFORMS COMPLETE WITH ALL NECESSARY BOLTS AND CONNECTIONS.
2	REFURBISHMENT OF EXTERNAL ACCESS WALKING PLATFORMS, HANDRAILS AND LADDERS ON ENTRANCES TO BOTH ACCESS SHAFTS.
	SUPPLY, INSTALL OR REPAIR THE DAMAGED WALKING PLATFORMS, HANDRAILS AND LADDERS COMPLETE WITH ALL BOLTS AND NECESSARY CONNECTIONS, INCLUDING CORROSION PROTECTION OF ALL STEEL ELEMENTS.
3	REPAIR OF LARGE CONCRETE SPALL INCLUSIVE OF STEEL TRANSVERSE BEAM STRENGTHENING.
4	REMOVAL OF STEEL CRAWL BEAM THROUGHOUT THE TUNNEL, INCLUSIVE OF HOLDING DOWN BOLTS. REPLACE WITH LIFTING HOOKS
5	CONCRETE CRACK REPAIR (CRACK SEALING).
6	REPAIR EXISTING MAJOR LEAK
7	GENERAL CONCRETE SPALLING REPAIR.
8	REMOVE AND REPLACE "DENZO" TAPE WRAPPING TO PIPES
9	REPAIR AND RE-COATING OF STEEL PIPES IN SHAFTS
10	NDT THROUGHOUT TUNNEL INCL. GPR AND CORING
11	REPLACE THE BILGE PUMPS AND RISING MAIN
12	GRP CABLE TRAYS FITTED AND ALL CABLES SORTED AND ALIGNED ON NEW TRAYS.
13	LIGHTING AND VENTILATION SYSTEM TO BE REPLACED

GENERAL NOTES:

DESCRIPTION

THE TUNNEL HAS AN OVERALL LENGTH OF 138.42m AND IS CONNECTED BY TWO ACCESS SHAFTS, THE WESTERN ACCESS SHAFT HAS AN INTERNAL DEPTH OF APPROXIMATELY 13,3m AND THE EASTERN ACCESS SHAFT HAS AN INTERNAL DEPTH OF APPROXIMATELY 14,2m

THE TUNNEL IS SEMI-ELLIPTICALLY SHAPED AND CONSISTS OF A LARGE STEEL OUTER CASING REINFORCED WITH INTERNAL TRANSVERSE STEEL BEAMS AND IS LINED INTERNALLY WITH UNREINFORCED CONCRETE.

DESIGN NOTES

NO STRUCTURAL DESIGN HAS BEEN CARRIED OUT.

STRUCTURAL STEEL NOTES

ALL STRUCTURAL STEEL TO BE GRADE S355JR UNLESS OTHERWISE SHOWN.

ALL WELDS TO BE 6mm CONTINUOUS FILLET WELDS UNLESS SHOWN OTHERWISE AND TO CONFORM TO EN 150 15609-1 SPECIFICATIONS. (B)

WELDS AND SPLICES SHALL DEVELOP THE FULL STRENGTH OF THE JOINED ELEMENTS.

WELDING SHALL BE PERFORMED BY CODED WELDERS.SUPPORTING DOCUMENTATION TO BE SUBMITTED TO THE ENGINEER PRIOR TO ANY WORK BEING CARRIED OUT.
ALL DIMENSIONS SHALL BE CHECKED ON SITE PRIOR TO FABRICATION OF STEEL.

METHOD STATEMENT TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL FOR ALL REPAIR ITEMS.
ALL EXPOSED STEEL ELEMENTS TO BE PAINTED UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL TO COMPLY WITH SANS 1200H UNLESS OTHERWISE STATED.

REINFORCEMENT STEEL NOTES

COVER TO MESH TO BE 70mm

MILD STEEL (PREFIX-"R") fy = 250 MPa

HIGH YIELD MESH (PREFIX-"y") fy = 450 MPa

PROPRIETARY PRODUCTS

MATERIAL MANUFACTURER/SUPPLIER

PROPRIETARY PRODUCTS USED SHALL BE AS SPECIFIED ON THE DRAWING OR SIMILAR APPROVED BY THE ENGINEER.

DELIVERY , STORAGE AND HANDLING

THE SPECIFIED PRODUCTS SHALL BE DELIVERED IN ORIGINAL, UNOPENED CONTAINERS WITH THE MANUFACTURER'S NAME, LABELS, PRODUCT IDENTIFICATION AND BATCH NUMBERS ALL CLEARLY LEGIBLE. THE SPECIFIED PRODUCT SHALL BE STORED AND HANDLED AS RECOMMENDED BY THE MANUFACTURER.

LEGEND ℄ :

CRAWL BEAM IPE 180
ND1400 PIPE
ND750 PIPE
ND450 PIPE
ND300 PIPE
ND300 PIPE

No	DATE	CHECKED	APPROVED	DESCRIPTION
B	2018-07-30	TM	GJ	MINOR AMENDMENTS
A	2018-01-22	TM	GJ	ISSUED FOR TENDER

REVISIONS

NUMBER	TITLE
28319/002	VAAL RIVER TUNNEL: GENERAL ARRANGEMENT 2 ELEVATION AND SECTIONS
28319/003	VAAL RIVER TUNNEL: SECTIONS, DETAILS AND GENERAL NOTES

REFERENCE DRAWINGS

RAND WATER

RAND WATER APPROVES THE DESIGN REQUIREMENTS ONLY. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN

SAP No.	P.00984	CHECKED	
CONTRACT No.	RW01155/14	ACCEPTED	
ORIGINATOR	K.SLATER	DATE	

Knight Piésold CONSULTING

DRAWN BY	FB	APPROVED	Pr. Eng
CHECKED	TM	REG. No.	
DATE	2018-01-16	DATE	

VAAL RIVER TUNNEL

GENERAL ARRANGEMENT 1

PLAN VIEW

SHEET 1 OF 3

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STATION | WKS | DOC. TYPE | S

SCALE 1:250

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REVISION A