ATHI WATER WORKS DEVELOPMENT AGENCY(AWWDA)

MINISTRY OF WATER, SANITATION AND IRRIGATION (MWSI)

In partnership with

FRENCH DEVELOPMENT AGENCY

BIDDING DOCUMENTS

For

Procurement of

CONSTRUCTION WORKS FOR NORTHERN COLLECTOR TUNNEL LAST MILE WATER WORKS

SPECIFICATIONS:

VOLUME III :

- BOOK OF DRAWING

IPC No : AWWDA/AFD/NWSP/W-05/2025

Project : CKE1135-NAIROBI WATER AND SANITATION PROJECT

Employer: ATHI WATER WORKS DEVELOPMENT AGENCY

Country: KENYA

Issued on:

CONSTRUCTION WORKS FOR NORTHERN COLLECTOR TUNNEL NCT LAST MILE WORKS – LOT 2

DESIGN REVIEW

DRAWINGS INDEX

Sn.	DRAWING No.	DESCRIPTION	REMARKS
1			
SYOKIMAU-MLOLONGO WATER DISTRIBUTION			
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/GL	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT1/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT1	SHEET 1 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT1/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT1	SHEET 2 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT1/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT1	SHEET 3 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD1/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD1	SHEET 1 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD1/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD1	SHEET 2 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD1/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD1	SHEET 3 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD1/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD1	SHEET 4 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD1/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD1	SHEET 5 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 1 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 2 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 3 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 4 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 5 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD2/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD2	SHEET 6 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT2/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT2	SHEET 1 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT2/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT2	SHEET 2 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT2/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT2	SHEET 3 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 1 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 2 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 3 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 4 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 5 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD4/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD4	SHEET 6 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 1 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 2 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 3 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 4 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 5 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 6 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD5/07	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD5	SHEET 7 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 1 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 2 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 3 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 4 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 5 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 6 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD6/07	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD6	SHEET 7 OF 7
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 1 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 2 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 3 OF 15

	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 4 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 5 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 6 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/07	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 7 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/08	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 8 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/09	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 9 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/10	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 10 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/11	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 11 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/12	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 12 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/13	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 13 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/14	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 14 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYT3/15	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYT3	SHEET 15 OF 15
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT1/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT1	SHEET 1 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT1/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT1	SHEET 2 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT1/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT1	SHEET 3 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT1/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT1	SHEET 4 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT1/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT1	SHEET 5 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT2/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT2	SHEET 1 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT2/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT2	SHEET 2 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT2/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT2	SHEET 3 OF 3
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT3/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT3	SHEET 1 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT3/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT3	SHEET 2 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT3/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT3	SHEET 3 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT3/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT3	SHEET 4 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/KAT3/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line KAT3	SHEET 5 OF 5
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 1 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 2 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/03	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 3 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/04	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 4 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/05	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 5 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/SYD7/06	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line SYD7	SHEET 6 OF 6
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/MML/01	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line MML	SHEET 1 OF 2
	NWSP/NCTLastMile/LOT2/SYOKIMAU-MLOLONGO/MML/02	NCT LAST MILE WORKS – LOT 2 - SYOKIMAU Line MML	SHEET 2 OF 2

EMBAKASI KDF WATER PIPELINES			
	NWSP/NCTLastMile/LOT2/EMBAKASI KDF/PL1 & PL2 GL-01	NCT LAST MILE WORKS – LOT 2 - EMBAKASI KDF SEWERS - PL1 & PL2 GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/EMBAKASI KDF/PL3 GL-01	NCT LAST MILE WORKS – LOT 2 - EMBAKASI KDF SEWERS - PL3 GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/EMBAKASI KDF/PL1	NCT LAST MILE WORKS – LOT 2 - EMBAKASI KDF SEWERS - LINE PL1	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/EMBAKASI KDF/PL2	NCT LAST MILE WORKS – LOT 2 - EMBAKASI KDF SEWERS - LINE PL2	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/EMBAKASI KDF/PL3	NCT LAST MILE WORKS – LOT 2 - EMBAKASI KDF SEWERS - LINE PL3	SHEET 1 OF 1
THINDIGUA AND LIOKI WATER PIPELINES			
	NWSP/NCTLastMile/LOT2/THINDIGUA/GENERAL LAYOUT-01	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/LIOKI/GENERAL LAYOUT-01	NCT LAST MILE WORKS – LOT 2 - LIOKI- GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/01	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 1	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/02	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 2	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/03	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 3	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/04	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 4	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/05	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 5	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/06	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 6	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/07	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 7	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/08	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 8	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/09-10	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINES 9- 10	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/11-13	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINES 11-13	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/14	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 14	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/14B	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 14B	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/14C	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 14C	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/15	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 15	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/16	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 16	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/17	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 17	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/18	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 18	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/19	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 19	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/20	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 20	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/21	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 21	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/22	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 22	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/23	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 23	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/24	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 24	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/25	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 25	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/26	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 26	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/27	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 27	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/28	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 28	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/29	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 29	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/30	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 30	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/31	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 31	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/32	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - LINE 32	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/GENERAL LAYOUT	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/THINDIGUA/FITTINGS SPECIFICATIONS	NCT LAST MILE WORKS – LOT 2 - THINDIGUA - FITTINGS SPECIFICATIONS	SHEET 1 OF 1

FOURWAY SEWER LINES			
	NWSP/NCTLastMile/LOT2/FOURWAY/GL-01	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWER GENERAL LAYOUT	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-01	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 1 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-02	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 2 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-03	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 3 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-04	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 4 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-05	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 5 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1-06	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1	SHEET 6 OF 6
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1.1-01	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1.1	SHEET 1 OF 2
	NWSP/NCTLastMile/LOT2/FOURWAY/FY1.1-02	NCT LAST MILE WORKS – LOT 2 - FOURWAY SEWERS - LINE FY1.1	SHEET 2 OF 2
STANDARD DRAWINGS			
	NWSP/NCTLastMile/LOT2/AIR VALVE CHAMBERS/01	NCT LAST MILE WORKS – LOT 2 -AIR VALVE CHAMBERS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/WASHOUT CHAMBERS/01	NCT LAST MILE WORKS – LOT 2 - WASHOUT CHAMBERS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/SLUICE VALVE CHAMBERS/01	NCT LAST MILE WORKS – LOT 2 - SLUICE VALVE CHAMBERS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/MARKER POSTS/01	NCT LAST MILE WORKS – LOT 2 - MARKER POSTS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/ANCHOR AND THRUST BLOCKS/01	NCT LAST MILE WORKS – LOT 2 - ANCHOR AND THRUST BLOCKS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/ANCHOR AND THRUST BLOCKS/02	NCT LAST MILE WORKS – LOT 2 - ANCHOR AND THRUST BLOCKS	SHEET 1 OF 1
	NWSP/NCTLastMile/LOT2/CROSSINGS/01	NCT LAST MILE WORKS – LOT 2 - CROSSINGS	SHEET 1 OF 1

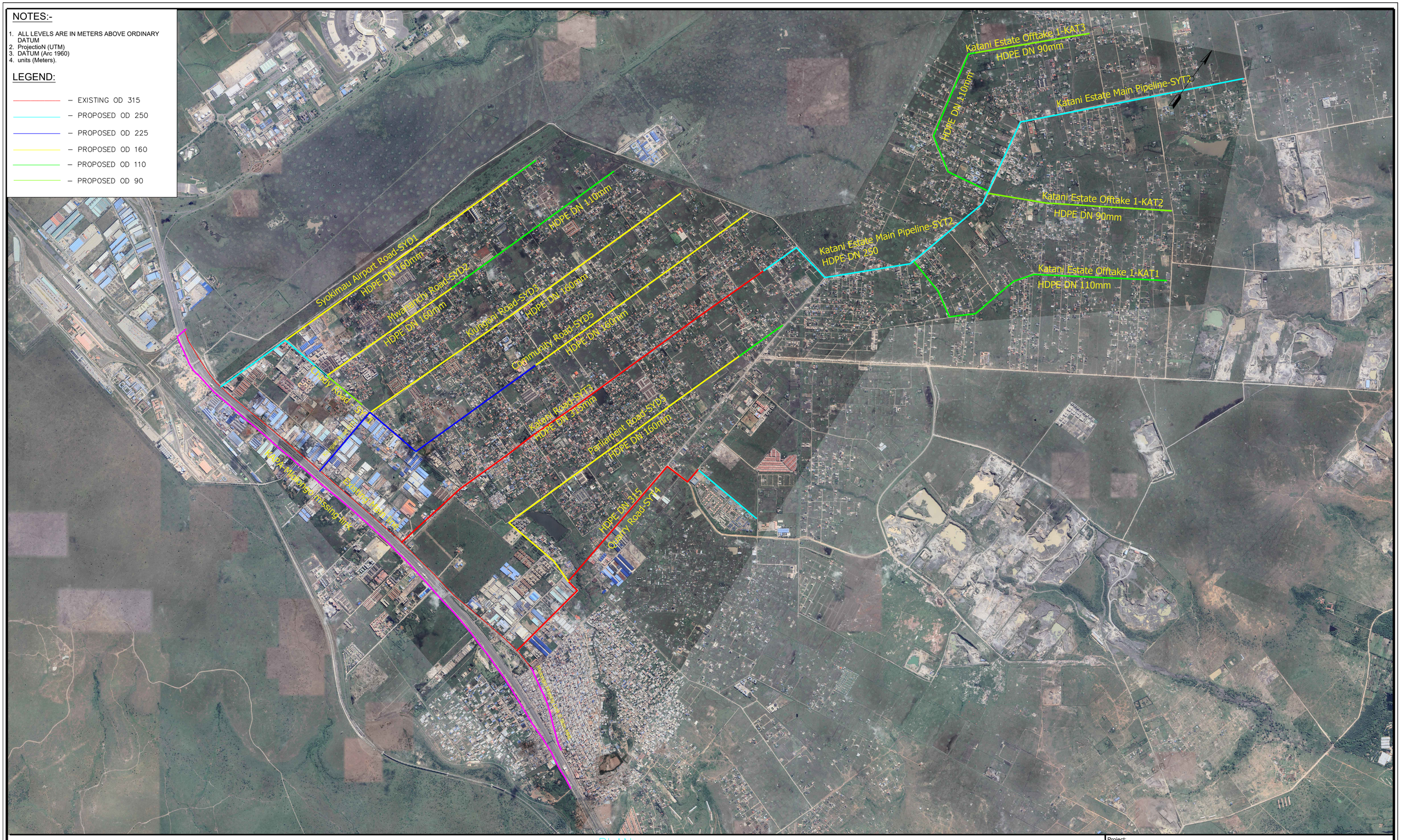
SYOKIMAU–MLOLONGO

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM
2. ProjectioN (UTM)
3. DATUM (Arc 1960)
4. units (Meters).

LEGEND:

- EXISTING OD 315
- PROPOSED OD 250
- PROPOSED OD 225
- PROPOSED OD 160
- PROPOSED OD 110
- PROPOSED OD 90



PLAN
SCALE 1:1000

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED	BY: BMM
DRAWN	BY: TTK
CHECKED	BY: INT
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
CONSTRUCTION OF EASTERN NAIROBI WATER AND SEWERAGE NETWORK INTENSIFICATION PROJECT
DESIGN REVIEW - SYOKIMAU

Drawing Title:
SYOKIMAU-KATANI,
WATER MAINS AND DISTRIBUTION LINES (SHEET 1 OF 1)
GENERAL LAYOUT

Date: OCT 2025

Drg. No.
ENP/SYOKIMAU/SYOKIMAU-KATANI DISTRIBUTION MAINS/01



NOTES:-

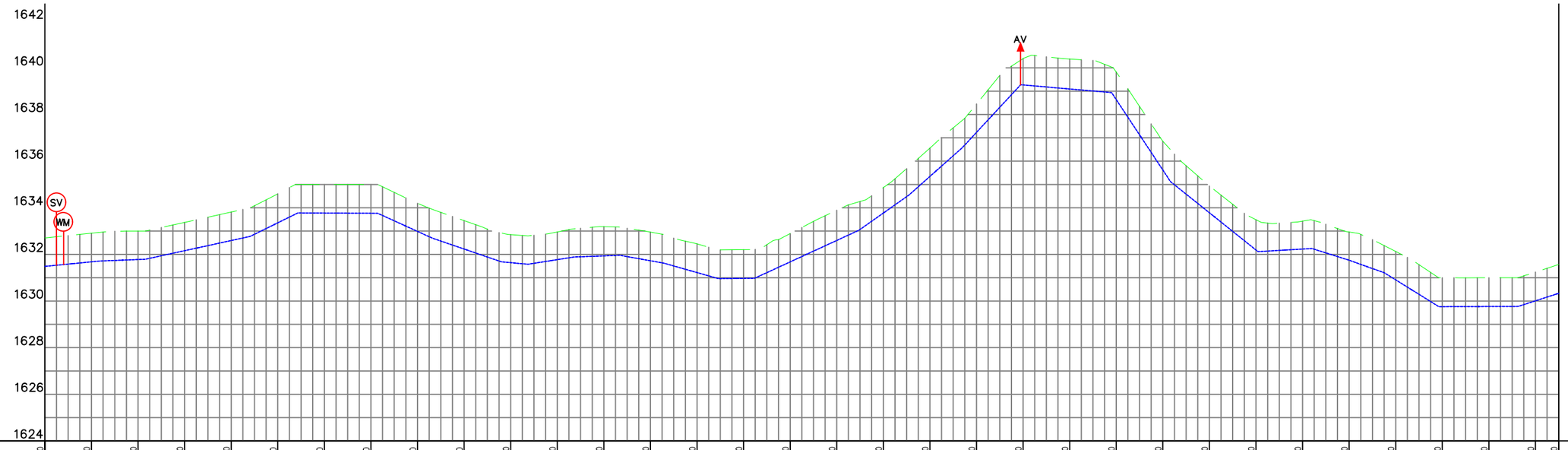
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1632.71	1632.91	1633.00	1633.37	1633.82	1634.60	1635.00	1635.00	1634.19	1633.45	1632.85	1632.96	1633.19	1632.96	1632.45	1632.20	1632.89	1633.89	1634.87	1636.56	1638.45	1640.40	1640.38	1639.82	1636.85	1634.93	1633.49	1633.42	1632.96	1632.13	1631.00	1631.00	1631.24	1631.57
INVERT LEVELS (Masl)	1631.49	1631.68	1631.78	1632.16	1632.59	1633.35	1633.77	1633.76	1632.99	1632.23	1631.65	1631.77	1631.94	1631.73	1631.22	1630.97	1631.68	1632.60	1633.77	1635.34	1637.23	1639.27	1639.09	1638.64	1635.62	1633.79	1632.19	1632.23	1631.75	1630.91	1629.76	1629.77	1630.01	1630.33
EXCAVATION DEPTH (m)	1.22	1.23	1.22	1.21	1.22	1.24	1.23	1.24	1.21	1.22	1.20	1.19	1.25	1.23	1.23	1.23	1.21	1.29	1.09	1.21	1.22	1.13	1.28	1.18	1.23	1.15	1.30	1.20	1.21	1.22	1.24	1.23	1.23	1.24
SIZE/TYPE OF PIPE & HGL	OD225 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.98%	0.39%	2.17%	4.91%	−0.04%	−4.55%	−3.43%	−0.91%	1.57%	0.38%	−1.78%	−2.83%	0.09%	4.60%	7.03%	8.87%	10.77%	−0.87%	−15.09%	−7.99%	0.58%	−3.14%	−3.58%	−6.20%	0.03%	3.23%								

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE LINE - SYT1 (SHEET 1 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/001)



NOTES:-

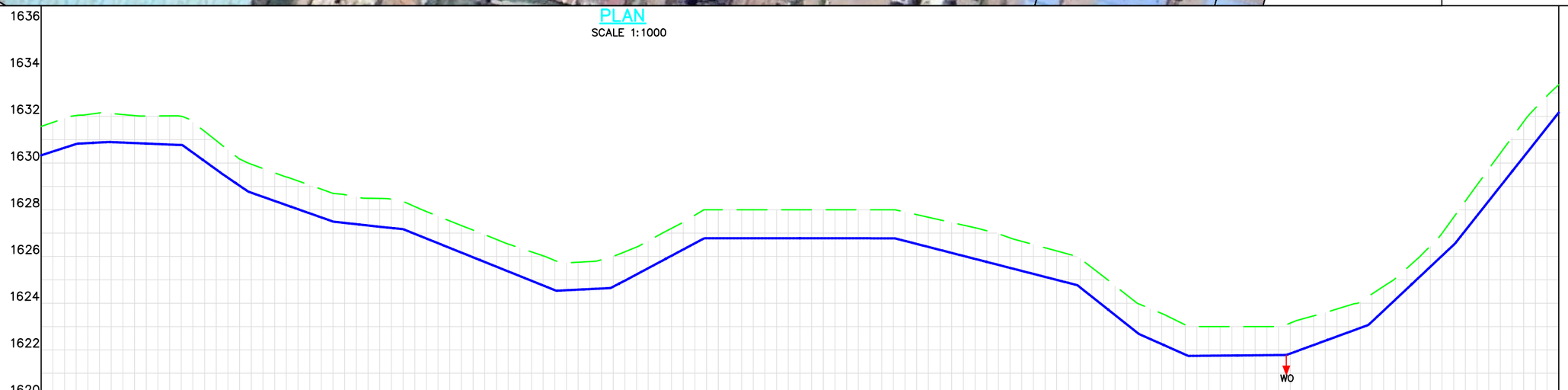
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1631.57	1631.91	1632.12	1632.01	1631.36	1629.95	1629.23	1628.65	1628.46	1627.73	1626.94	1626.20	1625.76	1626.20	1627.20	1628.00	1628.00	1628.00	1628.00	1627.90	1627.45	1626.97	1626.37	1625.53	1623.98	1623.07	1623.00	1623.00	1623.60	1624.39	1625.95	1628.37	1631.10	1633.35
INVERT LEVELS (Masl)	1630.33	1630.65	1630.90	1630.81	1630.08	1628.73	1628.02	1627.44	1627.22	1626.57	1625.76	1624.96	1624.58	1624.97	1626.03	1626.78	1626.78	1626.78	1626.78	1626.67	1626.15	1625.64	1625.13	1624.28	1622.70	1621.80	1621.76	1621.78	1622.39	1623.21	1625.09	1627.11	1629.64	1632.16
EXCAVATION DEPTH (m)	1.24	1.25	1.23	1.20	1.27	1.22	1.21	1.21	1.24	1.16	1.17	1.24	1.18	1.23	1.17	1.22	1.22	1.22	1.22	1.24	1.30	1.33	1.25	1.24	1.28	1.27	1.24	1.22	1.20	1.18	0.86	1.26	1.46	1.19
SIZE/TYPE OF PIPE & HGL	OD225 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)		3.23%	0.53%	-0.42%	-7.21%	6.81%	-3.53%	-1.10%	1.00%	-4.02%	0.50%	6.18%	5.34%	-0.00%	-2.57%	-7.93%	-4.44%	0.09%	3.66%	9.39%	12.62%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - SYT1 (SHEET 2 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/002)



Sheet 2
CH 1300.000m

NOTES:-

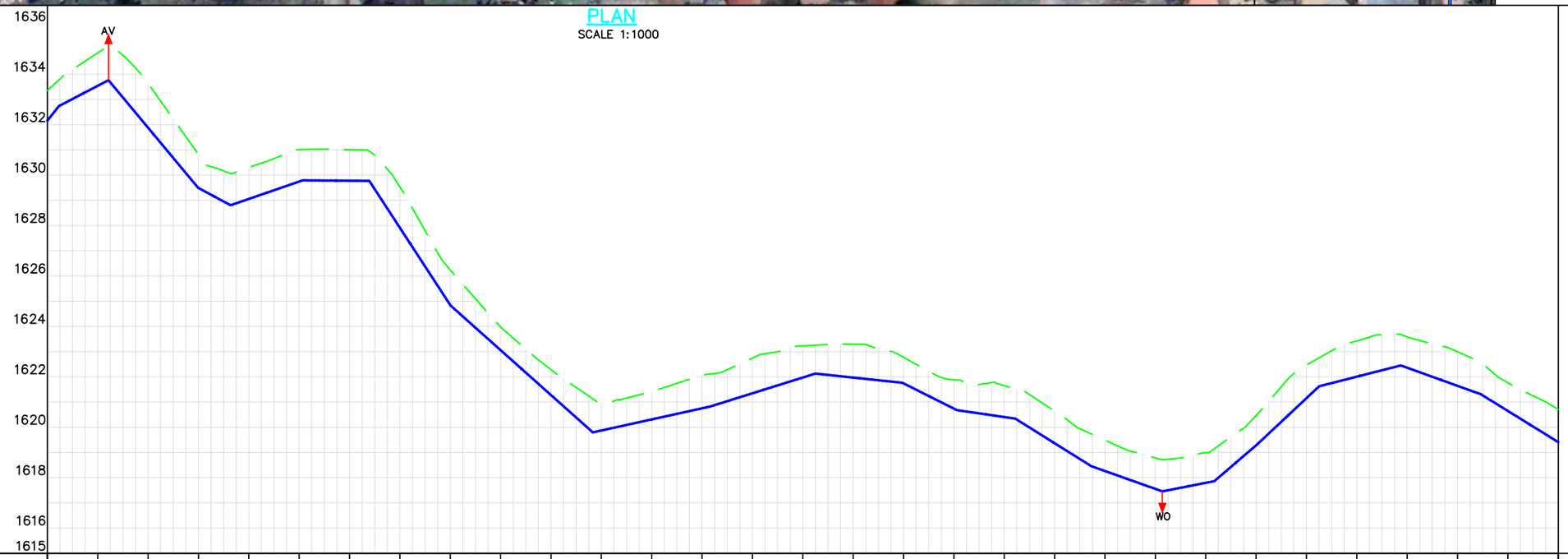
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900
GROUND LEVELS (Masl)	1633.35	1634.85	1633.64	1630.82	1630.31	1631.01	1631.01	1629.53	1626.24	1623.98	1622.29	1620.99	1621.42	1622.06	1622.75	1623.23	1623.30	1622.78	1621.89	1621.65	1620.64	1619.49	1618.78	1618.99	1620.47	1622.47	1623.43	1623.59	1623.00	1621.76	1620.70
INVERT LEVELS (Masl)	1632.16	1633.54	1631.88	1629.49	1629.06	1629.75	1629.78	1627.91	1624.85	1623.06	1621.28	1619.87	1620.31	1620.75	1621.35	1621.97	1621.97	1621.74	1620.74	1620.41	1619.37	1618.26	1617.56	1617.80	1619.28	1621.15	1622.01	1622.36	1621.64	1620.65	1619.41
EXCAVATION DEPTH (m)	1.19	1.31	1.76	1.33	1.26	1.27	1.23	1.62	1.39	0.92	1.01	1.12	1.11	1.31	1.40	1.25	1.33	1.03	1.15	1.25	1.27	1.22	1.23	1.20	1.19	1.32	1.42	1.23	1.35	1.11	1.30
SIZE/TYPE OF PIPE & HGL		OD225 HDPE				OD90 HDPE																									
PIPE FITTINGS		AS PER STD				AS PER STD																									
SLOPE (%)		12.60%	5.21%	-11.99%	-5.35%	3.45%	-0.08%	-15.32%	-8.90%	2.20%	3.13%	-1.06%	-5.01%	-1.45%	-6.25%	-3.54%	1.96%	8.57%	9.36%	2.55%	-3.59%	-6.16%									

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - SYT1 (SHEET 3 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/003)



PLAN

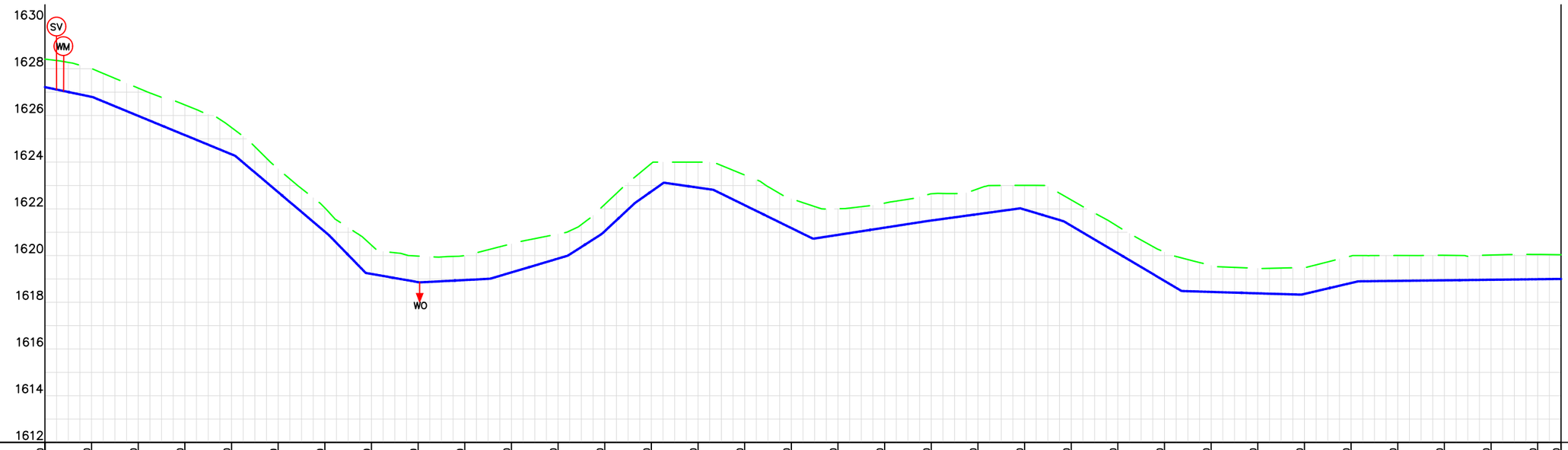
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1628.41	1628.00	1627.17	1626.45	1625.48	1623.71	1622.04	1620.44	1619.98	1620.00	1620.50	1620.92	1622.19	1623.94	1624.00	1623.45	1622.43	1622.00	1622.25	1622.65	1622.86	1623.01	1622.38	1621.25	1620.15	1619.58	1619.46	1619.49	1619.98	1620.00	1620.01	1620.02	1620.05	1620.03
INVERT LEVELS (Masl)	1627.21	1626.80	1625.98	1625.16	1624.34	1622.72	1621.03	1619.21	1618.86	1618.95	1619.28	1619.87	1621.04	1622.75	1622.91	1622.16	1621.18	1620.89	1621.20	1621.50	1621.77	1621.97	1621.28	1620.10	1618.92	1618.44	1618.38	1618.36	1618.83	1618.92	1618.94	1618.96	1618.99	1619.00
EXCAVATION DEPTH (m)	1.20	1.21	1.19	1.29	1.15	1.00	1.02	1.23	1.11	1.04	1.22	1.05	1.15	1.20	1.09	1.29	1.25	1.12	1.05	1.15	1.09	1.04	1.10	1.15	1.23	1.13	1.07	1.13	1.16	1.09	1.07	1.06	1.06	1.03
SIZE/TYPE OF PIPE & HGL		OD160 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		-2.08%	-4.12%	-8.45%	-10.25%	-1.76%	0.52%	2.96%	6.39%	9.34%	7.03%	-1.44%	-4.90%	1.55%	1.37%	-2.99%	-5.91%	-0.30%	2.34%	0.12%	3.86%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD1 (SHEET 1 OF 5)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/004)



NOTES:-

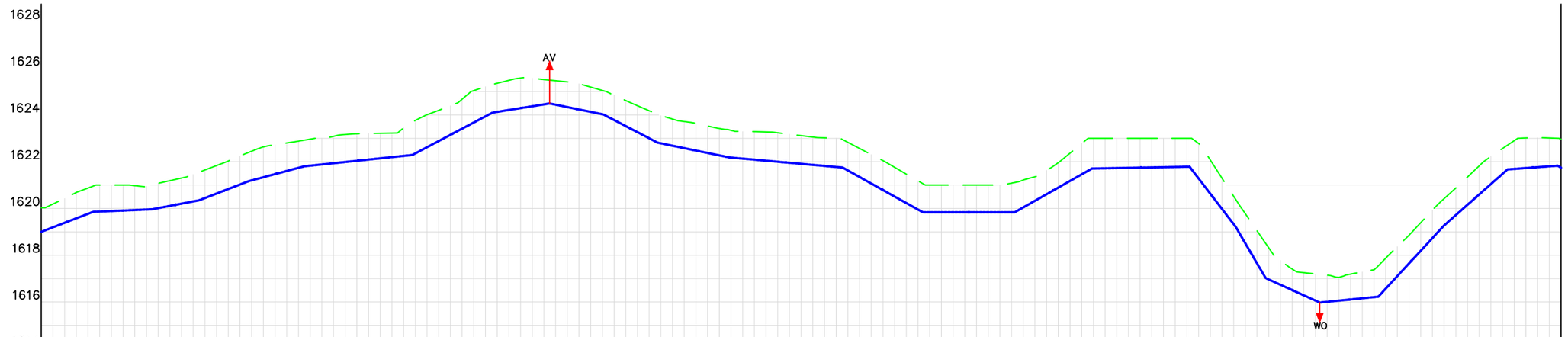
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1620.03	1620.43	1621.00	1621.07	1621.65	1622.45	1622.88	1623.16	1623.22	1624.19	1625.21	1625.57	1625.33	1624.62	1623.82	1623.42	1623.27	1623.05	1622.57	1621.47	1621.00	1621.00	1621.63	1623.00	1623.00	1623.00	1620.52	1617.78	1617.15	1617.38	1619.39	1621.34	1622.90	1622.96
INVERT LEVELS (Masl)	1619.00	1619.39	1619.89	1620.01	1620.45	1621.20	1621.74	1621.99	1622.20	1622.88	1623.94	1624.37	1624.23	1623.52	1622.68	1622.27	1622.04	1621.86	1621.34	1620.23	1619.84	1619.84	1620.61	1621.71	1621.75	1621.78	1619.33	1616.74	1616.01	1616.21	1618.19	1620.16	1621.69	1621.74
EXCAVATION DEPTH (m)	1.03	1.04	1.11	1.06	1.20	1.25	1.14	1.17	1.03	1.31	1.27	1.20	1.10	1.09	1.14	1.15	1.23	1.19	1.22	1.24	1.16	1.16	1.02	1.29	1.25	1.22	1.19	1.04	1.14	1.17	1.20	1.19	1.21	1.21
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.02%	3.86%	0.43%	1.92%	3.86%	2.68%	1.04%	5.28%	1.60%	-2.04%	-5.21%	-2.06%	-0.89%	-5.56%	0.00%	5.66%	0.19%	-13.04%	17.11%	-4.52%	1.00%	10.83%	8.84%	0.75%	-0.08%									

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD1 (SHEET 2 OF 5)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/005)



PLAN

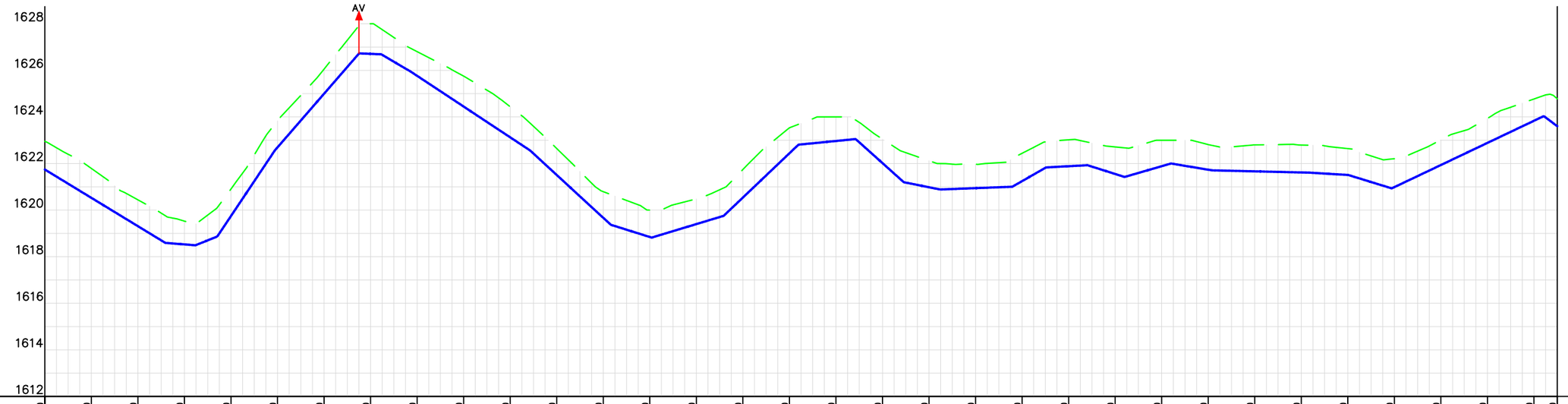
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+950
GROUND LEVELS (Masl)	1622.96	1621.79	1620.44	1619.53	1620.91	1623.83	1626.05	1628.00	1626.80	1625.75	1624.44	1622.64	1620.79	1620.00	1620.48	1621.74	1623.53	1624.00	1623.05	1622.12	1621.98	1622.44	1623.02	1622.71	1623.00	1622.81	1622.80	1622.79	1622.64	1622.21	1623.02	1623.94	1624.77	1624.78
INVERT LEVELS (Masl)	1621.74	1620.53	1619.31	1618.53	1619.75	1622.69	1624.99	1626.71	1625.76	1624.44	1623.12	1621.51	1619.67	1618.85	1619.40	1620.54	1622.44	1622.97	1622.02	1620.98	1620.94	1621.24	1621.88	1621.55	1621.88	1621.73	1621.66	1621.62	1621.51	1620.99	1621.94	1622.89	1623.83	1623.60
EXCAVATION DEPTH (m)	1.21	1.26	1.13	1.00	1.16	1.14	1.06	1.29	1.04	1.31	1.31	1.14	1.12	1.16	1.08	1.21	1.09	1.03	1.03	1.14	1.04	1.20	1.13	1.16	1.11	1.08	1.13	1.17	1.13	1.22	1.08	1.05	0.94	1.18
SIZE/TYPE OF PIPE & HGL		OD160 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		-6.08%	-0.79%	3.99%	14.94%	11.51%	0.42%	-5.88%	-6.60%	-9.20%	-3.13%	3.02%	9.50%	0.98%	-8.95%	-2.00%	0.38%	5.72%	0.54%	-3.17%	2.89%	-1.67%	-0.23%	-0.60%	-3.08%	4.75%	-0.52%							

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:

WATER DISTRIBUTION LINE - SYD1 (SHEET 3 OF 5)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/006)



NOTES:-

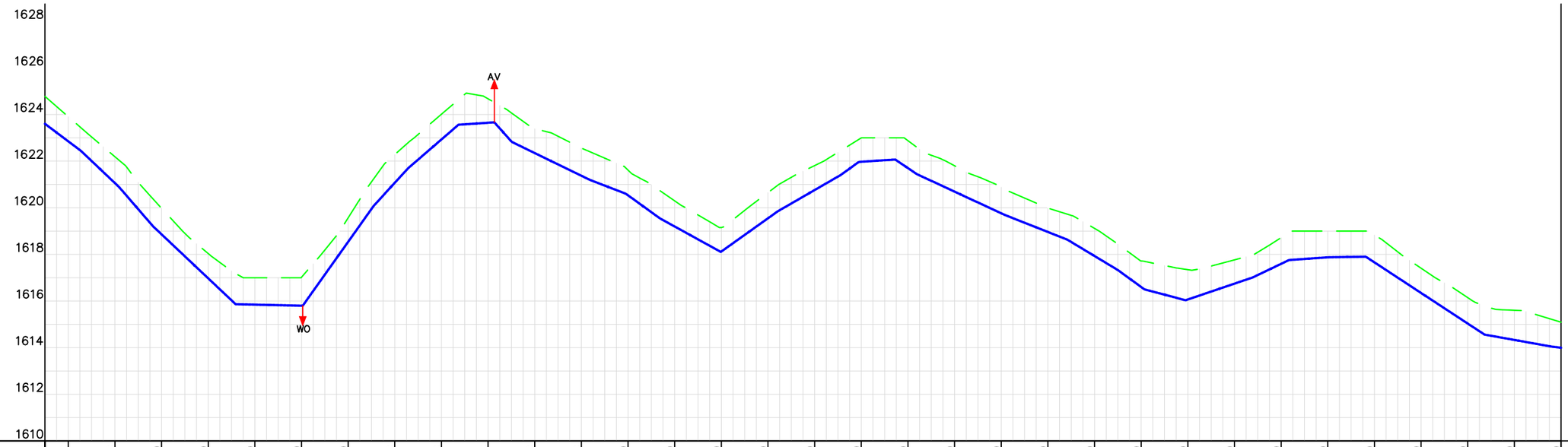
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+950	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600
GROUND LEVELS (Masl)	1624.78	1623.91	1622.19	1619.98	1618.04	1617.00	1617.02	1619.57	1622.28	1624.01	1624.67	1623.39	1622.56	1621.61	1620.30	1619.15	1620.65	1621.81	1623.00	1622.88	1621.80	1620.88	1619.99	1619.12	1617.72	1617.35	1617.77	1618.72	1619.00	1618.83	1617.41	1616.15	1615.61	1615.09
INVERT LEVELS (Masl)	1623.60	1622.85	1621.06	1618.86	1616.97	1615.85	1615.80	1618.54	1621.07	1622.93	1623.65	1622.35	1621.37	1620.53	1619.20	1618.12	1619.55	1620.76	1621.97	1621.70	1620.69	1619.76	1618.96	1617.93	1616.60	1616.07	1616.75	1617.60	1617.88	1617.66	1616.35	1615.04	1614.33	1614.00
EXCAVATION DEPTH (m)	1.18	1.06	1.13	1.12	1.06	1.15	1.22	1.03	1.21	1.08	1.03	1.04	1.19	1.08	1.10	1.03	1.10	1.05	1.02	1.18	1.11	1.12	1.02	1.19	1.12	1.28	1.02	1.12	1.12	1.17	1.06	1.11	1.27	1.10
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	-7.52%	-9.49%	-11.56%	-9.43%	-0.23%	14.08%	10.94%	8.64%	0.67%	-4.23%	-4.87%	-3.85%	-7.23%	-5.51%	7.13%	5.77%	1.23%	0.65%	-6.76%	-4.64%	-3.95%	-6.02%	-2.28%	-2.66%	3.40%	4.80%	0.70%	0.15%	-6.56%	-1.79%	-1.16%			

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD1 (SHEET 4 OF 5)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/007)



Sheet 4
CH 2600.000m

NOTES:-

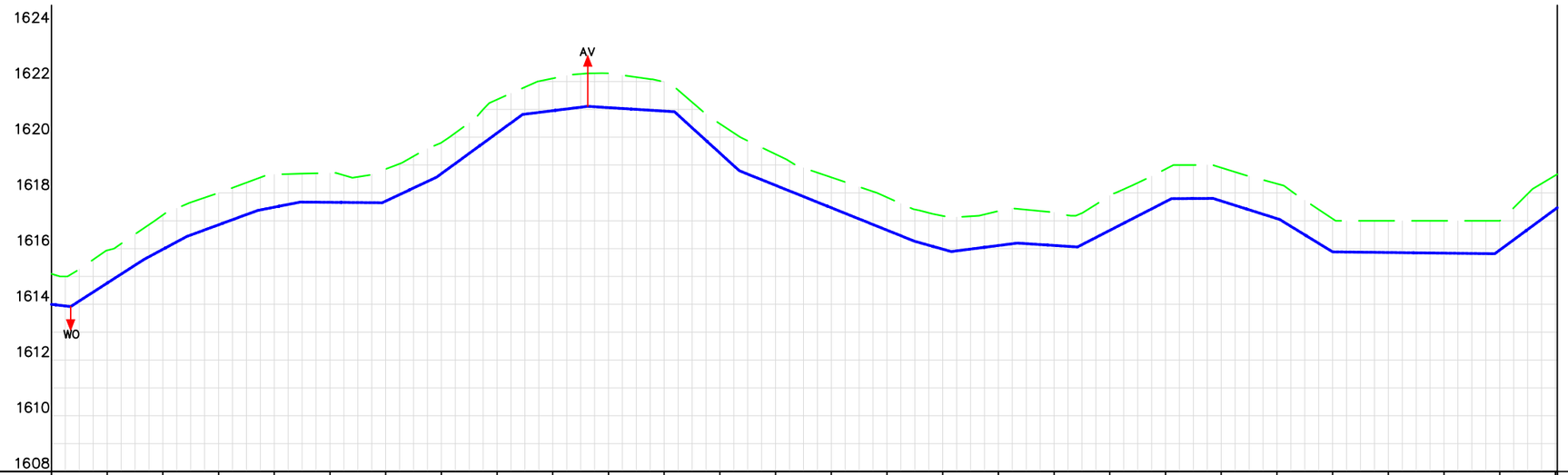
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140
GROUND LEVELS (Masl)	1615.09	1615.94	1617.21	1618.00	1618.66	1618.71	1618.86	1619.81	1621.35	1622.11	1622.29	1622.00	1620.48	1619.39	1618.56	1617.84	1617.17	1617.35	1617.30	1617.90	1618.85	1618.90	1618.33	1617.07	1617.00	1617.00	1617.00	1618.63
INVERT LEVELS (Masl)	1614.00	1614.76	1615.97	1616.85	1617.49	1617.66	1617.71	1618.69	1620.15	1620.95	1621.06	1620.94	1619.43	1618.27	1617.47	1616.66	1615.98	1616.11	1616.11	1616.66	1617.68	1617.71	1617.08	1615.88	1615.86	1615.84	1615.95	1617.42
EXCAVATION DEPTH (m)	1.10	1.18	1.23	1.15	1.17	1.05	1.15	1.12	1.20	1.16	1.23	1.06	1.05	1.12	1.09	1.18	1.19	1.24	1.19	1.24	1.17	1.19	1.25	1.19	1.14	1.16	1.05	1.20
SIZE/TYPE OF PIPE & HGL		OD160 HDPE								OD110 HDPE																		
PIPE FITTINGS		AS PER STD								AS PER STD																		
SLOPE (%)		-7.16%	6.43%	5.36%	3.67%	1.97%	-0.08%	4.70%	7.29%	1.24%	-0.62%	-9.10%	-4.02%	-2.81%	1.28%	-0.65%	5.13%	0.06%	-3.16%	-6.12%	-0.11%	7.37%						

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; MAKAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD1 (SHEET 5 OF 5)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/008)



NOTES:-

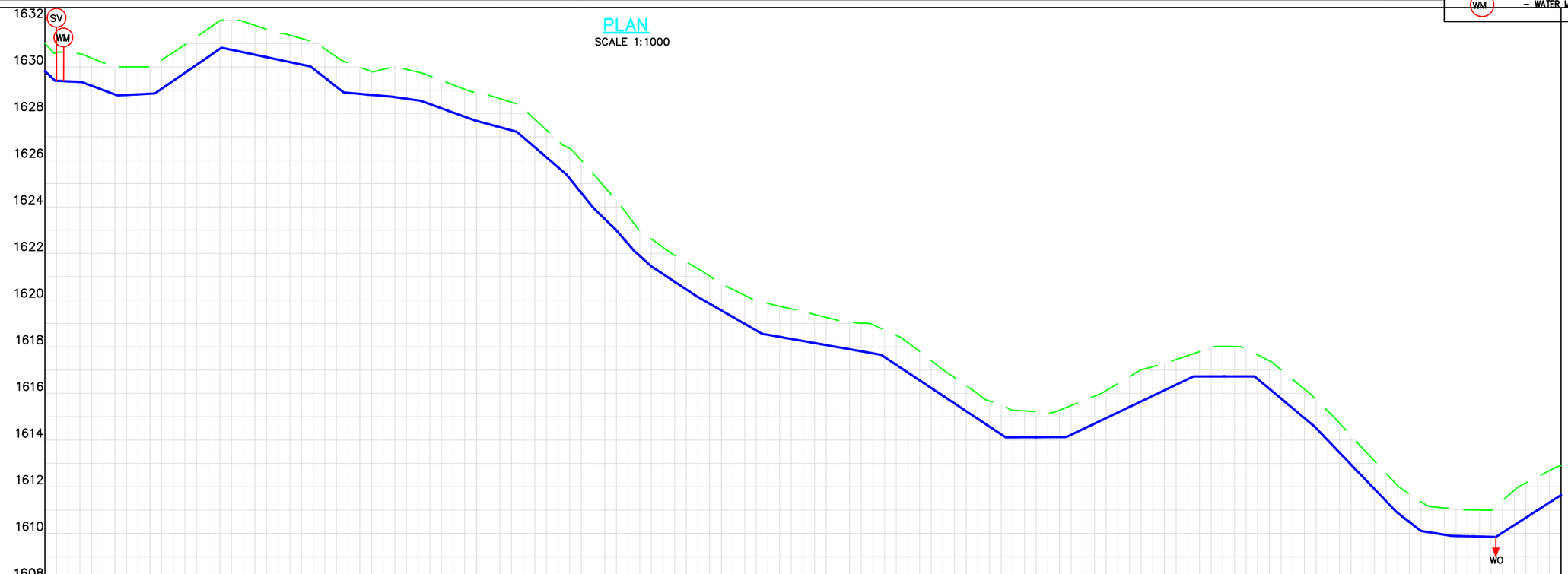
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1631.02	1630.38	1630.00	1630.96	1632.01	1631.45	1630.78	1629.81	1629.78	1629.04	1628.49	1626.83	1624.84	1622.62	1621.34	1620.21	1619.62	1619.13	1618.72	1617.41	1615.99	1615.25	1615.48	1616.42	1617.29	1617.96	1617.65	1616.19	1614.18	1612.04	1611.09	1610.99	1612.43	1612.90
INVERT LEVELS (Masl)	1629.82	1629.19	1628.82	1629.75	1630.73	1630.31	1629.54	1628.80	1628.57	1627.86	1627.28	1625.70	1623.48	1621.45	1620.13	1618.99	1618.34	1617.98	1617.56	1616.23	1614.91	1614.12	1614.23	1615.18	1616.13	1616.73	1616.61	1614.94	1612.94	1610.67	1609.94	1609.85	1611.00	1611.64
EXCAVATION DEPTH (m)	1.20	1.19	1.18	1.21	1.28	1.14	1.24	1.01	1.21	1.18	1.20	1.14	1.36	1.17	1.21	1.22	1.29	1.15	1.16	1.17	1.08	1.13	1.25	1.24	1.15	1.23	1.04	1.24	1.24	1.17	1.15	1.14	1.43	1.26
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	-9.44%	-0.51%	-3.75%	0.56%	6.87%	-2.11%	-7.83%	-0.87%	-1.42%	-3.63%	-2.71%	-8.62%	-12.44%	-9.68%	-11.53%	-8.97%	-6.60%	-5.74%	-1.76%	-6.62%	0.04%	4.77%	0.00%	-8.34%	-10.43%	-2.80%	-1.60%	-0.24%	6.42%					

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD2 (SHEET 1 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/009)



NOTES:-

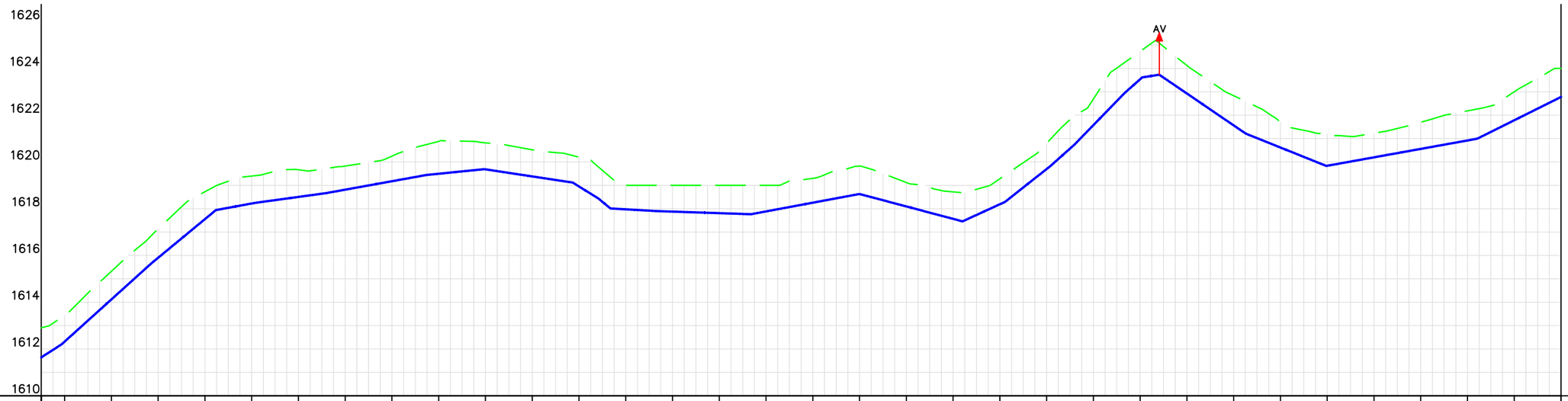
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1612.90	1613.44	1615.32	1617.14	1618.72	1619.40	1619.66	1619.82	1620.25	1620.88	1620.82	1620.52	1620.21	1619.00	1619.00	1619.00	1619.00	1619.30	1619.82	1619.12	1618.72	1619.28	1620.80	1622.69	1624.73	1624.13	1622.83	1621.71	1621.19	1621.23	1621.70	1622.19	1623.00	1624.00
INVERT LEVELS (Masl)	1611.64	1612.32	1614.12	1615.90	1617.55	1618.22	1618.50	1618.81	1619.17	1619.49	1619.68	1619.38	1618.95	1617.97	1617.87	1617.81	1617.88	1618.26	1618.63	1618.10	1617.57	1618.19	1619.70	1621.57	1623.54	1622.93	1621.56	1620.62	1619.84	1620.20	1620.56	1620.92	1621.78	1622.78
EXCAVATION DEPTH (m)	1.26	1.12	1.20	1.24	1.17	1.17	1.16	1.01	1.07	1.39	1.13	1.14	1.25	1.03	1.13	1.19	1.12	1.04	1.20	1.02	1.15	1.09	1.10	1.12	1.19	1.20	1.27	1.09	1.35	1.03	1.14	1.27	1.22	1.22
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	6.42%	9.02%	8.26%	1.85%	1.37%	1.81%	1.00%	-1.51%	-6.22%	-0.17%	-0.56%	-0.33%	1.86%	-2.65%	4.58%	7.89%	8.92%	10.29%	8.85%	1.57%	-6.81%	-4.01%	1.80%	4.98%	0.35%									

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, LoSai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD2 (SHEET 2 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/010)



PLAN

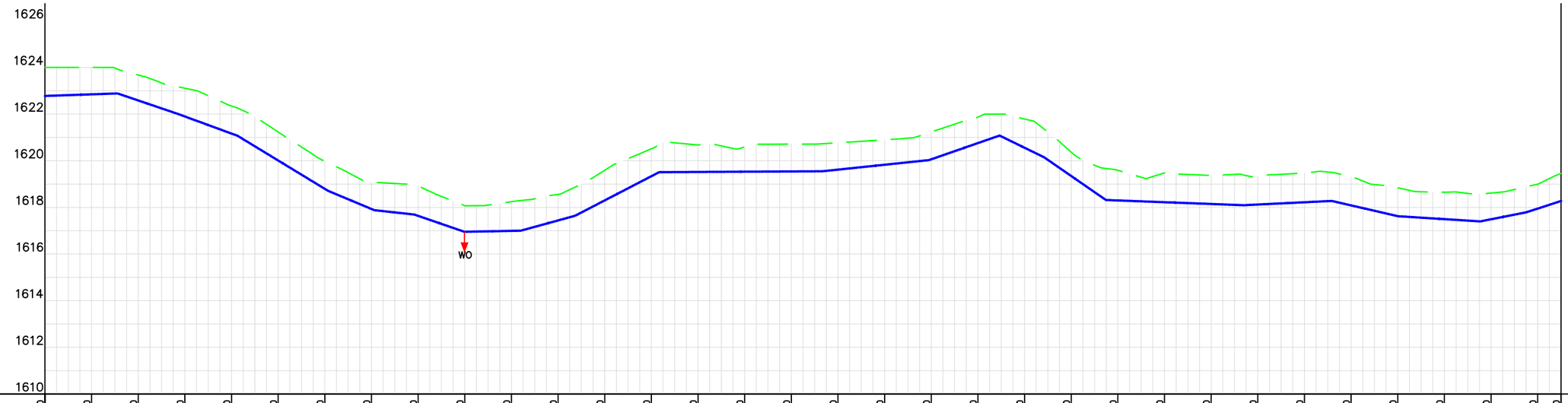
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+950
GROUND LEVELS (Masl)	1624.00	1624.00	1623.68	1623.11	1622.35	1621.23	1619.98	1619.08	1618.92	1618.08	1618.25	1618.56	1619.59	1620.51	1620.68	1620.59	1620.71	1620.77	1620.90	1621.23	1621.87	1621.79	1620.37	1619.59	1619.48	1619.37	1619.36	1619.48	1619.31	1618.85	1618.65	1618.61	1619.00	1619.46
INVERT LEVELS (Masl)	1622.78	1622.85	1622.59	1621.90	1621.17	1620.01	1618.79	1617.93	1617.64	1616.95	1616.99	1617.44	1618.30	1619.34	1619.52	1619.53	1619.54	1619.62	1619.83	1620.06	1620.76	1620.56	1619.35	1618.30	1618.22	1618.15	1618.12	1618.22	1618.09	1617.62	1617.50	1617.49	1617.95	1618.27
EXCAVATION DEPTH (m)	1.22	1.15	1.09	1.21	1.18	1.22	1.18	1.15	1.28	1.12	1.25	1.12	1.29	1.17	1.16	1.06	1.17	1.15	1.07	1.17	1.11	1.23	1.02	1.29	1.26	1.23	1.23	1.26	1.22	1.22	1.16	1.12	1.05	1.18
SIZE/TYPE OF PIPE & HGL	OD160 HDPE														OD110 HDPE																			
PIPE FITTINGS	AS PER STD														AS PER STD																			
SLOPE (%)	4.96%	0.35%	-3.40%	-3.66%	-6.08%	-4.18%	-1.09%	-3.43%	0.20%	2.75%	5.19%	0.05%	1.05%	3.47%	-4.87%	-6.91%	-0.38%	0.48%	-2.31%	-0.63%	1.97%	3.25%												

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:

WATER DISTRIBUTION LINE - SYD2 (SHEET 3 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/011)



PLAN

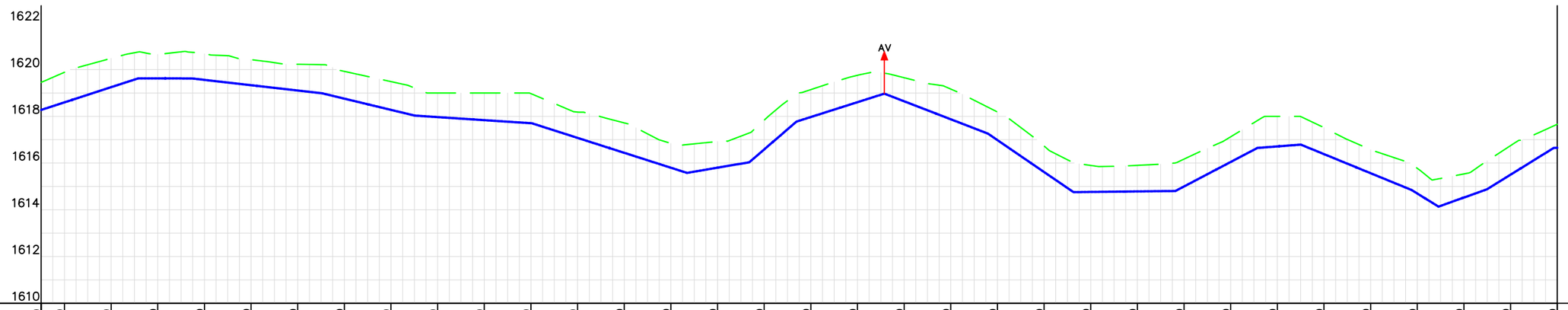
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	1+950	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600
GROUND LEVELS (Masl)	1619.46	1619.89	1620.48	1620.65	1620.68	1620.43	1620.23	1619.92	1619.49	1619.00	1619.00	1618.97	1618.18	1617.72	1616.84	1616.92	1617.84	1619.15	1619.76	1619.65	1619.17	1618.19	1616.73	1615.90	1615.90	1616.17	1617.12	1618.00	1617.52	1616.57	1615.78	1615.53	1616.75	1617.66
INVERT LEVELS (Masl)	1618.27	1618.60	1619.25	1619.63	1619.56	1619.33	1619.11	1618.76	1618.28	1617.97	1617.84	1617.71	1617.08	1616.44	1615.80	1615.80	1616.58	1617.97	1618.61	1618.64	1617.87	1616.98	1615.62	1614.76	1614.79	1615.00	1616.05	1616.71	1616.38	1615.57	1614.70	1614.52	1615.50	1616.65
EXCAVATION DEPTH (m)	1.18	1.29	1.23	1.03	1.12	1.09	1.13	1.17	1.21	1.03	1.16	1.26	1.10	1.28	1.04	1.12	1.25	1.17	1.15	1.01	1.29	1.20	1.11	1.13	1.12	1.17	1.08	1.29	1.13	1.01	1.08	1.01	1.25	1.01
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)		3.25%	-0.02%	-1.14%	-2.40%	-0.65%	-3.19%	1.70%	8.60%	3.17%	-3.85%	-6.83%	0.11%	5.24%	0.76%	-4.09%	-6.17%	3.56%	6.19%	0.92%														

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

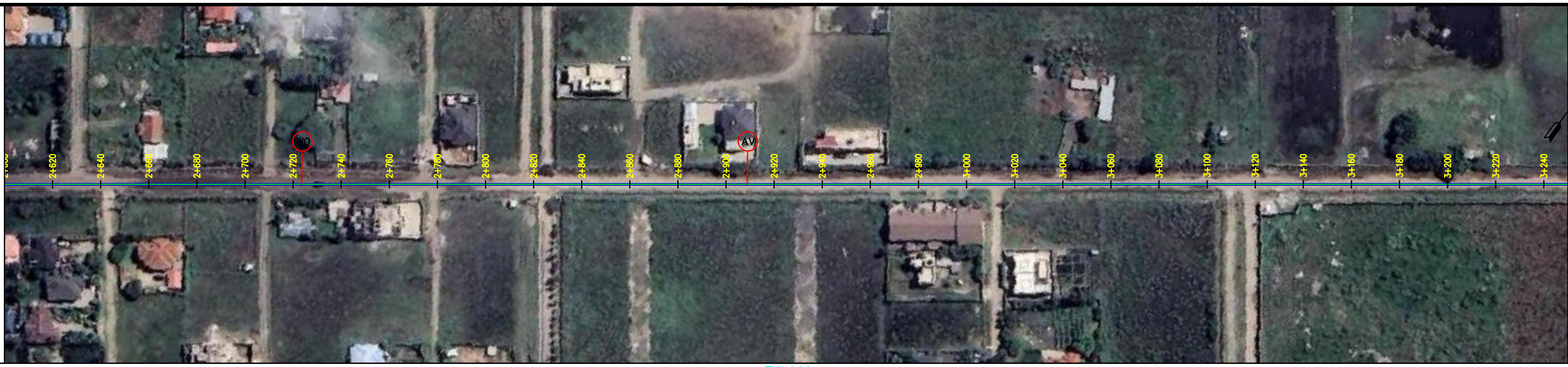
DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD2 (SHEET 4 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/012)



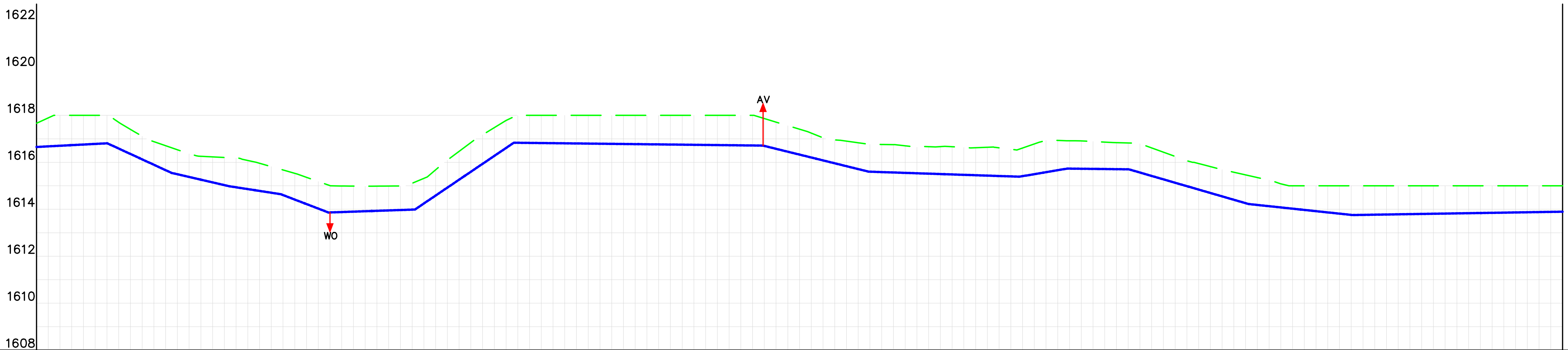
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN
SCALE 1:1000



CHAINAGE (Km+m)	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920
GROUND LEVELS (Masl)	1617.66	1618.00	1617.41	1616.54	1616.21	1615.82	1615.18	1614.98	1615.11	1616.47	1617.79	1618.00	1618.00	1618.00	1618.00	1618.00	1617.56
INVERT LEVELS (Masl)	1616.65	1616.76	1616.36	1615.49	1615.03	1614.71	1614.03	1613.92	1613.99	1615.26	1616.61	1616.82	1616.79	1616.77	1616.75	1616.72	1616.45
EXCAVATION DEPTH (m)	1.01	1.24	1.05	1.05	1.18	1.11	1.16	1.06	1.12	1.21	1.17	1.19	1.21	1.23	1.25	1.28	1.11

CHAINAGE (Km+m)	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+250
GROUND LEVELS (Masl)	1616.96	1616.76	1616.67	1616.62	1616.61	1616.92	1616.84	1616.43	1615.82	1615.35	1615.00	1615.00	1615.00	1615.00	1615.00	1615.00	1615.00
INVERT LEVELS (Masl)	1615.96	1615.58	1615.52	1615.45	1615.41	1615.73	1615.71	1615.27	1614.69	1614.18	1613.97	1613.76	1613.79	1613.82	1613.85	1613.88	1613.90
EXCAVATION DEPTH (m)	1.00	1.18	1.15	1.17	1.20	1.19	1.13	1.16	1.12	1.17	1.03	1.24	1.21	1.18	1.15	1.12	1.10

SIZE/TYPE OF PIPE & HGL: OD110 HDPE

PIPE FITTINGS: AS PER STD

SLOPE (%): 0.52% | −4.61% | −2.31% | −1.54% | −3.84% | 0.34% | 6.76% | −0.12% | −2.47% | −0.33% | 1.69% | −0.12% | −2.90% | −1.06% | 0.16%

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD2 (SHEET 5 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/013)



Sheet 5
CH 3250.000m

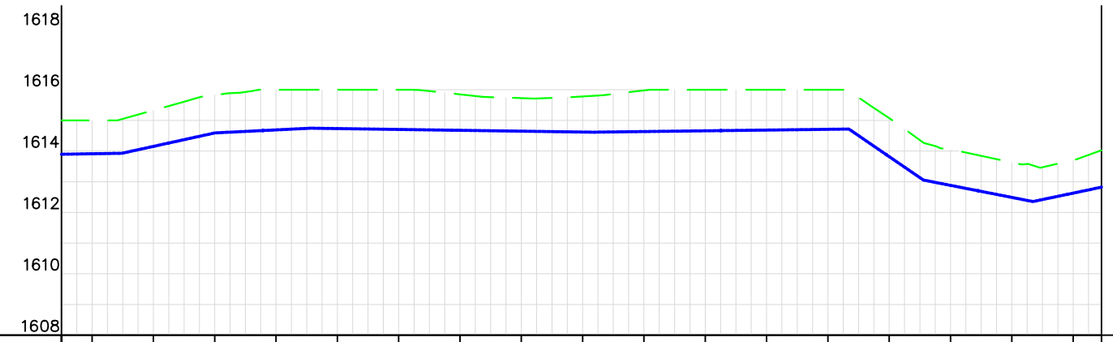
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN
SCALE 1:1000



CHAINAGE (Km+m)	3+250	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+589
GROUND LEVELS (Masl)	1615.00	1615.00	1615.33	1615.83	1616.00	1616.00	1616.00	1615.85	1615.73	1615.78	1615.98	1616.00	1616.00	1616.00	1615.07	1614.04	1613.63	1613.71	1614.02
INVERT LEVELS (Masl)	1613.90	1613.91	1614.15	1614.59	1614.69	1614.73	1614.71	1614.68	1614.65	1614.62	1614.64	1614.66	1614.69	1614.71	1613.82	1612.88	1612.49	1612.63	1612.82
EXCAVATION DEPTH (m)	1.10	1.09	1.18	1.24	1.31	1.27	1.29	1.17	1.08	1.16	1.34	1.34	1.31	1.29	1.25	1.16	1.14	1.08	1.20
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																		
PIPE FITTINGS	AS PER STD																		
SLOPE (%)	0.16%	2.19%	0.49%	-0.14%					0.12%				-6.84%	-1.96%	2.09%				

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD2 (SHEET 6 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/014)



NOTES:-

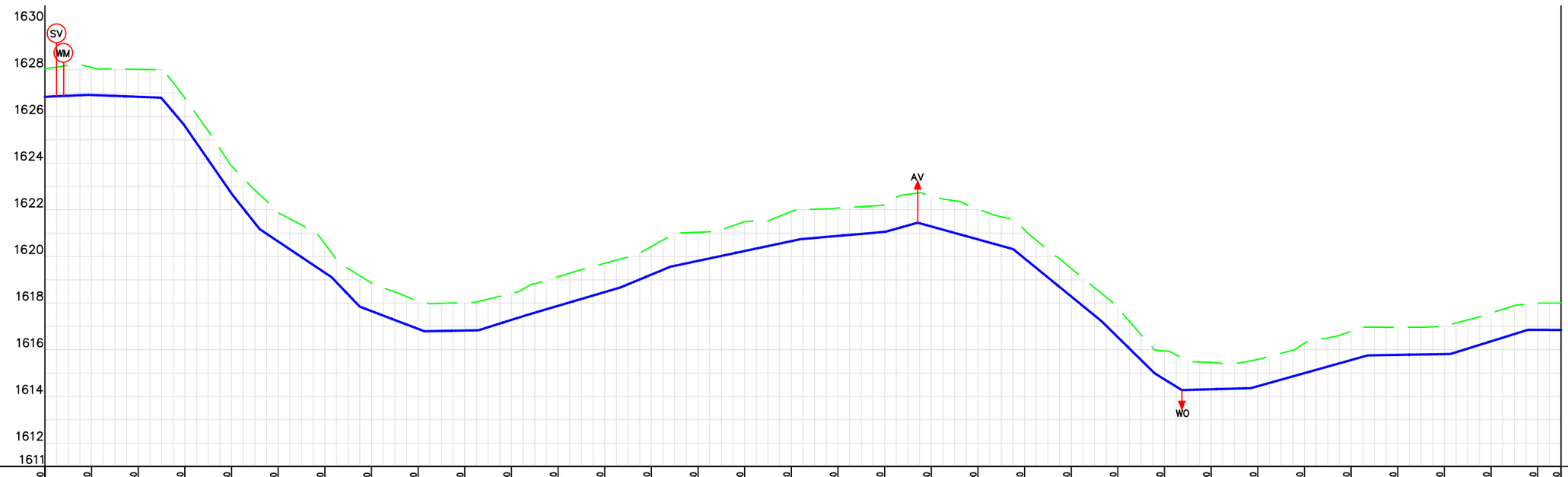
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1628.04	1628.10	1628.02	1626.79	1623.87	1621.90	1620.54	1618.87	1618.09	1618.02	1618.42	1619.13	1619.71	1620.43	1621.04	1621.49	1621.93	1622.08	1622.23	1622.59	1622.03	1621.14	1619.48	1617.78	1615.95	1615.47	1615.59	1616.28	1616.80	1616.96	1617.02	1617.57	1618.00	1618.01
INVERT LEVELS (Masl)	1626.84	1626.92	1626.84	1625.58	1622.70	1620.64	1619.30	1617.66	1616.89	1616.82	1617.28	1617.88	1618.47	1619.22	1619.81	1620.23	1620.66	1620.88	1621.05	1621.28	1620.73	1619.91	1618.29	1616.54	1614.73	1614.31	1614.44	1615.00	1615.56	1615.78	1615.81	1616.36	1616.85	1616.85
EXCAVATION DEPTH (m)	1.20	1.18	1.18	1.20	1.18	1.26	1.23	1.21	1.20	1.20	1.14	1.24	1.23	1.20	1.23	1.25	1.28	1.20	1.18	1.31	1.30	1.22	1.20	1.24	1.22	1.16	1.15	1.28	1.24	1.18	1.20	1.21	1.15	1.16
SIZE/TYPE OF PIPE & HGL	OD225 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.44%	−0.39%	−11.82%	−14.44%	12.60%	−6.69%	10.43%	−3.61%	0.18%	3.15%	2.95%	4.15%	2.12%	0.67%	2.80%	−2.77%	−8.15%	−9.81%	6.16%	0.29%	2.81%	0.17%	3.12%	−0.03%										

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - SYT1 (SHEET 1 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/015)



NOTES:-

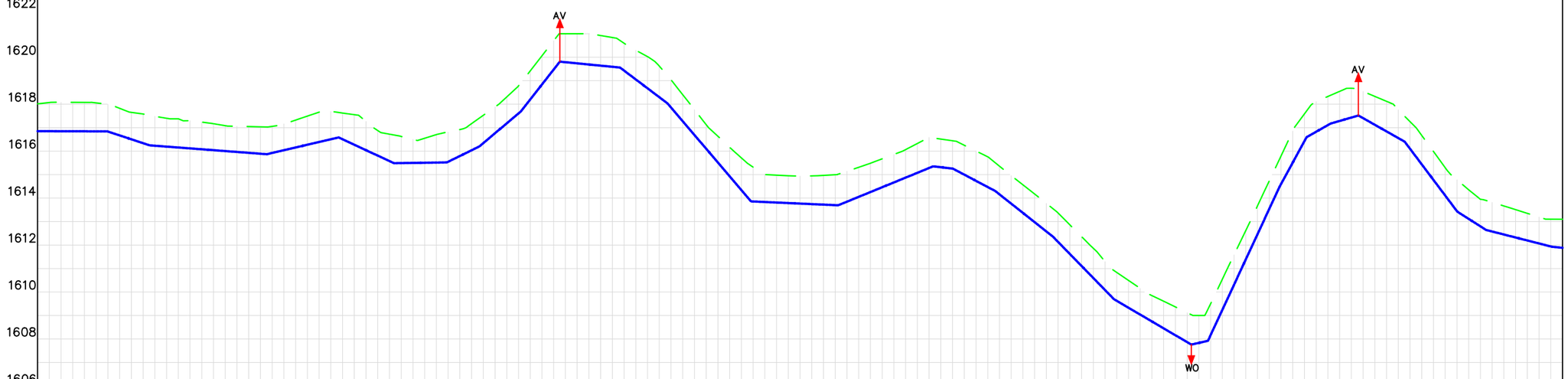
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1618.01	1618.08	1617.99	1617.49	1617.24	1617.05	1617.32	1617.62	1616.72	1616.70	1617.53	1619.42	1621.00	1620.60	1619.04	1616.63	1615.02	1614.95	1615.31	1616.07	1616.44	1615.36	1613.77	1611.87	1610.16	1609.12	1611.59	1615.79	1618.33	1618.33	1616.67	1614.35	1613.51	1613.10
INVERT LEVELS (Masl)	1616.85	1616.85	1616.83	1616.23	1616.08	1615.93	1616.16	1616.51	1615.58	1615.51	1616.34	1618.20	1619.74	1619.43	1617.86	1615.51	1613.83	1613.74	1614.05	1614.87	1615.26	1614.16	1612.58	1610.60	1609.04	1607.87	1610.31	1614.59	1617.11	1617.12	1615.44	1613.12	1612.32	1611.88
EXCAVATION DEPTH (m)	1.16	1.23	1.16	1.26	1.16	1.12	1.17	1.12	1.15	1.19	1.19	1.22	1.26	1.17	1.18	1.12	1.18	1.20	1.26	1.19	1.18	1.20	1.19	1.27	1.12	1.25	1.27	1.20	1.22	1.21	1.23	1.24	1.19	1.22
SIZE/TYPE OF PIPE & HGL	OD225 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)		-0.03%	-3.31%	-0.76%	2.33%	-4.64%	0.14%	4.90%	8.43%	12.75%	-0.98%	-7.55%	-11.72%	-0.45%	4.09%	-1.16%	-5.26%	-7.90%	-10.24%	-5.86%	2.29%	21.50%	18.33%	5.65%	2.89%	-5.65%	-13.28%	6.37%	-2.55%	-0.03%				

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - SYT2 (SHEET 2 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/016)



PLAN

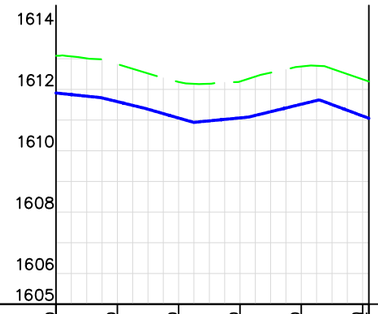
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400
GROUND LEVELS (Masl)	1613.10	1612.82	1612.24	1612.26	1612.75	1612.33
INVERT LEVELS (Masl)	1611.88	1611.60	1611.07	1611.07	1611.52	1611.13
EXCAVATION DEPTH (m)	1.22	1.22	1.18	1.19	1.23	1.20
SIZE/TYPE OF PIPE & HGL	OD225 HDPE					
PIPE FITTINGS	AS PER STD					
SLOPE (%)		-1.03%	-2.44%	-2.87%	0.96%	2.43%

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - SYT2 (SHEET 3 OF 3)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/017)



NOTES:-

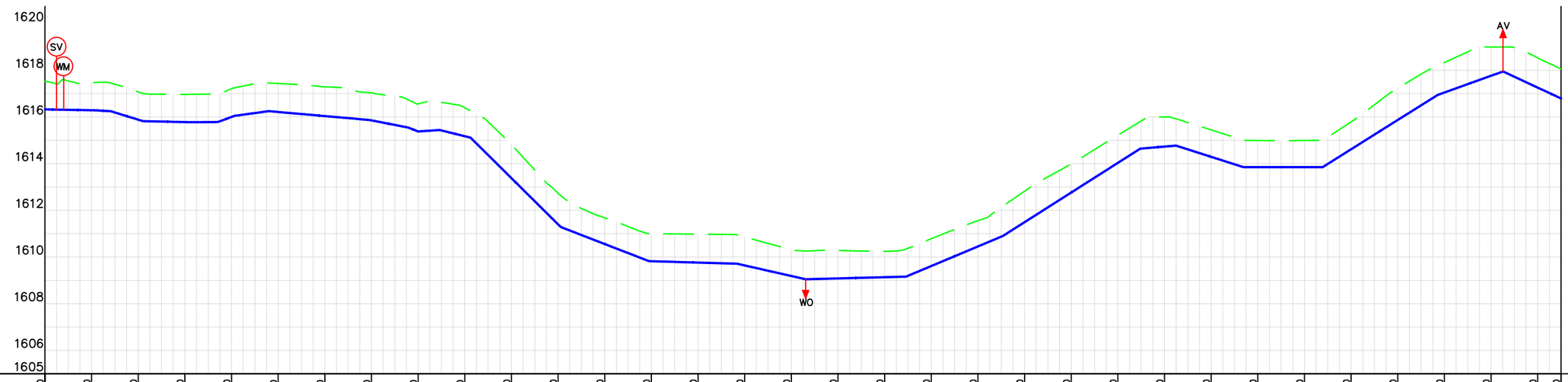
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1617.53	1617.47	1617.08	1616.97	1617.21	1617.43	1617.29	1617.03	1616.56	1616.39	1614.82	1612.73	1611.68	1611.00	1610.98	1610.86	1610.33	1610.28	1610.24	1610.79	1611.56	1612.82	1613.99	1615.22	1616.00	1615.45	1614.99	1614.99	1615.79	1617.23	1618.33	1619.00	1618.53	1618.06
INVERT LEVELS (Masl)	1616.33	1616.29	1615.88	1615.78	1616.00	1616.21	1616.04	1615.85	1615.38	1615.18	1613.38	1611.40	1610.56	1609.82	1609.76	1609.64	1609.19	1609.08	1609.14	1609.61	1610.45	1611.49	1612.76	1614.03	1614.73	1614.29	1613.85	1613.85	1614.62	1615.87	1617.05	1617.77	1617.26	1616.79
EXCAVATION DEPTH (m)	1.20	1.18	1.20	1.19	1.21	1.22	1.25	1.18	1.18	1.22	1.44	1.34	1.12	1.18	1.22	1.22	1.14	1.19	1.11	1.17	1.11	1.33	1.23	1.19	1.27	1.15	1.14	1.14	1.18	1.36	1.28	1.23	1.27	1.26
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	-0.24%	-0.16%	-0.62%	-3.09%	-0.22%	0.08%	3.66%	1.37%	-0.86%	-1.95%	-3.90%	-0.67%	-2.48%	-9.90%	-3.87%	-0.29%	-2.26%	0.26%	4.19%	6.35%	0.84%	-3.20%	0.00%	6.28%	3.58%	-4.65%								

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRUBUTION LINE - SYD3 (SHEET 1 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/018)



NOTES:-

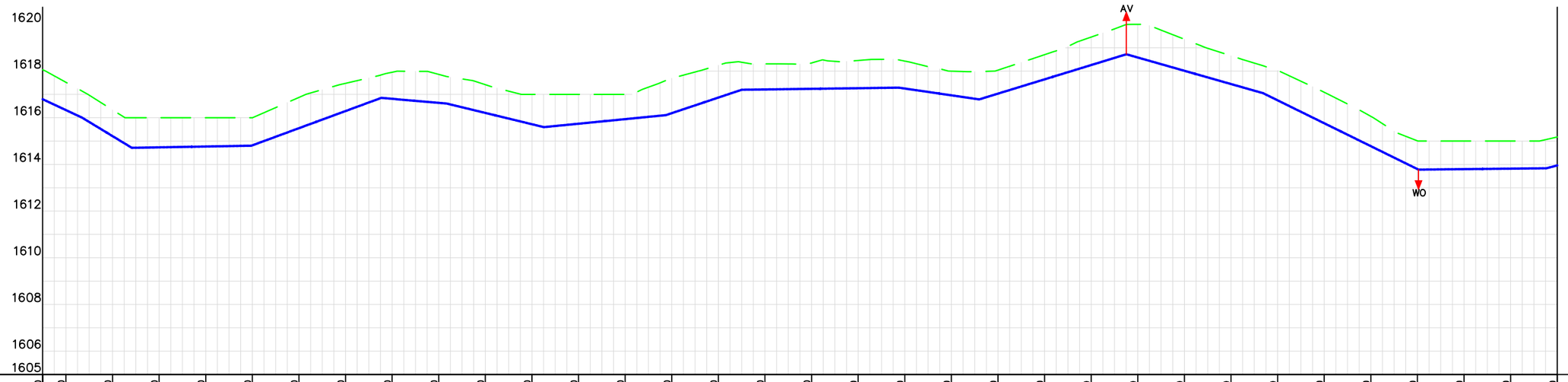
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1618.06	1617.52	1616.34	1616.00	1616.00	1616.00	1616.87	1617.47	1617.95	1617.86	1617.42	1617.00	1617.00	1617.00	1617.69	1618.25	1618.31	1618.35	1618.45	1618.43	1618.00	1618.04	1618.70	1619.46	1620.00	1619.36	1618.66	1618.02	1617.09	1616.06	1615.01	1615.00	1615.00	1615.18
INVERT LEVELS (Masl)	1616.79	1616.33	1615.21	1614.73	1614.77	1614.82	1615.55	1616.29	1616.81	1616.64	1616.21	1615.72	1615.74	1615.94	1616.20	1616.86	1617.21	1617.24	1617.27	1617.25	1616.96	1617.03	1617.65	1618.26	1618.58	1618.01	1617.44	1616.75	1615.76	1614.78	1613.80	1613.80	1613.82	1613.96
EXCAVATION DEPTH (m)	1.26	1.19	1.12	1.27	1.23	1.18	1.32	1.19	1.14	1.22	1.21	1.28	1.26	1.06	1.50	1.39	1.10	1.11	1.19	1.18	1.04	1.01	1.06	1.20	1.42	1.35	1.21	1.28	1.33	1.28	1.21	1.20	1.18	1.22
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	-4.65%	-8.05%	0.18%	3.67%	-0.86%	-2.42%	0.98%	3.34%	0.13%	-1.46%	3.06%	-2.84%	-4.91%	0.10%	2.62%																			

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD3 (SHEET 2 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/019)



NOTES:-

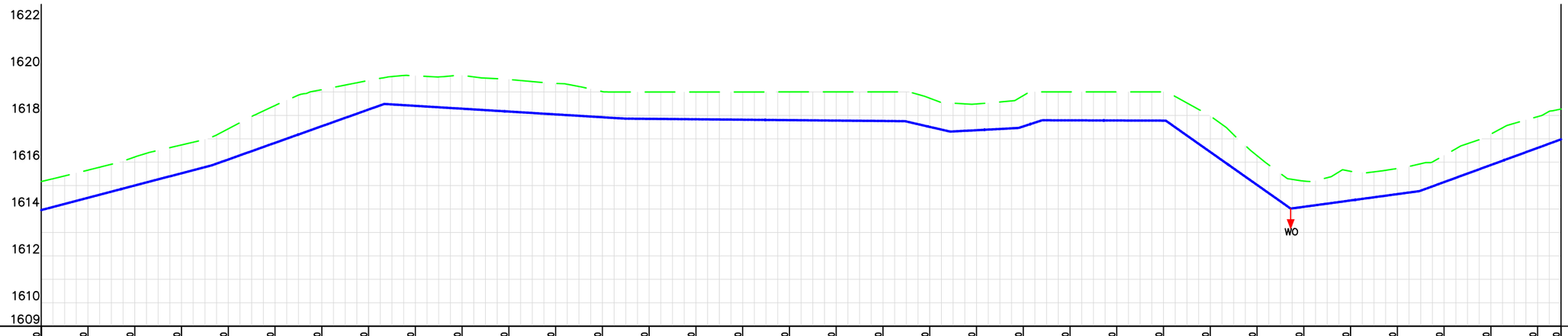
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+950
GROUND LEVELS (Masl)	1615.18	1615.66	1616.22	1616.74	1617.43	1618.42	1619.10	1619.49	1619.69	1619.71	1619.53	1619.37	1619.02	1619.00	1619.00	1619.00	1619.00	1619.00	1619.00	1618.73	1618.49	1618.84	1619.00	1619.00	1619.00	1617.98	1616.28	1615.20	1615.61	1615.73	1616.29	1617.20	1617.95	1618.27
INVERT LEVELS (Masl)	1613.96	1614.48	1615.01	1615.53	1616.12	1616.83	1617.54	1618.25	1618.41	1618.28	1618.16	1618.04	1617.92	1617.85	1617.83	1617.81	1617.80	1617.78	1617.76	1617.51	1617.37	1617.53	1617.79	1617.78	1617.78	1616.44	1615.03	1614.10	1614.37	1614.64	1615.15	1615.88	1616.61	1616.98
EXCAVATION DEPTH (m)	1.22	1.18	1.22	1.21	1.31	1.59	1.56	1.24	1.28	1.42	1.37	1.32	1.10	1.15	1.16	1.18	1.20	1.22	1.24	1.23	1.12	1.31	1.21	1.22	1.22	1.54	1.25	1.10	1.24	1.09	1.14	1.32	1.34	1.29
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	2.62%			3.55%			−0.61%				−0.09%									−2.30%	0.53%	3.27%	−0.03%			−7.03%		1.35%			3.65%			

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD3 (SHEET 3 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/020)



NOTES:-

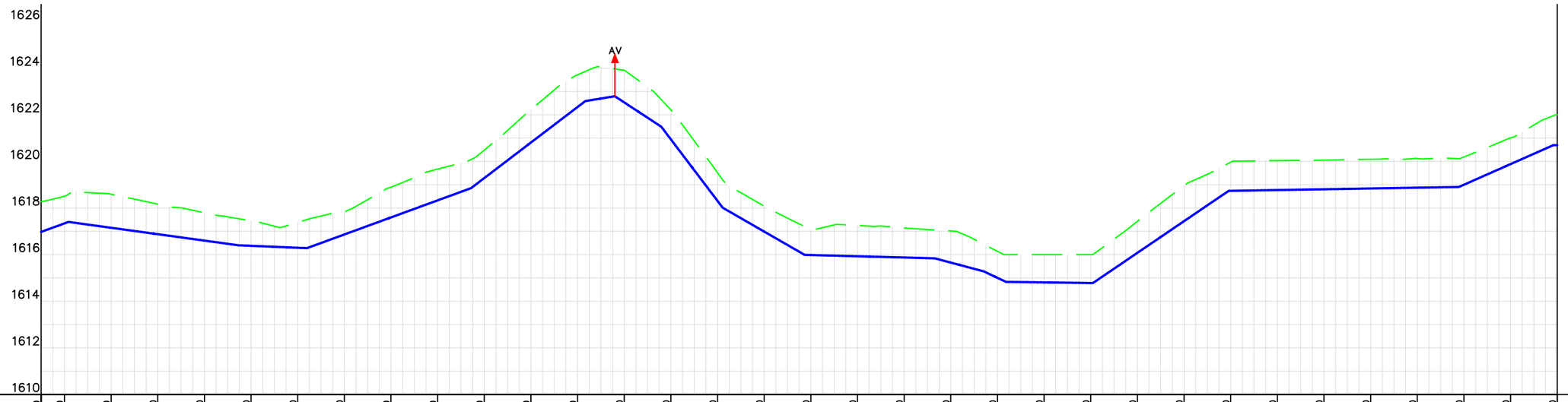
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+950	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600
GROUND LEVELS (Masl)	1618.27	1618.51	1618.60	1618.17	1617.80	1617.45	1617.38	1617.83	1618.90	1619.67	1620.48	1622.22	1623.71	1623.91	1622.21	1619.51	1618.08	1617.08	1617.25	1617.15	1617.02	1616.14	1616.00	1616.00	1617.43	1618.96	1619.97	1620.04	1620.06	1620.09	1620.13	1620.19	1621.01	1622.00
INVERT LEVELS (Masl)	1616.98	1617.34	1617.15	1616.88	1616.60	1616.38	1616.29	1616.87	1617.60	1618.33	1619.29	1620.81	1622.34	1622.53	1620.94	1618.30	1616.99	1615.98	1615.93	1615.88	1615.66	1615.00	1614.81	1614.78	1616.08	1617.44	1618.74	1618.77	1618.80	1618.84	1618.87	1619.00	1619.88	1620.70
EXCAVATION DEPTH (m)	1.29	1.16	1.44	1.29	1.20	1.07	1.09	0.97	1.30	1.34	1.20	1.41	1.38	1.38	1.27	1.21	1.09	1.10	1.32	1.27	1.36	1.14	1.19	1.22	1.35	1.53	1.23	1.26	1.25	1.25	1.25	1.19	1.13	1.30
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	3.65%	−1.38%		−0.42%		3.66%		7.62%		1.64%	−6.58%		−13.20%		−5.76%		−0.27%		−2.67%	4.74%	−0.13%		6.80%		0.17%		4.43%	0.14%						

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 4 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/021)



NOTES:-

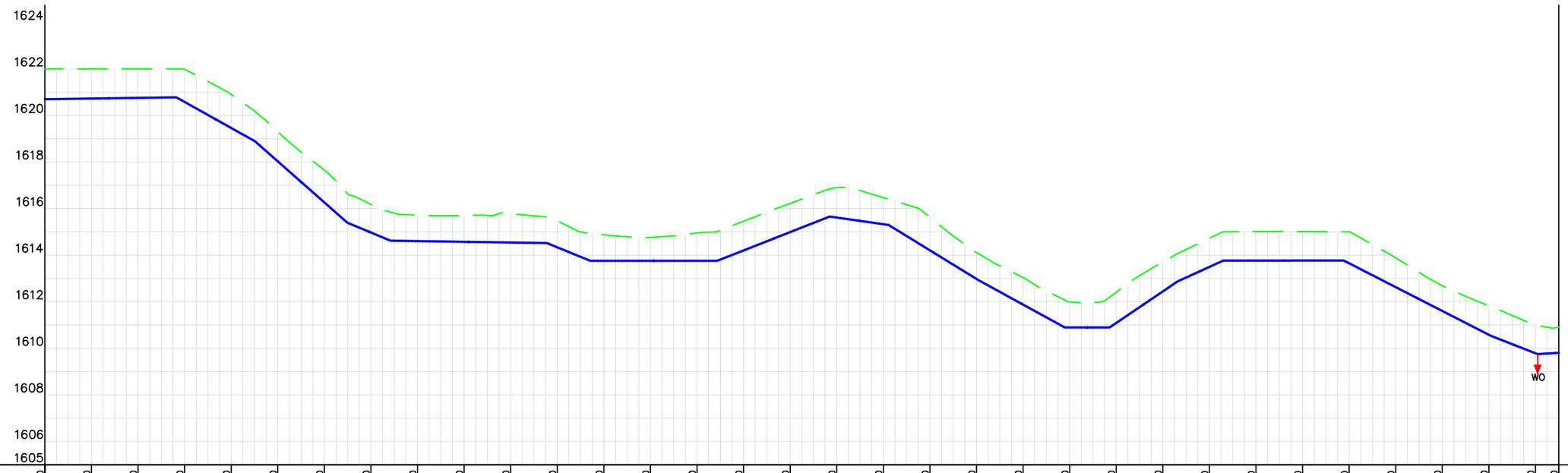
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+250
GROUND LEVELS (Masl)	1622.00	1622.00	1622.00	1621.98	1620.90	1619.30	1617.65	1616.18	1615.70	1615.71	1615.82	1615.47	1614.88	1614.76	1614.95	1615.46	1616.22	1616.90	1616.47	1615.62	1614.11	1613.04	1611.99	1612.41	1613.71	1614.73	1615.01	1615.01	1615.00	1613.88	1612.68	1611.83	1611.00	1610.90
INVERT LEVELS (Masl)	1620.70	1620.73	1620.75	1620.58	1619.46	1618.03	1616.26	1614.97	1614.60	1614.57	1614.54	1614.34	1613.76	1613.76	1613.76	1614.20	1614.99	1615.62	1615.33	1614.21	1612.98	1611.88	1610.90	1611.09	1612.44	1613.50	1613.77	1613.77	1613.65	1612.63	1611.60	1610.58	1609.79	1609.81
EXCAVATION DEPTH (m)	1.30	1.27	1.25	1.40	1.44	1.27	1.38	1.21	1.09	1.13	1.27	1.13	1.12	1.00	1.20	1.26	1.23	1.28	1.14	1.42	1.13	1.16	1.10	1.32	1.26	1.23	1.24	1.25	1.35	1.26	1.08	1.25	1.21	1.09
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.14%	-5.59%	-8.81%	-4.17%	-0.15%	-4.09%	0.00%	3.93%	-1.43%	-6.14%	-5.48%	-0.02%	6.77%	4.57%	0.01%	-5.12%	-3.92%	0.62%																

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD3 (SHEET 5 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/022)



NOTES:-

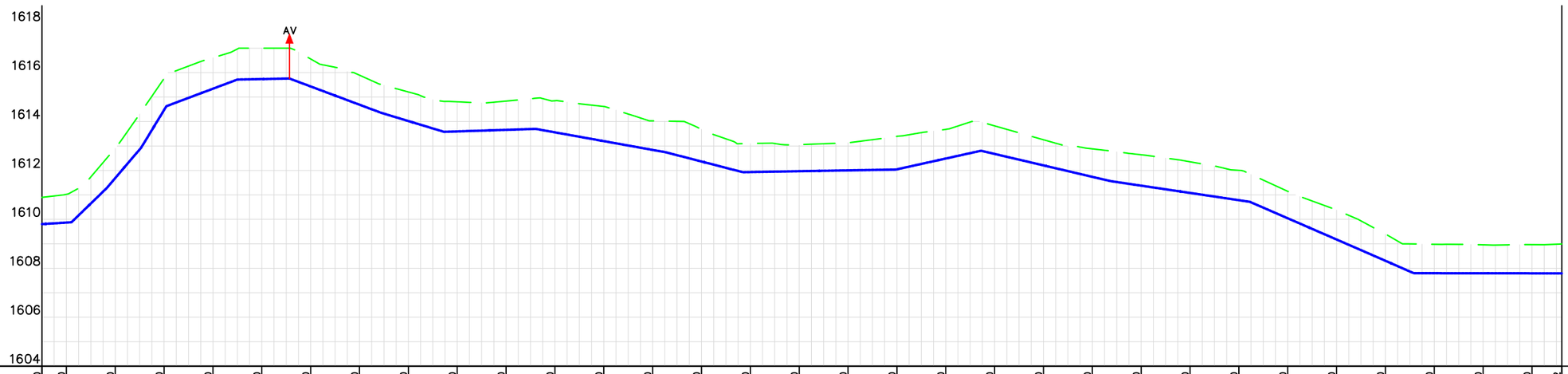
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	3+250	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	3+620	3+640	3+660	3+680	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+872
GROUND LEVELS (Masl)	1610.90	1611.03	1612.91	1615.76	1616.61	1617.00	1616.56	1615.90	1615.21	1614.81	1614.84	1614.85	1614.62	1614.03	1613.68	1613.10	1613.03	1613.13	1613.39	1613.68	1613.82	1613.25	1612.88	1612.64	1612.35	1612.01	1611.15	1610.38	1609.40	1608.98	1608.96	1608.97	1608.99
INVERT LEVELS (Masl)	1609.81	1609.87	1611.69	1614.47	1615.34	1615.74	1615.43	1614.69	1614.02	1613.60	1613.66	1613.56	1613.20	1612.84	1612.37	1611.93	1611.97	1612.00	1612.05	1612.49	1612.68	1612.21	1611.74	1611.38	1611.08	1610.78	1610.04	1609.18	1608.31	1607.80	1607.80	1607.79	1607.79
EXCAVATION DEPTH (m)	1.09	1.16	1.22	1.29	1.27	1.26	1.12	1.21	1.19	1.21	1.18	1.29	1.42	1.19	1.31	1.17	1.06	1.13	1.35	1.19	1.15	1.05	1.14	1.26	1.27	1.22	1.10	1.21	1.09	1.18	1.16	1.17	1.20
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																
PIPE FITTINGS	AS PER STD																																
SLOPE (%)		0.62%	9.69%	11.72%	16.42%	3.75%	0.19%	-3.73%	-3.02%	0.32%	-1.80%	-2.58%	0.17%	2.21%	-2.34%	-1.49%	-4.34%	-4.38%	-0.01%														

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LoSai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD3 (SHEET 6 OF 6)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/023)



NOTES:-

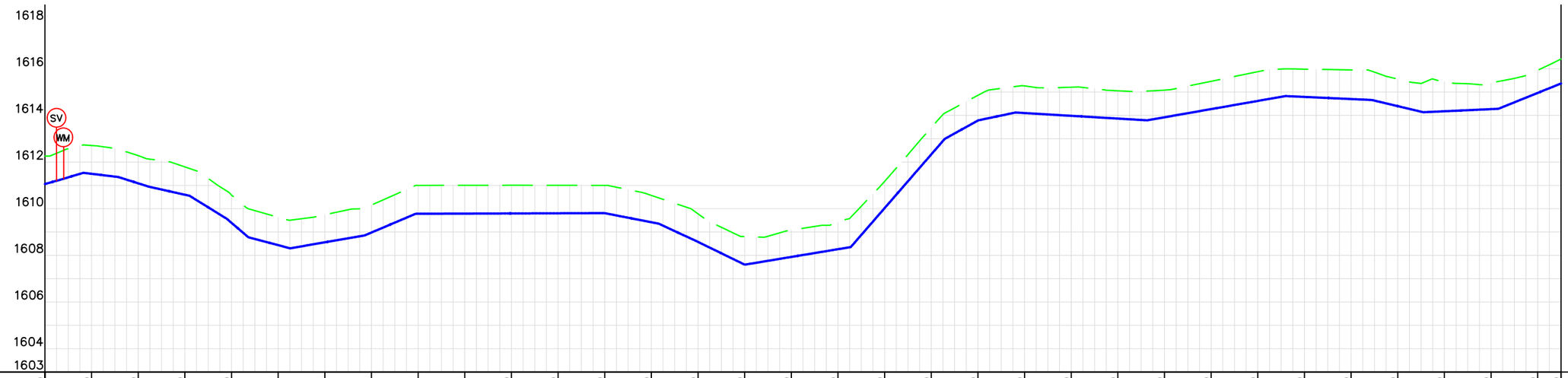
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1612.26	1612.71	1612.28	1611.79	1610.59	1609.63	1609.74	1610.16	1611.00	1611.00	1611.01	1611.00	1611.00	1610.57	1609.78	1608.81	1609.08	1609.42	1611.17	1613.47	1614.86	1615.27	1615.21	1615.06	1615.08	1615.46	1615.87	1615.98	1615.95	1615.56	1615.44	1615.39	1615.93	1616.42
INVERT LEVELS (Masl)	1611.06	1611.50	1611.09	1610.60	1609.39	1608.44	1608.56	1608.98	1609.78	1609.79	1609.80	1609.80	1609.81	1609.42	1608.58	1607.60	1607.93	1608.26	1610.03	1612.33	1613.78	1614.10	1613.98	1613.86	1613.92	1614.27	1614.62	1614.79	1614.70	1614.40	1614.18	1614.27	1614.96	1615.37
EXCAVATION DEPTH (m)	1.20	1.21	1.19	1.19	1.19	1.20	1.18	1.18	1.22	1.21	1.21	1.20	1.19	1.15	1.20	1.20	1.15	1.16	1.15	1.15	1.08	1.17	1.23	1.19	1.16	1.19	1.25	1.19	1.25	1.16	1.27	1.12	0.97	1.05
SIZE/TYPE OF PIPE & HGL	OD225 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	2.77%	3.00%	1.20%	3.15%	-2.24%	-6.18%	-8.59%	-2.64%	1.73%	4.25%	0.03%			-1.95%	-4.64%	-4.87%	1.66%	11.51%	5.52%	2.10%	-0.59%			1.75%		-0.45%		-2.36%	0.46%		4.04%			

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 1 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/024)



PLAN

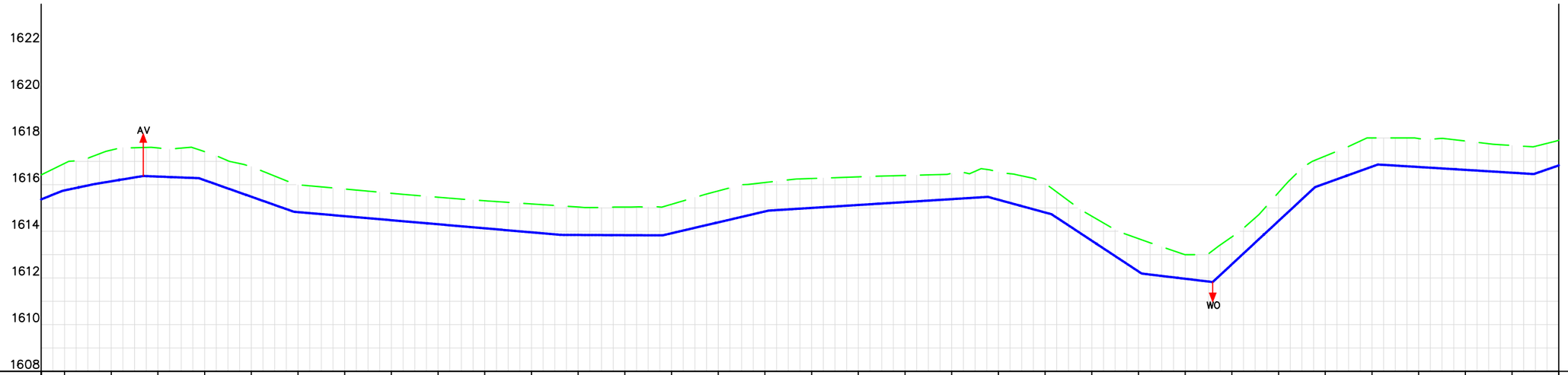
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1616.42	1616.91	1617.48	1617.58	1617.41	1616.77	1615.99	1615.81	1615.63	1615.46	1615.31	1615.17	1615.04	1615.04	1615.16	1615.73	1616.09	1616.26	1616.33	1616.39	1616.49	1616.54	1616.03	1614.65	1613.68	1613.00	1613.76	1615.66	1617.23	1618.00	1617.98	1617.87	1617.68	1617.90
INVERT LEVELS (Masl)	1615.37	1615.75	1616.14	1616.35	1616.19	1615.48	1614.82	1614.65	1614.48	1614.30	1614.13	1613.96	1613.84	1613.83	1613.92	1614.38	1614.85	1615.00	1615.13	1615.25	1615.38	1615.35	1614.81	1613.60	1612.28	1611.97	1612.59	1614.44	1616.05	1616.77	1616.76	1616.63	1616.51	1616.82
EXCAVATION DEPTH (m)	1.05	1.16	1.34	1.23	1.22	1.29	1.17	1.16	1.15	1.16	1.18	1.22	1.20	1.21	1.24	1.35	1.24	1.26	1.20	1.14	1.11	1.19	1.23	1.05	1.41	1.03	1.17	1.22	1.17	1.23	1.22	1.24	1.17	1.08
SIZE/TYPE OF PIPE & HGL		OD225 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		4.04%	2.11%	1.65%	-0.39%	-3.54%	-0.87%						-0.05%	2.34%	0.63%		-2.73%	-6.59%	-1.20%	9.28%	3.60%	-0.61%												3.46%

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 2 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/025)



NOTES:-

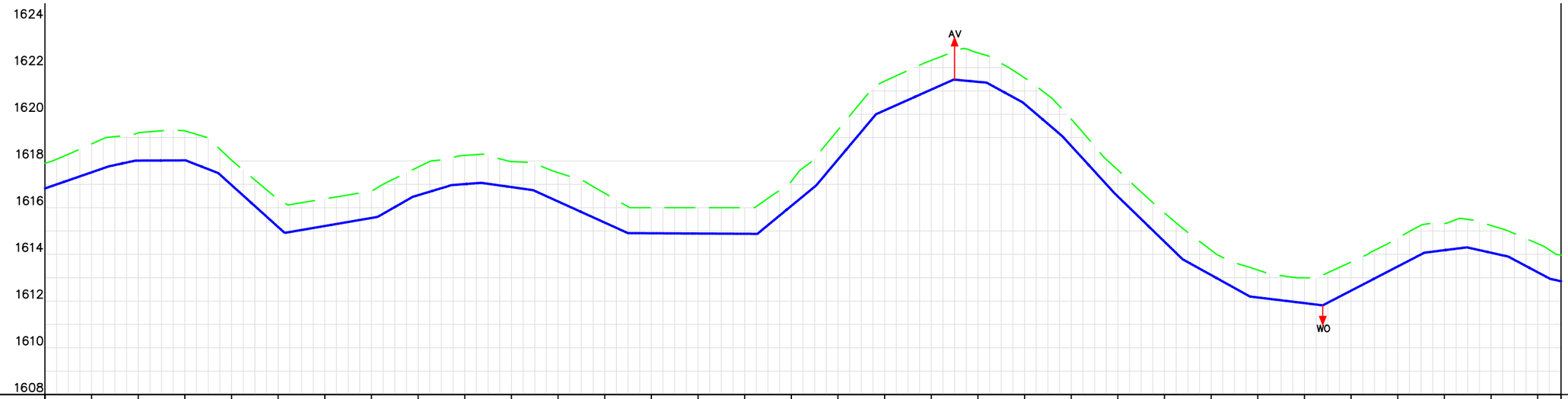
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+950
GROUND LEVELS (Masl)	1617.90	1618.73	1619.21	1619.29	1618.03	1616.35	1616.38	1616.73	1617.74	1618.24	1617.98	1617.50	1616.62	1616.00	1616.00	1616.00	1617.13	1619.33	1621.42	1622.31	1622.63	1621.56	1619.80	1617.61	1615.78	1614.18	1613.33	1613.00	1613.68	1614.69	1615.33	1615.24	1614.46	1613.97
INVERT LEVELS (Masl)	1616.82	1617.51	1618.02	1618.03	1616.97	1615.17	1615.22	1615.56	1616.53	1617.01	1616.88	1616.27	1615.36	1614.90	1614.89	1614.88	1616.08	1618.06	1620.17	1621.06	1621.39	1620.44	1618.65	1616.48	1614.54	1613.11	1612.16	1611.91	1612.45	1613.48	1614.18	1614.07	1613.24	1612.85
EXCAVATION DEPTH (m)	1.08	1.22	1.19	1.26	1.07	1.18	1.16	1.17	1.21	1.23	1.10	1.23	1.26	1.10	1.11	1.12	1.05	1.26	1.25	1.25	1.24	1.12	1.15	1.13	1.23	1.06	1.18	1.09	1.23	1.21	1.15	1.17	1.22	1.12
SIZE/TYPE OF PIPE & HGL		OD225 HDPE										OD160 HDPE																						
PIPE FITTINGS		AS PER STD										AS PER STD																						
SLOPE (%)		3.46%	2.16%	0.05%	-3.88%	-8.99%	1.72%	5.69%	3.02%	0.77%	-1.41%	-4.52%	-0.06%	8.22%	11.89%	4.45%	-0.92%	-5.47%	-8.54%	-10.92%	-9.68%	-5.53%	-1.21%	5.17%	1.25%	-2.23%	-5.32%	-7.16%						

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LoSai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 3 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/026)



PLAN

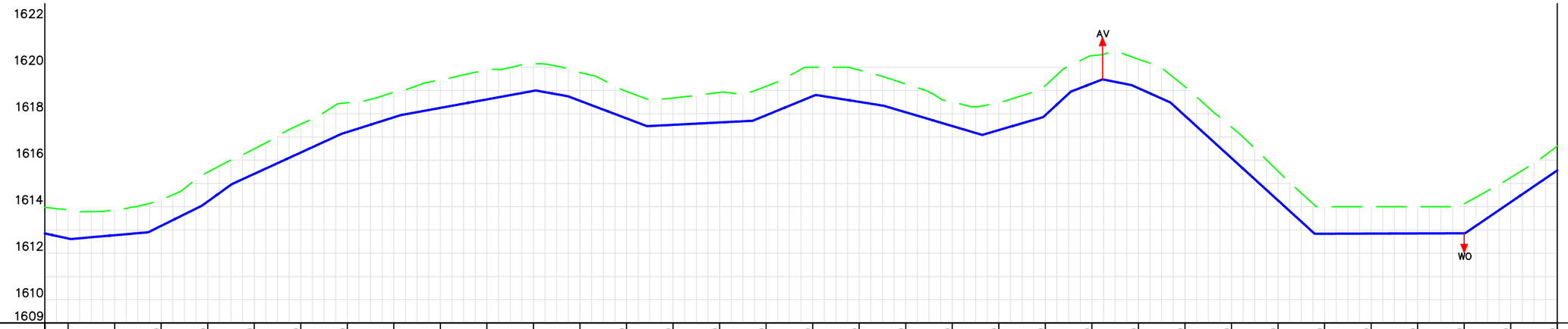
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	1+950	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600
GROUND LEVELS (Masl)	1613.97	1613.86	1613.86	1614.30	1615.49	1616.49	1617.55	1618.47	1618.93	1619.45	1619.87	1620.14	1619.77	1618.95	1618.68	1618.92	1619.18	1620.00	1619.88	1619.28	1618.50	1618.49	1619.21	1620.50	1620.34	1619.16	1617.43	1615.52	1614.00	1614.00	1614.00	1614.13	1615.26	1616.61
INVERT LEVELS (Masl)	1612.85	1612.63	1612.77	1613.18	1614.22	1615.41	1616.33	1617.21	1617.85	1618.25	1618.62	1618.98	1618.55	1617.80	1617.52	1617.62	1617.93	1618.75	1618.51	1618.06	1617.47	1617.30	1617.94	1619.30	1619.10	1617.91	1616.09	1614.27	1612.84	1612.84	1612.85	1612.86	1614.20	1615.56
EXCAVATION DEPTH (m)	1.12	1.22	1.09	1.12	1.27	1.08	1.22	1.26	1.08	1.20	1.25	1.16	1.22	1.16	1.15	1.30	1.25	1.25	1.37	1.21	1.03	1.19	1.28	1.20	1.24	1.25	1.34	1.25	1.16	1.16	1.15	1.27	1.06	1.05
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	2.16%	0.87%	4.95%	7.22%	4.59%	3.17%	1.83%	1.80%	-3.78%	0.51%	4.10%	-1.59%	-2.97%	2.92%	9.26%	3.86%	2.00%	-4.49%	-9.10%	0.04%	6.82%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 4 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/027)



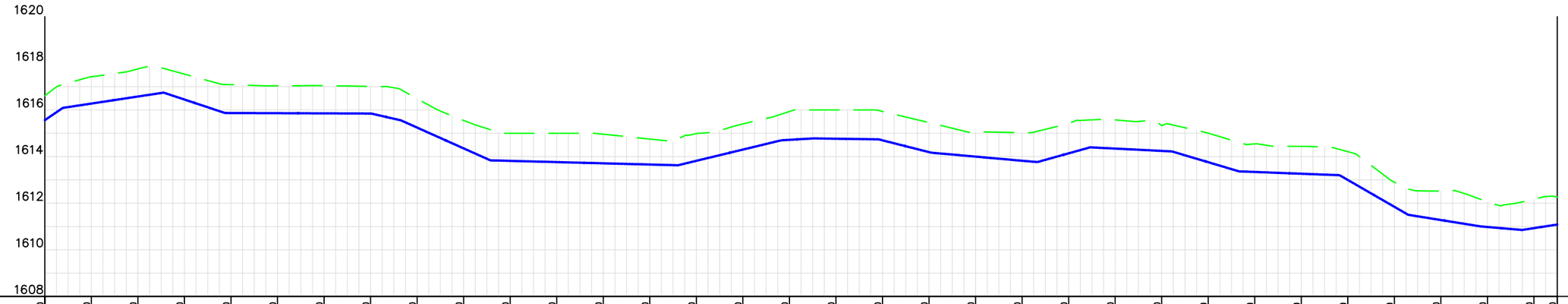
PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+250
GROUND LEVELS (Masl)	1616.61	1617.43	1617.76	1617.54	1617.09	1617.04	1617.04	1617.01	1616.48	1615.55	1615.00	1615.00	1614.96	1614.75	1614.99	1615.40	1615.93	1616.00	1615.94	1615.46	1615.05	1615.03	1615.42	1615.58	1615.33	1615.01	1614.54	1614.44	1614.21	1612.90	1612.52	1612.06	1612.18	1612.26
INVERT LEVELS (Masl)	1615.56	1616.27	1616.58	1616.45	1615.87	1615.86	1615.85	1615.85	1615.24	1614.35	1613.82	1613.76	1613.71	1613.66	1613.82	1614.30	1614.72	1614.76	1614.70	1614.19	1614.00	1613.82	1614.14	1614.34	1614.24	1613.76	1613.34	1613.26	1613.00	1611.85	1611.28	1610.98	1610.93	1611.08
EXCAVATION DEPTH (m)	1.05	1.15	1.18	1.09	1.22	1.18	1.19	1.16	1.24	1.20	1.18	1.24	1.25	1.09	1.17	1.10	1.22	1.24	1.24	1.27	1.05	1.21	1.28	1.23	1.09	1.25	1.20	1.17	1.21	1.06	1.24	1.08	1.24	1.17
SIZE/TYPE OF PIPE & HGL		OD160 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		-5.82%	1.51%	-3.31%	-0.04%	-2.28%	-4.46%	-0.26%	2.41%	0.60%	-0.14%	-2.53%	-0.89%	2.79%	-0.50%	-2.97%	-0.38%	-5.76%	-1.60%	-0.85%	1.53%	

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 5 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/028)



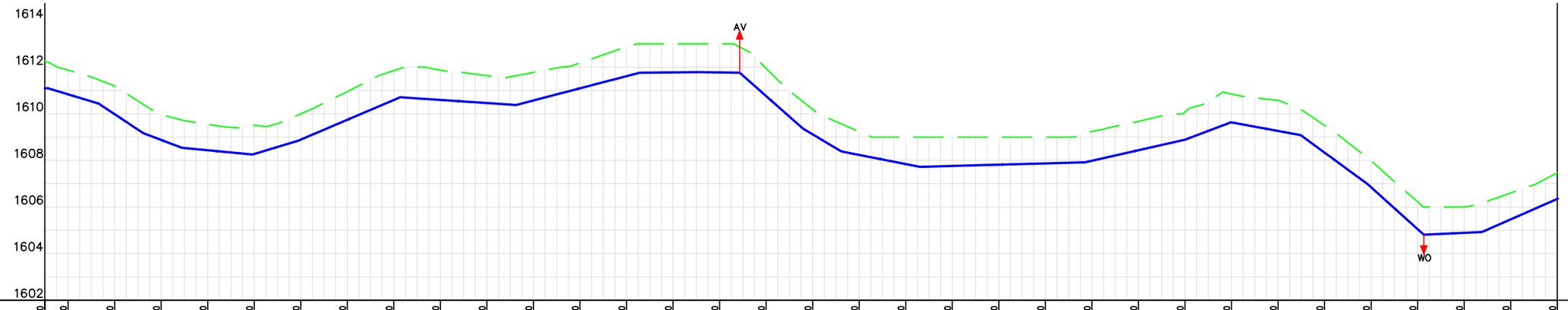
PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	3+250	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	3+620	3+640	3+660	3+680	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+880	3+900
GROUND LEVELS (Masl)	1612.26	1611.87	1611.20	1609.97	1609.55	1609.51	1609.99	1610.95	1611.85	1611.87	1611.63	1611.78	1612.18	1612.87	1613.00	1613.00	1611.94	1610.19	1609.23	1609.00	1609.00	1609.00	1609.00	1609.24	1609.67	1610.07	1610.85	1610.58	1609.50	1607.99	1606.22	1606.01	1606.60	1607.46
INVERT LEVELS (Masl)	1611.08	1610.83	1609.98	1608.88	1608.44	1608.27	1608.89	1609.74	1610.59	1610.59	1610.46	1610.57	1611.09	1611.61	1611.78	1611.77	1610.76	1609.12	1608.23	1607.84	1607.76	1607.82	1607.87	1607.98	1608.44	1608.89	1609.63	1609.26	1608.33	1606.85	1605.05	1604.89	1605.47	1606.35
EXCAVATION DEPTH (m)	1.17	1.04	1.22	1.09	1.11	1.23	1.10	1.21	1.26	1.28	1.17	1.20	1.09	1.26	1.22	1.23	1.19	1.07	1.00	1.16	1.24	1.18	1.13	1.26	1.24	1.18	1.22	1.31	1.16	1.14	1.17	1.12	1.13	1.12
SIZE/TYPE OF PIPE & HGL		OD160 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		1.96%	-3.02%	-6.61%	-3.80%	-0.95%	3.01%	4.25%	-0.67%	2.60%	0.11%	-0.15%	-8.61%	-5.94%	-1.96%	0.27%	2.26%	3.77%	-1.84%	-7.31%	-8.99%	0.46%	4.39%											

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 6 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/029)



Sheet 6
CH 3900.000m

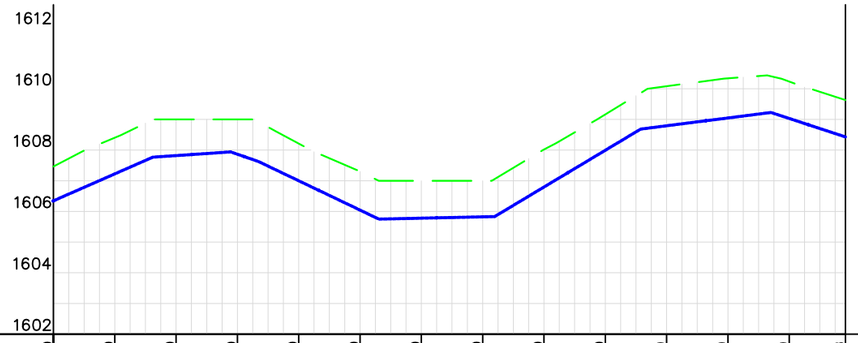
PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	3+900	3+920	3+940	3+960	3+980	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+158
GROUND LEVELS (Masl)	1607.46	1608.41	1609.00	1609.00	1608.21	1607.30	1607.00	1607.00	1608.02	1609.16	1610.08	1610.34	1610.24	1609.63
INVERT LEVELS (Masl)	1606.35	1607.22	1607.82	1607.86	1607.00	1606.04	1605.78	1605.82	1606.80	1607.99	1608.79	1609.05	1609.03	1608.43
EXCAVATION DEPTH (m)	1.12	1.18	1.18	1.14	1.21	1.26	1.22	1.18	1.22	1.17	1.29	1.29	1.21	1.20
SIZE/TYPE OF PIPE & HGL	OD160 HDPE													
PIPE FITTINGS	AS PER STD													
SLOPE (%)		4.39%	0.68%	-3.44%	-4.78%	0.22%	5.99%	1.28%	-3.28%					

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

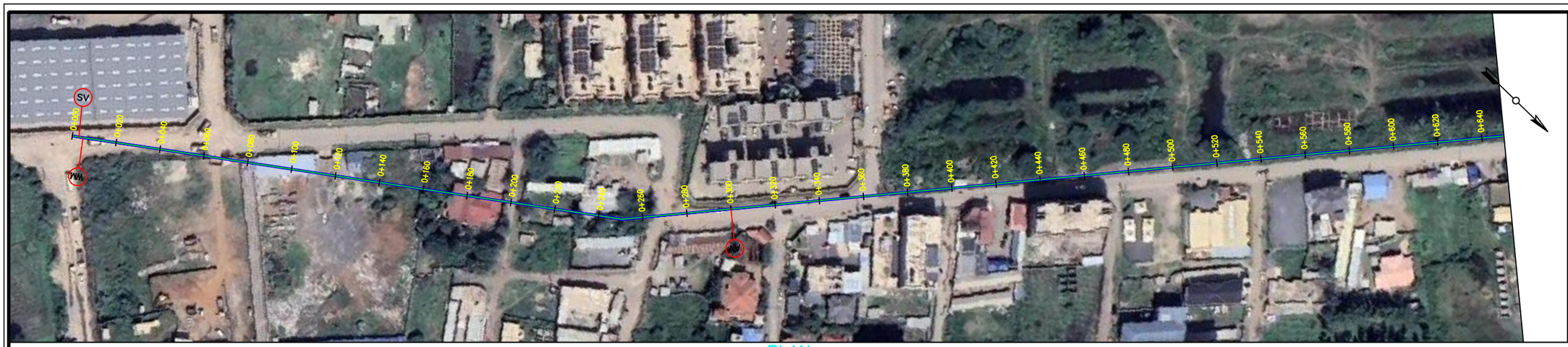
DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD4 (SHEET 7 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/030)



NOTES:-

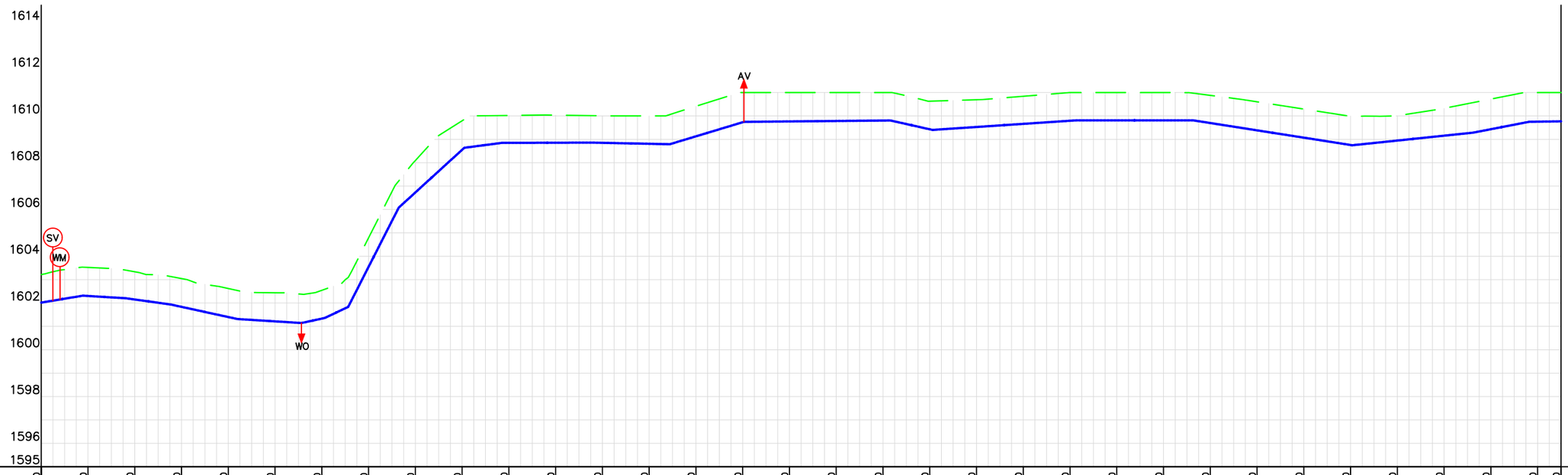
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+650
GROUND LEVELS (Masl)	1603.22	1603.52	1603.34	1603.05	1602.62	1602.44	1602.54	1604.78	1608.09	1609.79	1610.02	1610.03	1610.01	1610.00	1610.41	1611.00	1611.00	1611.00	1611.00	1610.63	1610.69	1610.84	1611.00	1611.00	1611.00	1610.88	1610.60	1610.29	1610.00	1610.01	1610.32	1610.72	1611.00	1611.00
INVERT LEVELS (Masl)	1602.02	1602.30	1602.15	1601.84	1601.40	1601.22	1601.33	1603.55	1606.73	1608.55	1608.85	1608.85	1608.85	1608.81	1609.13	1609.73	1609.76	1609.78	1609.80	1609.43	1609.53	1609.66	1609.79	1609.81	1609.81	1609.70	1609.38	1609.07	1608.76	1608.95	1609.15	1609.43	1609.75	1609.77
EXCAVATION DEPTH (m)	1.20	1.22	1.19	1.21	1.22	1.22	1.21	1.24	1.36	1.24	1.17	1.18	1.16	1.19	1.29	1.27	1.24	1.22	1.20	1.20	1.17	1.18	1.21	1.19	1.19	1.18	1.22	1.22	1.24	1.06	1.17	1.29	1.25	1.23
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	1.67%	-0.59%	-1.39%	-2.18%	-0.62%	2.15%	4.72%	19.64%	9.12%	1.31%	0.03%	-0.21%	3.02%	0.10%	-2.25%	0.67%	0.00%	-1.56%	1.04%	1.94%	0.13%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 1 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/031)



NOTES:-

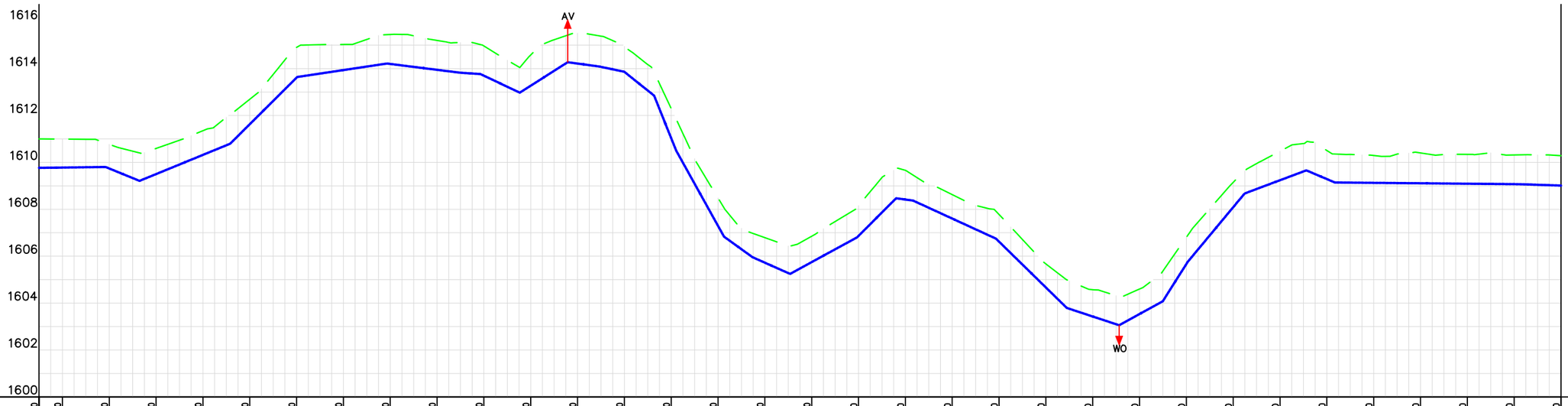
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+650	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
GROUND LEVELS (Masl)	1611.00	1610.99	1610.77	1610.59	1611.35	1612.69	1614.91	1615.03	1615.45	1615.20	1614.96	1614.58	1615.51	1614.95	1612.29	1608.48	1606.79	1606.85	1608.16	1609.66	1608.63	1607.78	1605.67	1604.57	1604.60	1606.81	1609.15	1610.48	1610.51	1610.29	1610.40	1610.34	1610.32	1610.29
INVERT LEVELS (Masl)	1609.77	1609.78	1609.74	1609.50	1610.32	1611.63	1613.61	1613.94	1614.20	1613.95	1613.70	1613.27	1614.21	1613.86	1611.03	1607.29	1605.72	1605.75	1606.87	1608.42	1607.61	1606.62	1604.67	1603.43	1603.53	1605.67	1608.09	1609.24	1609.29	1609.13	1609.11	1609.09	1609.07	1609.01
EXCAVATION DEPTH (m)	1.23	1.21	1.03	1.09	1.03	1.06	1.29	1.09	1.26	1.25	1.27	1.31	1.30	1.09	1.26	1.19	1.07	1.10	1.29	1.24	1.02	1.16	1.00	1.14	1.07	1.14	1.06	1.24	1.22	1.17	1.29	1.25	1.24	1.27
SIZE/TYPE OF PIPE & HGL	OD160 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.13%	-4.08%	4.09%	9.94%	1.50%	-1.25%	-0.65%	-4.73%	6.34%	-1.35%	-2.09%	-2.98%	-4.90%	-17.96%	-7.20%	-4.45%	5.44%	10.00%	-1.39%	-4.59%	-9.76%	-3.30%	5.48%	15.80%	12.00%	3.74%	-4.23%	-0.09%					-0.33%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 2 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/032)



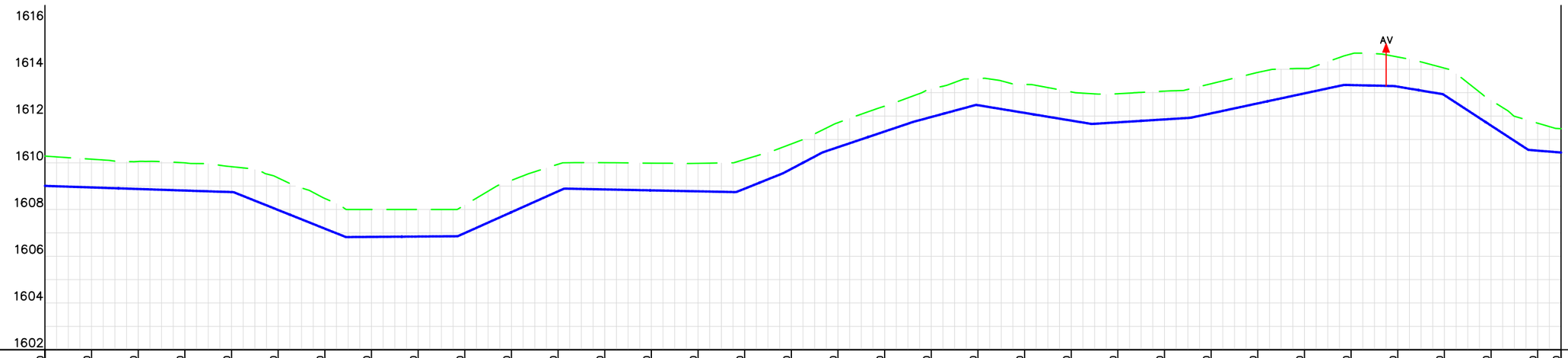
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN
SCALE 1:1000



CHAINAGE (Km+m)	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+950
GROUND LEVELS (Masl)	1610.29	1610.15	1610.06	1610.00	1609.83	1609.35	1608.47	1608.00	1608.00	1608.19	1609.25	1609.94	1610.01	1609.98	1609.98	1610.14	1610.81	1611.72	1612.43	1613.16	1613.60	1613.36	1613.03	1612.96	1613.07	1613.39	1613.87	1614.04	1614.66	1614.53	1614.05	1612.68	1611.70	1611.46
INVERT LEVELS (Masl)	1609.01	1608.95	1608.88	1608.81	1608.75	1607.98	1607.18	1606.83	1606.84	1606.99	1607.89	1608.78	1608.86	1608.82	1608.78	1608.89	1609.74	1610.67	1611.34	1611.96	1612.47	1612.14	1611.81	1611.73	1611.86	1612.12	1612.54	1612.97	1613.33	1613.26	1612.90	1611.59	1610.52	1610.44
EXCAVATION DEPTH (m)	1.27	1.21	1.18	1.19	1.09	1.37	1.29	1.17	1.16	1.20	1.36	1.16	1.14	1.16	1.20	1.25	1.07	1.05	1.09	1.20	1.13	1.22	1.23	1.22	1.21	1.27	1.33	1.07	1.33	1.27	1.16	1.08	1.18	1.02
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	-0.33%		-3.99%		0.08%		4.47%		-0.20%			4.01%	5.27%		3.36%		2.70%		-1.65%		0.63%		2.14%		-0.22%	-1.67%		-6.51%		-0.81%					

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 3 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/033)



NOTES:-

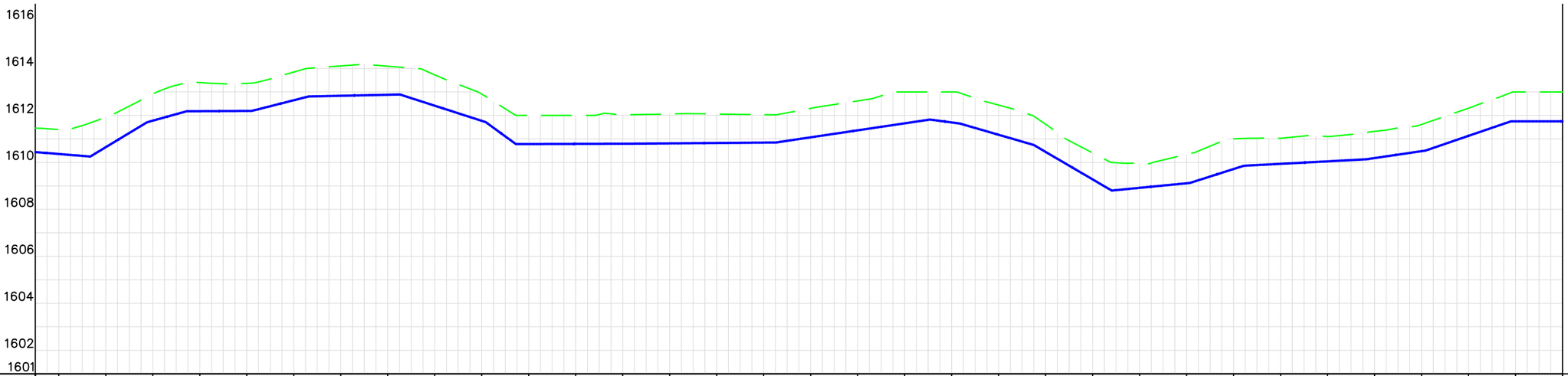
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+950	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600
GROUND LEVELS (Masl)	1611.46	1611.40	1611.92	1612.91	1613.40	1613.37	1613.85	1614.11	1614.10	1613.73	1612.91	1612.00	1612.00	1612.02	1612.06	1612.06	1612.03	1612.30	1612.62	1613.00	1613.00	1612.44	1611.62	1610.40	1609.96	1610.34	1611.01	1611.03	1611.10	1611.32	1611.62	1612.31	1613.00	1613.00
INVERT LEVELS (Masl)	1610.44	1610.36	1610.65	1611.78	1612.18	1612.19	1612.65	1612.84	1612.88	1612.41	1611.77	1610.78	1610.79	1610.79	1610.81	1610.83	1610.84	1611.07	1611.37	1611.66	1611.70	1611.18	1610.45	1609.28	1608.92	1609.11	1609.72	1609.94	1610.04	1610.18	1610.48	1611.13	1611.75	1611.75
EXCAVATION DEPTH (m)	1.02	1.04	1.27	1.13	1.22	1.18	1.20	1.27	1.22	1.31	1.14	1.22	1.21	1.23	1.25	1.23	1.19	1.23	1.25	1.34	1.30	1.26	1.18	1.13	1.05	1.23	1.29	1.09	1.06	1.14	1.14	1.18	1.25	1.25
SIZE/TYPE OF PIPE & HGL		OD110 HDPE																																
PIPE FITTINGS		AS PER STD																																
SLOPE (%)		-0.81%	6.03%	2.78%	0.06%	2.54%	0.21%	-3.22%	7.28%	0.03%	0.08%	1.49%	1.33%	-2.90%	-5.85%	0.97%	3.19%	0.53%	1.47%	3.42%	-0.01%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; MAKUENI

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 4 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/034)



Sheet 4
CH 2600.000m

NOTES:-

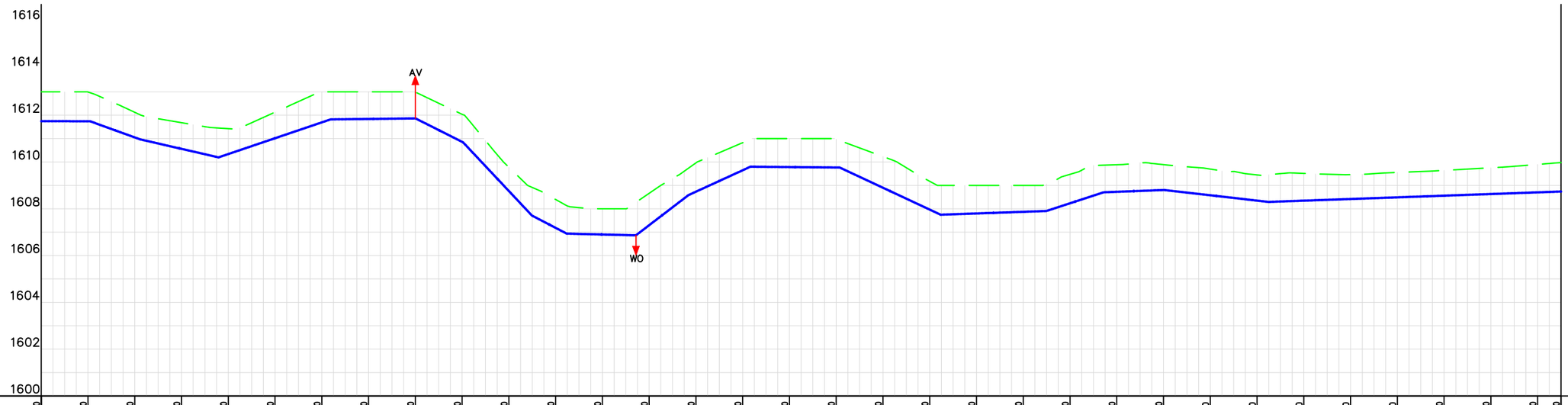
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+250
GROUND LEVELS (Masl)	1613.00	1612.99	1612.12	1611.68	1611.42	1612.13	1613.00	1613.00	1612.99	1612.04	1609.78	1608.40	1608.00	1608.66	1609.96	1610.82	1611.00	1610.97	1610.23	1609.18	1609.00	1609.00	1609.47	1609.88	1609.89	1609.70	1609.45	1609.51	1609.46	1609.55	1609.64	1609.75	1609.90	1609.98
INVERT LEVELS (Masl)	1611.75	1611.74	1611.05	1610.56	1610.34	1611.02	1611.69	1611.84	1611.86	1610.86	1608.76	1607.19	1606.90	1607.30	1608.73	1609.65	1609.78	1609.77	1608.90	1607.96	1607.80	1607.87	1608.23	1608.73	1608.80	1608.58	1608.35	1608.35	1608.42	1608.49	1608.56	1608.63	1608.70	1608.74
EXCAVATION DEPTH (m)	1.25	1.25	1.07	1.12	1.08	1.11	1.31	1.16	1.13	1.18	1.02	1.21	1.10	1.36	1.23	1.18	1.22	1.21	1.34	1.21	1.20	1.13	1.24	1.16	1.08	1.12	1.10	1.17	1.04	1.06	1.08	1.12	1.19	1.24
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)		-0.01%	-3.62%	-2.30%	3.39%	0.11%	-5.04%	-10.62%	-5.19%	-0.24%	7.65%	4.58%	-0.09%	-4.68%	0.35%	3.28%	0.38%	-1.14%	0.36%															

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 5 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/035)



NOTES:-

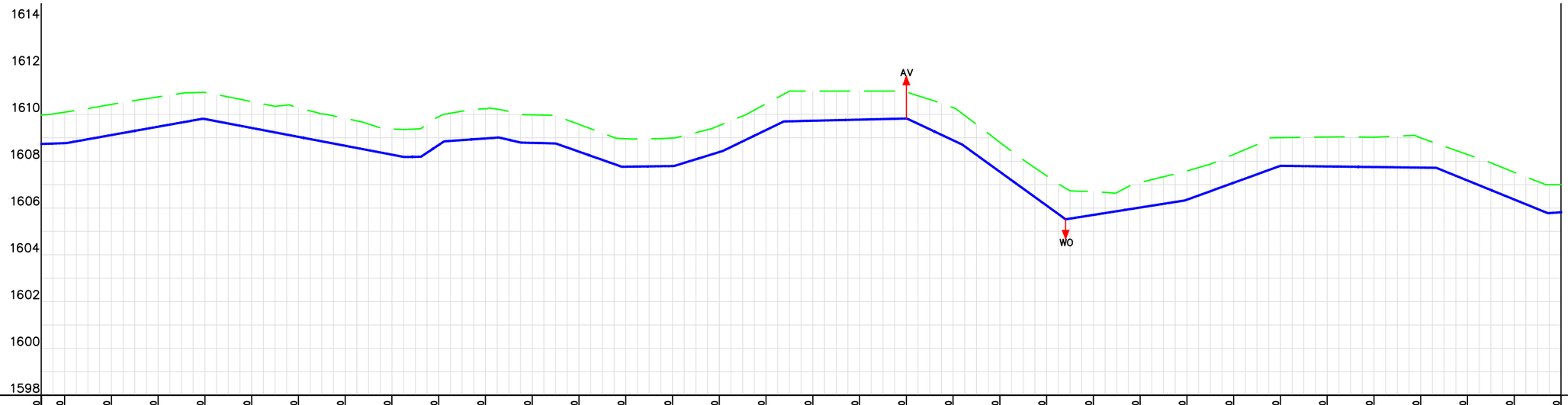
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	3+620	3+640	3+660	3+680	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+880	3+900
GROUND LEVELS (Masl)	1609.98	1610.10	1610.43	1610.75	1610.94	1610.55	1610.27	1609.83	1609.38	1609.90	1610.24	1609.98	1609.57	1608.96	1608.99	1609.53	1610.46	1611.00	1611.00	1610.96	1610.29	1608.81	1607.38	1606.71	1607.09	1607.58	1608.29	1609.01	1609.04	1609.03	1609.00	1608.29	1607.53	1607.00
INVERT LEVELS (Masl)	1608.74	1608.77	1609.12	1609.48	1609.80	1609.42	1609.04	1608.66	1608.28	1608.70	1608.97	1608.78	1608.41	1607.77	1607.79	1608.39	1609.33	1609.73	1609.78	1609.83	1608.90	1607.55	1606.11	1605.71	1606.02	1606.36	1607.08	1607.80	1607.78	1607.75	1607.73	1607.18	1606.36	1605.82
EXCAVATION DEPTH (m)	1.24	1.32	1.31	1.27	1.13	1.13	1.23	1.17	1.10	1.21	1.27	1.20	1.17	1.20	1.20	1.13	1.12	1.27	1.22	1.13	1.39	1.26	1.27	1.00	1.07	1.23	1.21	1.20	1.26	1.28	1.27	1.11	1.16	1.18
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																																	
PIPE FITTINGS	AS PER STD																																	
SLOPE (%)	0.36%	1.79%	−1.90%	0.13%	6.65%	0.70%	−2.30%	−0.25%	−3.53%	0.13%	3.09%	4.83%	0.24%	−4.71%	−7.22%	1.58%	3.62%	−0.13%	−4.06%	0.72%														

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 6 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/036)



Sheet 6
CH 3900.000m

NOTES:-

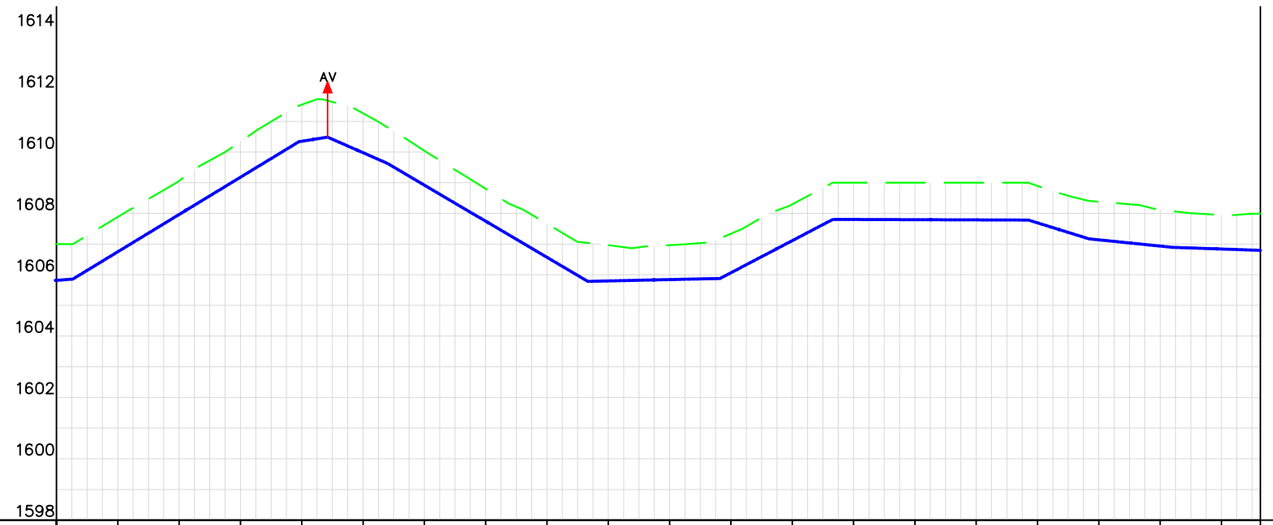
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	3+900	3+920	3+940	3+960	3+980	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+160	4+180	4+200	4+220	4+240	4+260	4+280	4+293
GROUND LEVELS (Masl)	1607.00	1607.88	1609.06	1610.34	1611.55	1611.26	1610.04	1608.80	1607.66	1606.97	1606.97	1607.34	1608.30	1609.00	1609.00	1609.00	1608.89	1608.38	1608.12	1607.95	1607.99
INVERT LEVELS (Masl)	1605.82	1606.75	1607.96	1609.18	1610.35	1609.98	1608.92	1607.74	1606.57	1605.80	1605.84	1606.07	1607.11	1607.80	1607.80	1607.79	1607.69	1607.14	1606.93	1606.84	1606.79
EXCAVATION DEPTH (m)	1.18	1.13	1.10	1.16	1.19	1.28	1.12	1.05	1.09	1.17	1.12	1.27	1.19	1.20	1.20	1.21	1.20	1.24	1.19	1.11	1.20
SIZE/TYPE OF PIPE & HGL	OD110 HDPE																				
PIPE FITTINGS	AS PER STD																				
SLOPE (%)	0.72%	6.07%		1.60%	-4.39%		-5.89%		0.22%		5.24%		-0.03%			-3.10%		-1.02%		-0.35%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; MAKAMBEE

Financier: AFD Agence Française de Développement

Consultants: egis; LOSAI

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: TTK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Assignment:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
DESIGN REVIEW- SYOKIMAU

Drawing Title:
WATER DISTRIBUTION LINE - SYD5 (SHEET 7 OF 7)

Date: NOV 2025

Drg. No. NWSP/NCTLastMile/Lot 2/SYOKIMAU/037)



PLAN

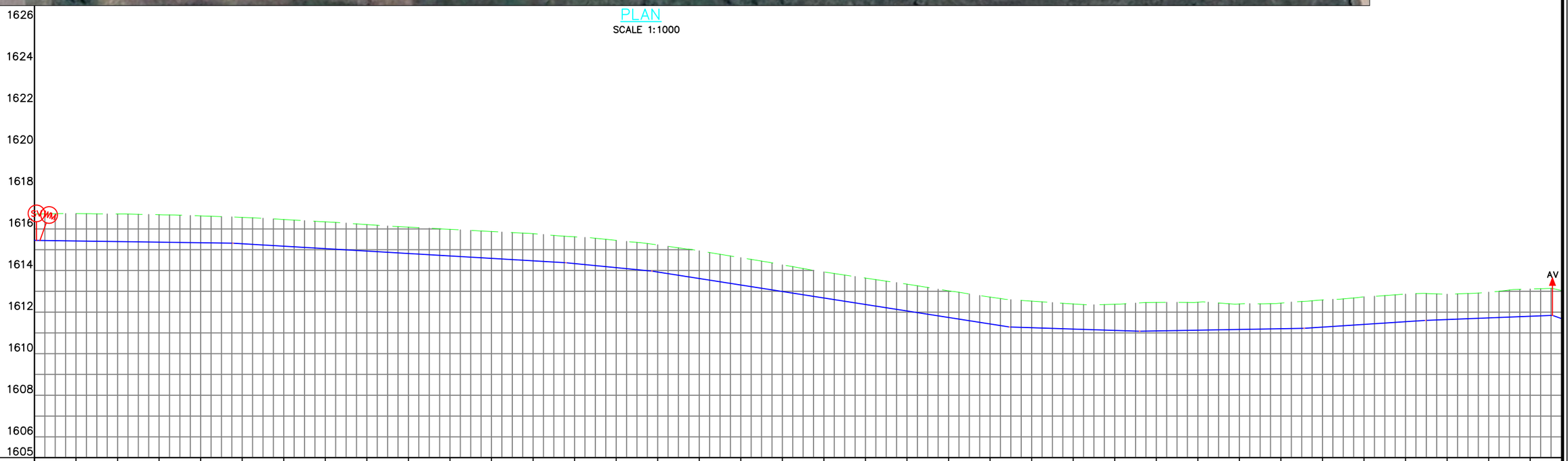
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1616.72	1616.73	1616.72	1616.68	1616.62	1616.55	1616.45	1616.34	1616.21	1616.08	1615.98	1615.87	1615.77	1615.62	1615.45	1615.23	1614.95	1614.62	1614.27	1613.93	1613.63	1613.34	1613.02	1612.72	1612.53	1612.39	1612.38	1612.47	1612.47	1612.39	1612.43	1612.58	1612.73	1612.86	1612.86	1612.95	1613.11	1613.03
INVERT LEVELS (Masl)	1615.45	1615.42	1615.39	1615.36	1615.33	1615.28	1615.17	1615.05	1614.93	1614.82	1614.70	1614.58	1614.47	1614.33	1614.14	1613.93	1613.61	1613.30	1612.99	1612.68	1612.36	1612.05	1611.74	1611.43	1611.25	1611.18	1611.12	1611.09	1611.13	1611.17	1611.20	1611.28	1611.41	1611.54	1611.64	1611.72	1611.80	1611.67
EXCAVATION DEPTH (m)	1.27	1.32	1.33	1.32	1.29	1.27	1.28	1.29	1.27	1.27	1.28	1.29	1.30	1.29	1.31	1.31	1.33	1.31	1.28	1.25	1.27	1.29	1.28	1.29	1.28	1.21	1.26	1.37	1.34	1.22	1.23	1.30	1.33	1.33	1.22	1.24	1.31	1.36
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-0.14%			-0.59%				-0.97%							-1.56%									-0.32%				0.18%				0.65%				0.39%		

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 1 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/038



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN
SCALE 1:1000



CHAINAGE (Km+m)	0+736	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960
GROUND LEVELS (Masl)	1613.03	1612.88	1612.08	1610.83	1609.50	1608.04	1607.44	1607.33	1608.46	1609.76	1611.00	1611.00	1610.83
INVERT LEVELS (Masl)	1611.67	1611.51	1610.82	1609.57	1608.15	1606.78	1606.16	1606.04	1607.12	1608.52	1609.72	1609.65	1609.57
EXCAVATION DEPTH (m)	1.36	1.37	1.26	1.26	1.35	1.26	1.28	1.29	1.34	1.24	1.28	1.35	1.26

CHAINAGE (Km+m)	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220
GROUND LEVELS (Masl)	1610.54	1610.26	1610.11	1609.96	1609.74	1609.83	1609.97	1609.74	1609.58	1609.11	1608.84	1609.22	1610.04
INVERT LEVELS (Masl)	1609.27	1608.93	1608.75	1608.60	1608.45	1608.60	1608.66	1608.47	1608.28	1607.81	1607.62	1607.96	1608.77
EXCAVATION DEPTH (m)	1.27	1.32	1.36	1.36	1.29	1.23	1.32	1.27	1.29	1.29	1.23	1.26	1.26

CHAINAGE (Km+m)	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+471
GROUND LEVELS (Masl)	1610.77	1611.01	1610.97	1610.99	1611.04	1611.75	1612.19	1612.51	1612.51	1611.82	1611.04	1610.45	1610.14
INVERT LEVELS (Masl)	1609.44	1609.58	1609.70	1609.70	1609.76	1610.47	1610.92	1611.22	1611.17	1610.46	1609.75	1609.21	1608.92
EXCAVATION DEPTH (m)	1.34	1.43	1.28	1.29	1.28	1.27	1.27	1.29	1.34	1.35	1.29	1.23	1.22

SIZE/TYPE OF PIPE & HGL: HDPE OD315

PIPE FITTINGS: AS PER STANDARD DRAWING

SLOPE (%): -3.50% | -6.42% | -8.98% | -3.31% | -0.90% | 4.55% | 8.36% | 5.67% | 8.74% | -0.37% | -1.67% | -0.75% | 1.05% | -0.94% | -2.77% | 0.90% | 4.08% | 0.70% | 0.02% | 3.57% | 1.50% | -3.54% | -2.66%

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED	BY: BMM
DRAWN	BY: MJY
CHECKED	BY: INT
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 2 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/039



PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



CHAINAGE (Km+m)	GROUND LEVELS (Masl)	INVERT LEVELS (Masl)	EXCAVATION DEPTH (m)
1+471	1610.14	1608.92	1.22
1+480	1610.00	1608.70	1.30
1+500	1610.00	1608.71	1.29
1+520	1610.41	1609.20	1.21
1+540	1611.53	1610.22	1.31
1+560	1612.98	1611.69	1.29
1+580	1615.23	1613.82	1.41
1+600	1616.01	1614.79	1.22
1+620	1616.78	1615.46	1.31
1+640	1616.98	1615.67	1.31
1+660	1617.11	1615.81	1.30
1+680	1617.47	1616.15	1.32
1+700	1617.80	1616.52	1.28
1+720	1617.82	1616.54	1.28
1+740	1617.00	1615.67	1.33
1+760	1615.95	1614.74	1.21
1+780	1615.11	1613.81	1.29
1+800	1614.96	1613.68	1.28
1+820	1614.97	1613.66	1.31
1+840	1614.97	1613.63	1.34
1+860	1614.69	1613.42	1.27
1+880	1614.33	1613.06	1.27
1+900	1614.26	1612.93	1.33
1+920	1614.71	1613.38	1.33
1+940	1614.67	1613.39	1.28
1+960	1614.06	1612.62	1.44
1+980	1613.00	1611.83	1.17
2+000	1613.76	1612.43	1.33
2+020	1614.73	1613.38	1.34
2+040	1615.30	1614.05	1.25
2+060	1616.40	1615.09	1.31
2+080	1617.60	1616.28	1.31
2+100	1618.43	1617.16	1.28
2+120	1619.30	1618.02	1.29
2+140	1619.08	1617.85	1.23
2+160	1616.83	1615.65	1.18
2+180	1615.15	1613.85	1.30
2+200	1613.42	1612.14	1.28
2+207	1612.93	1611.65	1.28

SIZE/TYPE OF PIPE & HGL: HDPE OD315

PIPE FITTINGS: AS PER STANDARD DRAWING

SLOPE (%): -2.66%, 0.07%, 3.93%, 7.35%, 10.75%, 3.37%, 0.72%, 2.34%, 0.13%, -4.65%, -0.13%, -2.09%, -0.88%, 2.23%, -0.59%, -3.95%, 4.76%, 2.64%, 5.96%, 3.36%, 5.96%, -4.40%, -12.58%, -8.98%, -7.26%

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS — HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

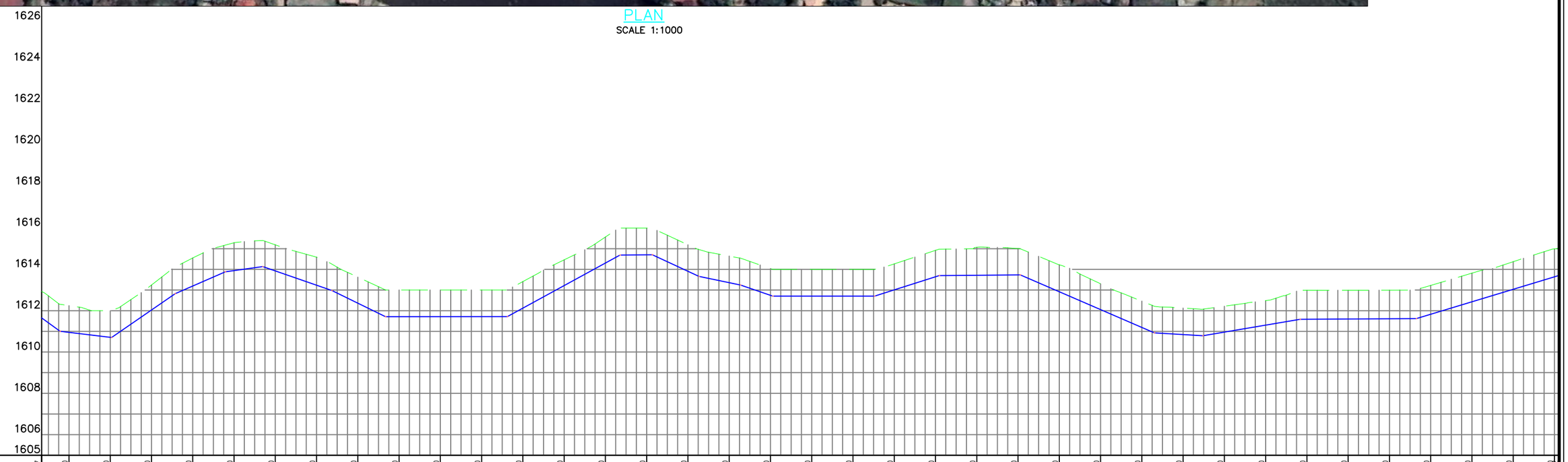
Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 3 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/040



PLAN
SCALE 1:1000



CHAINAGE (Km+m)	2+207	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+942
GROUND LEVELS (Masl)	1612.93	1612.25	1612.00	1613.24	1614.55	1615.29	1615.19	1614.59	1613.62	1613.00	1613.00	1613.00	1613.41	1614.46	1615.57	1616.00	1615.19	1614.64	1614.04	1614.00	1614.00	1614.26	1614.92	1615.07	1615.01	1614.22	1613.30	1612.46	1612.12	1612.22	1612.49	1612.99	1612.99	1612.99	1613.22	1613.82	1614.37	1614.39	1614.39
INVERT LEVELS (Masl)	1611.65	1610.95	1610.71	1612.03	1613.20	1613.94	1613.93	1613.24	1612.37	1611.71	1611.71	1611.71	1612.12	1613.22	1614.31	1614.71	1613.91	1613.36	1612.75	1612.71	1612.70	1613.01	1613.64	1613.72	1613.73	1612.92	1612.05	1611.19	1610.85	1610.97	1611.30	1611.59	1611.60	1611.61	1611.83	1612.43	1613.04	1613.54	1613.54
EXCAVATION DEPTH (m)	1.28	1.29	1.29	1.21	1.36	1.35	1.26	1.36	1.26	1.29	1.29	1.29	1.29	1.25	1.26	1.29	1.28	1.29	1.29	1.29	1.30	1.26	1.28	1.35	1.27	1.30	1.25	1.27	1.28	1.25	1.18	1.40	1.39	1.38	1.40	1.39	1.34	1.35	1.35
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	-2.26%	-1.21%	6.89%	4.36%	1.40%	-3.46%	-4.88%	0.00%	5.45%	0.09%	-4.64%	-2.06%	-3.44%	-0.01%	3.17%	0.09%	-4.32%	-0.59%	1.69%	0.06%	3.02%																		

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 4 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/041



PLAN

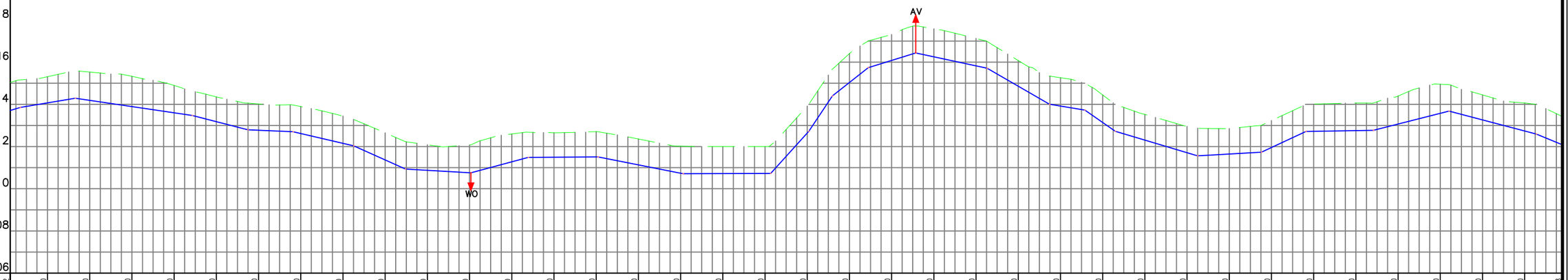
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	3+620	3+640	3+660	3+678
GROUND LEVELS (Masl)	1615.04	1615.31	1615.53	1615.33	1614.89	1614.35	1614.02	1613.90	1613.45	1612.65	1612.08	1612.07	1612.60	1612.65	1612.70	1612.36	1612.02	1612.00	1612.00	1613.92	1616.41	1617.31	1617.58	1617.12	1616.08	1615.26	1614.44	1613.52	1612.96	1612.85	1613.23	1614.02	1614.06	1614.39	1614.95	1614.45	1614.06	1613.42
INVERT LEVELS (Masl)	1613.71	1614.07	1614.19	1613.89	1613.60	1613.18	1612.77	1612.62	1612.15	1611.37	1610.87	1610.76	1611.28	1611.49	1611.51	1611.13	1610.74	1610.72	1610.72	1612.64	1615.04	1616.08	1616.25	1615.83	1614.86	1613.92	1613.14	1612.30	1611.71	1611.65	1611.95	1612.72	1612.76	1613.07	1613.57	1613.26	1612.74	1612.08
EXCAVATION DEPTH (m)	1.33	1.24	1.34	1.43	1.29	1.18	1.25	1.28	1.30	1.28	1.21	1.32	1.32	1.16	1.20	1.23	1.28	1.28	1.28	1.28	1.37	1.23	1.33	1.29	1.22	1.34	1.31	1.22	1.25	1.20	1.28	1.30	1.31	1.33	1.38	1.18	1.33	1.34
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	3.02%	1.68%	-1.48%	-2.58%	-0.43%	-2.33%	-4.48%	-0.58%	2.70%	0.06%	-1.97%	0.03%	11.08%	14.99%	7.88%	3.10%	-2.14%	-5.79%	1.66%	-6.97%	-2.98%	0.57%	4.65%	0.18%	2.53%	-2.62%	4.13%											

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 5 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/042



PLAN

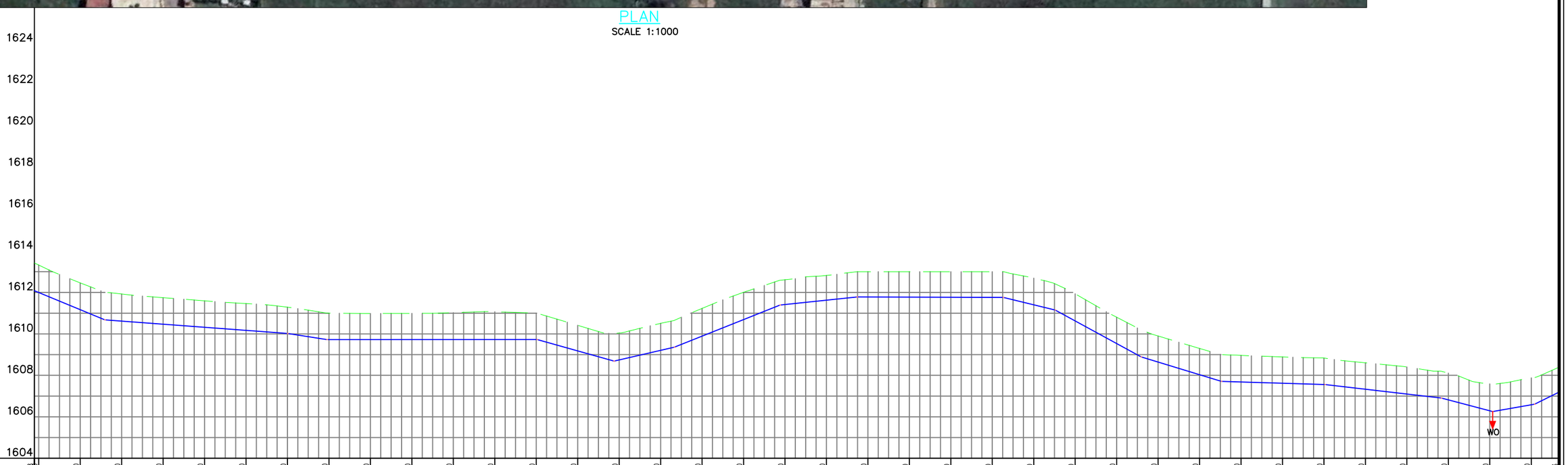
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	3+678	3+700	3+720	3+740	3+760	3+780	3+800	3+820	3+840	3+860	3+880	3+900	3+920	3+940	3+960	3+980	4+000	4+020	4+040	4+060	4+080	4+100	4+120	4+140	4+160	4+180	4+200	4+220	4+240	4+260	4+280	4+300	4+320	4+340	4+360	4+380	4+400	4+413
GROUND LEVELS (Masl)	1613.42	1612.46	1611.92	1611.75	1611.59	1611.46	1611.29	1611.00	1610.98	1610.99	1611.02	1611.06	1611.00	1610.41	1610.04	1610.51	1611.23	1612.00	1612.61	1612.82	1613.00	1613.00	1613.00	1613.00	1612.69	1611.93	1610.80	1609.90	1609.30	1608.97	1608.89	1608.84	1608.61	1608.40	1608.11	1607.59	1607.88	1608.40
INVERT LEVELS (Masl)	1612.08	1611.17	1610.62	1610.47	1610.32	1610.17	1610.02	1609.73	1609.73	1609.73	1609.73	1609.73	1609.73	1609.18	1608.74	1609.20	1609.89	1610.69	1611.42	1611.63	1611.78	1611.77	1611.77	1611.76	1611.40	1610.62	1609.53	1608.64	1608.03	1607.68	1607.62	1607.56	1607.33	1607.10	1606.82	1606.29	1606.58	1607.20
EXCAVATION DEPTH (m)	1.34	1.29	1.31	1.28	1.27	1.29	1.27	1.27	1.26	1.26	1.30	1.34	1.27	1.23	1.30	1.30	1.34	1.31	1.19	1.19	1.22	1.23	1.23	1.24	1.28	1.31	1.27	1.26	1.26	1.29	1.27	1.28	1.28	1.31	1.29	1.30	1.30	1.20
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-4.13%		-0.74%		-1.55%		0.00%		-2.80%		2.31%		3.99%		1.05%		-0.03%		-2.45%		-5.45%		-3.05%		-0.31%		-1.16%		-2.63%		1.75%		4.95%					

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 6 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/043



PLAN

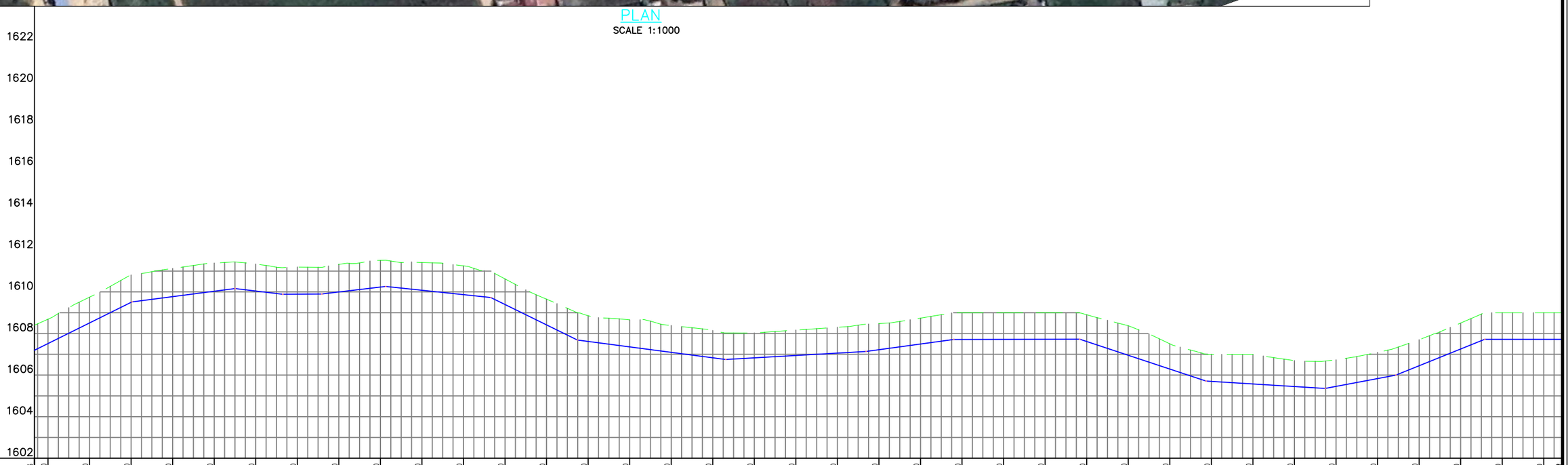
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	4+413	4+420	4+440	4+460	4+480	4+500	4+520	4+540	4+560	4+580	4+600	4+620	4+640	4+660	4+680	4+700	4+720	4+740	4+760	4+780	4+800	4+820	4+840	4+860	4+880	4+900	4+920	4+940	4+960	4+980	5+000	5+020	5+040	5+060	5+080	5+100	5+120	5+140	5+149
GROUND LEVELS (Masl)	1608.40	1608.69	1609.75	1610.81	1611.13	1611.39	1611.34	1611.19	1611.33	1611.52	1611.41	1611.25	1610.63	1609.65	1608.86	1608.66	1608.39	1608.14	1608.03	1608.16	1608.30	1608.48	1608.74	1609.00	1609.00	1609.00	1608.90	1608.37	1607.51	1607.00	1606.99	1606.70	1606.73	1607.09	1607.70	1608.51	1609.00	1609.00	1609.00
INVERT LEVELS (Masl)	1607.20	1607.52	1608.51	1609.50	1609.77	1610.03	1610.04	1609.89	1610.00	1610.23	1610.08	1609.87	1609.39	1608.41	1607.62	1607.36	1607.10	1606.83	1606.83	1606.94	1607.06	1607.22	1607.50	1607.71	1607.72	1607.73	1607.62	1606.95	1606.29	1605.70	1605.57	1605.45	1605.46	1605.83	1606.45	1607.25	1607.72	1607.72	1607.72
EXCAVATION DEPTH (m)	1.20	1.17	1.24	1.31	1.35	1.35	1.29	1.30	1.33	1.28	1.34	1.39	1.23	1.24	1.23	1.30	1.29	1.31	1.20	1.22	1.24	1.26	1.24	1.29	1.28	1.27	1.29	1.42	1.22	1.30	1.42	1.25	1.28	1.26	1.25	1.25	1.28	1.28	1.28
SIZE/TYPE OF PIPE & HGL	HDPE OD315																							HDPE OD250																
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	4.95%		1.29%		-1.20%	0.06%	1.18%		-1.05%		-4.89%		-1.31%		0.57%		1.37%		0.03%		-3.32%		-0.62%		1.88%		4.03%		0.01%										

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 7 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/044



PLAN

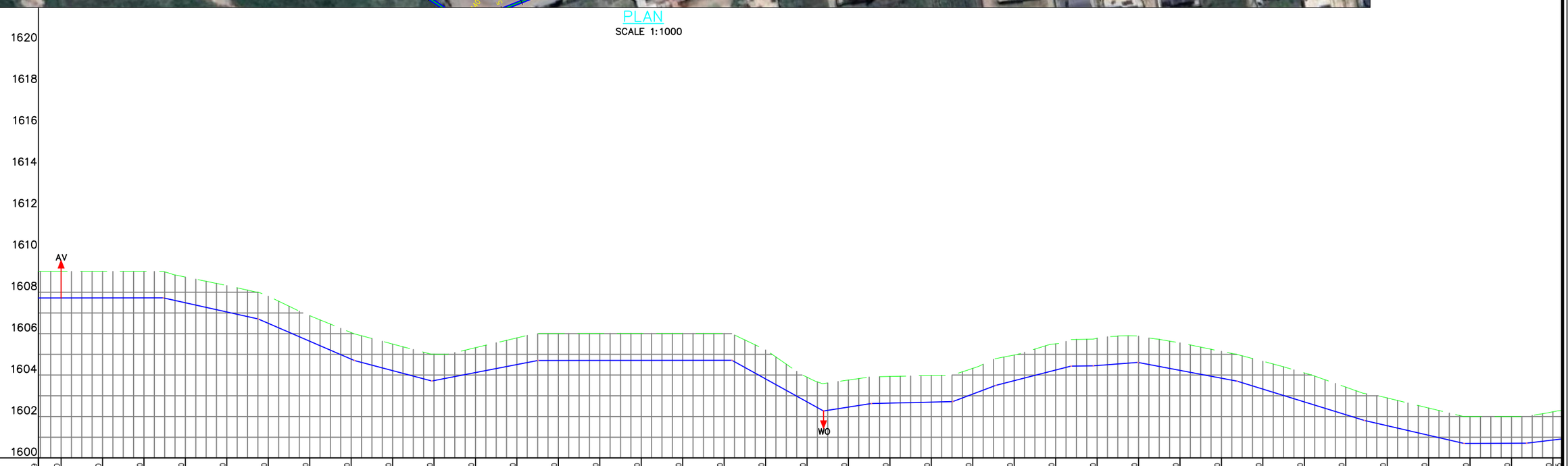
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	5+149	5+160	5+180	5+200	5+220	5+240	5+260	5+280	5+300	5+320	5+340	5+360	5+380	5+400	5+420	5+440	5+460	5+480	5+500	5+520	5+540	5+560	5+580	5+600	5+620	5+640	5+660	5+680	5+700	5+720	5+740	5+760	5+780	5+800	5+820	5+840	5+860	5+880	5+885
GROUND LEVELS (Masl)	1609.00	1609.00	1609.00	1609.00	1608.73	1608.32	1607.81	1606.87	1606.05	1605.50	1605.01	1605.32	1605.80	1606.00	1606.01	1606.01	1606.01	1606.00	1605.21	1603.90	1603.76	1603.93	1603.98	1604.32	1604.97	1605.51	1605.78	1605.87	1605.55	1605.14	1604.66	1604.10	1603.42	1602.90	1602.41	1602.00	1602.00	1602.23	1602.30
INVERT LEVELS (Masl)	1607.72	1607.72	1607.72	1607.72	1607.49	1607.04	1606.50	1605.63	1604.77	1604.22	1603.73	1604.12	1604.51	1604.71	1604.71	1604.71	1604.71	1604.71	1603.82	1602.71	1602.46	1602.65	1602.69	1603.08	1603.73	1604.24	1604.46	1604.61	1604.23	1603.85	1603.32	1602.70	1602.09	1601.56	1601.10	1600.70	1600.71	1600.87	1600.92
EXCAVATION DEPTH (m)	1.28	1.28	1.28	1.28	1.24	1.28	1.31	1.23	1.28	1.28	1.27	1.20	1.29	1.30	1.30	1.30	1.30	1.29	1.40	1.19	1.30	1.29	1.28	1.24	1.24	1.27	1.32	1.27	1.33	1.30	1.34	1.40	1.33	1.34	1.31	1.30	1.29	1.36	1.37
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	0.01%		~2.22%		~4.31%		~2.65%		1.94%		0.01%								~5.54%		1.56%		0.23%		3.78%		2.56%		0.11%	0.77%		~1.89%		~3.09%		~2.30%		0.04%		1.20%

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 8 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/045



PLAN

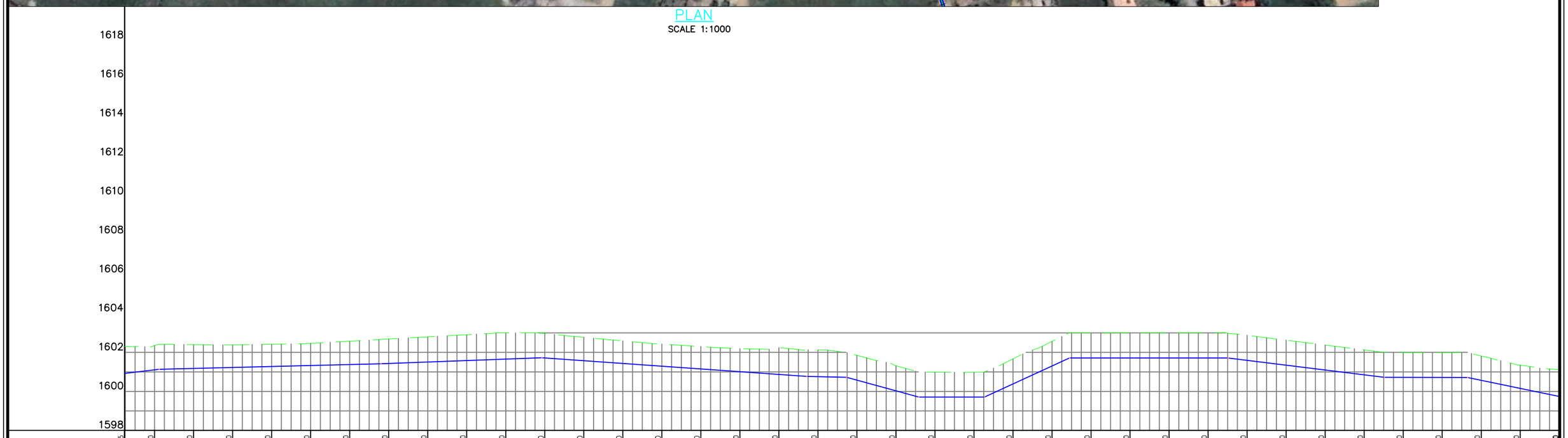
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	5+885	5+900	5+920	5+940	5+960	5+980	6+000	6+020	6+040	6+060	6+080	6+100	6+120	6+140	6+160	6+180	6+200	6+220	6+240	6+260	6+280	6+300	6+320	6+340	6+360	6+380	6+400	6+420	6+440	6+460	6+480	6+500	6+520	6+540	6+560	6+580	6+600	6+620
GROUND LEVELS (Masl)	1602.30	1602.35	1602.40	1602.39	1602.42	1602.46	1602.57	1602.69	1602.80	1602.91	1603.00	1602.97	1602.78	1602.59	1602.42	1602.30	1602.20	1602.24	1602.13	1601.85	1601.32	1600.99	1600.98	1601.67	1602.57	1603.00	1603.00	1603.00	1603.00	1602.88	1602.63	1602.38	1602.13	1602.00	1602.00	1601.81	1601.34	1601.11
INVERT LEVELS (Masl)	1600.92	1601.11	1601.18	1601.23	1601.28	1601.33	1601.38	1601.43	1601.51	1601.58	1601.66	1601.72	1601.58	1601.44	1601.30	1601.15	1601.01	1600.87	1600.76	1600.58	1600.03	1599.71	1599.71	1600.38	1601.30	1601.72	1601.71	1601.71	1601.71	1601.59	1601.34	1601.10	1600.85	1600.72	1600.72	1600.57	1600.16	1599.74
EXCAVATION DEPTH (m)	1.37	1.25	1.22	1.16	1.14	1.13	1.20	1.26	1.29	1.33	1.34	1.25	1.20	1.15	1.13	1.15	1.18	1.37	1.37	1.27	1.29	1.28	1.27	1.28	1.26	1.28	1.29	1.29	1.29	1.28	1.28	1.28	1.28	1.28	1.28	1.24	1.19	1.33
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	1.20%		0.25%				0.38%				~0.70%								~0.23%	~2.75%		0.00%		4.61%			~0.00%					~1.24%			~0.02%		~2.07%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 9 0F 15)

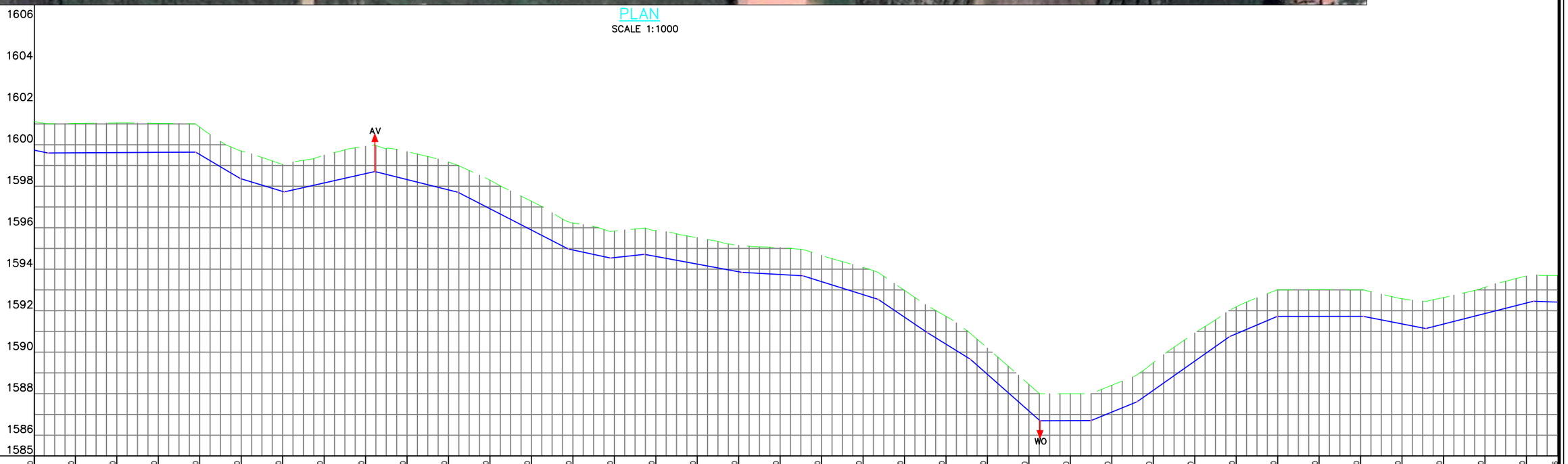
Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/046



PLAN

SCALE 1:1000



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

CHAINAGE (Km+m)	6+620	6+640	6+660	6+680	6+700	6+720	6+740	6+760	6+780	6+800	6+820	6+840	6+860	6+880	6+900	6+920	6+940	6+960	6+980	7+000	7+020	7+040	7+060	7+080	7+100	7+120	7+140	7+160	7+180	7+200	7+220	7+240	7+260	7+280	7+300	7+320	7+340	7+356
GROUND LEVELS (Masl)	1601.11	1601.03	1601.05	1601.03	1600.84	1599.70	1599.05	1599.50	1599.92	1598.66	1599.16	1598.29	1597.27	1596.22	1595.84	1595.86	1595.52	1595.15	1595.05	1594.66	1594.08	1592.98	1591.73	1590.20	1588.45	1588.00	1588.41	1589.49	1590.92	1592.19	1593.00	1593.01	1593.00	1592.58	1592.63	1593.13	1593.67	1593.65
INVERT LEVELS (Masl)	1599.74	1599.61	1599.62	1599.63	1599.53	1598.36	1597.75	1598.16	1598.60	1598.32	1597.82	1596.92	1595.89	1594.93	1594.56	1594.62	1594.25	1593.88	1593.74	1593.40	1592.78	1591.69	1590.39	1588.93	1587.17	1586.70	1587.11	1588.16	1589.57	1590.89	1591.72	1591.73	1591.73	1591.36	1591.36	1591.86	1592.37	1592.37
EXCAVATION DEPTH (m)	1.38	1.42	1.43	1.40	1.32	1.34	1.30	1.34	1.32	1.34	1.34	1.38	1.39	1.30	1.28	1.24	1.27	1.27	1.30	1.26	1.31	1.29	1.34	1.27	1.28	1.30	1.29	1.33	1.36	1.30	1.28	1.29	1.27	1.21	1.28	1.27	1.30	1.28
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-3.07%	0.06%	-5.91%	-3.04%	2.24%	-2.48%	-5.14%	-2.15%	1.10%	-1.85%	-0.55%	-3.13%	-6.78%	-6.18%	-8.82%	0.03%	4.07%	7.04%	4.24%	0.01%	-1.96%	2.54%	0.56%															

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 10 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/047



NOTES:-

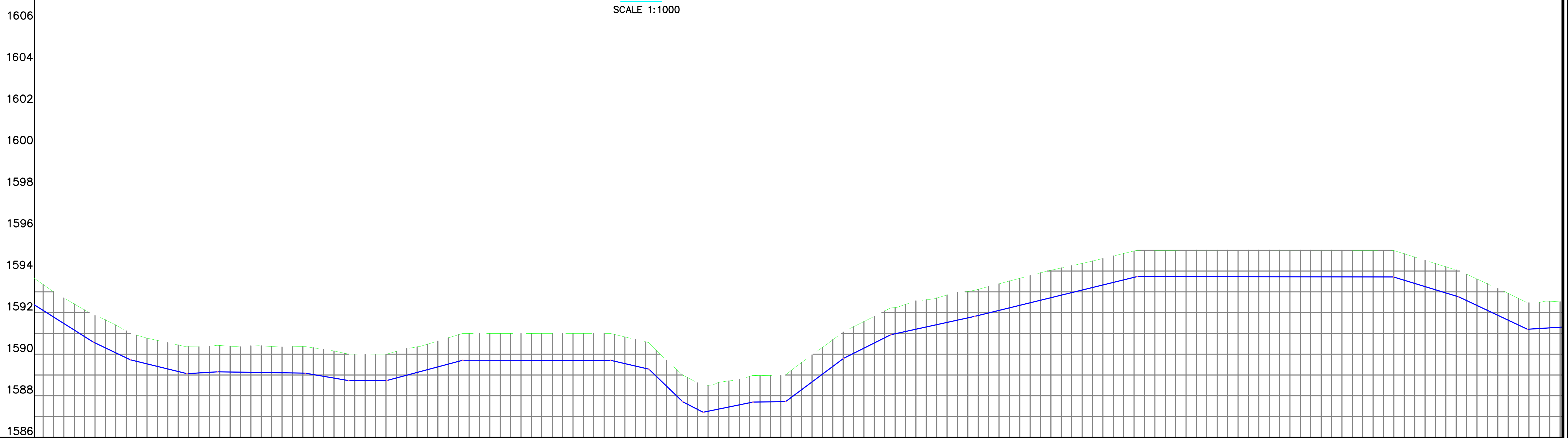
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	GROUND LEVELS (Masl)	INVERT LEVELS (Masl)	EXCAVATION DEPTH (m)
7+356	1593.65	1592.37	1.28
7+360	1593.35	1592.11	1.25
7+380	1592.12	1590.84	1.28
7+400	1591.12	1589.82	1.30
7+420	1590.55	1589.29	1.26
7+440	1590.38	1589.13	1.25
7+460	1590.40	1589.13	1.27
7+480	1590.36	1589.10	1.26
7+500	1590.15	1588.85	1.31
7+520	1590.00	1588.73	1.27
7+540	1590.35	1589.12	1.23
7+560	1590.94	1589.66	1.28
7+580	1591.00	1589.71	1.29
7+600	1591.00	1589.71	1.29
7+620	1591.00	1589.71	1.29
7+640	1590.83	1589.55	1.28
7+660	1589.71	1588.46	1.25
7+680	1588.50	1587.25	1.25
7+700	1588.93	1587.66	1.27
7+720	1589.22	1587.92	1.30
7+740	1590.69	1589.41	1.28
7+760	1591.82	1590.54	1.28
7+780	1592.57	1591.20	1.36
7+800	1592.96	1591.64	1.32
7+820	1593.39	1592.11	1.28
7+840	1593.91	1592.60	1.32
7+860	1594.37	1593.09	1.28
7+880	1594.85	1593.57	1.27
7+900	1595.00	1593.73	1.27
7+920	1595.00	1593.73	1.28
7+940	1595.01	1593.73	1.28
7+960	1595.01	1593.72	1.28
7+980	1595.00	1593.72	1.28
8+000	1595.00	1593.72	1.28
8+020	1594.67	1593.40	1.27
8+040	1594.05	1592.79	1.26
8+060	1593.16	1591.87	1.28
8+080	1592.49	1591.23	1.26
8+091	1592.51	1591.31	1.20

SIZE/TYPE OF PIPE & HGL: HDPE OD250

PIPE FITTINGS: AS PER STANDARD DRAWING

SLOPE (%): -6.32%, -4.79%, -2.44%, 0.59%, -0.15%, -1.72%, 0.02%, 2.68%, -0.01%, -2.32%, -9.64%, 5.13%, 2.03%, 0.14%, 7.46%, 5.02%, 2.19%, 2.45%, -0.01%, -3.05%, -4.71%, 0.63%

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

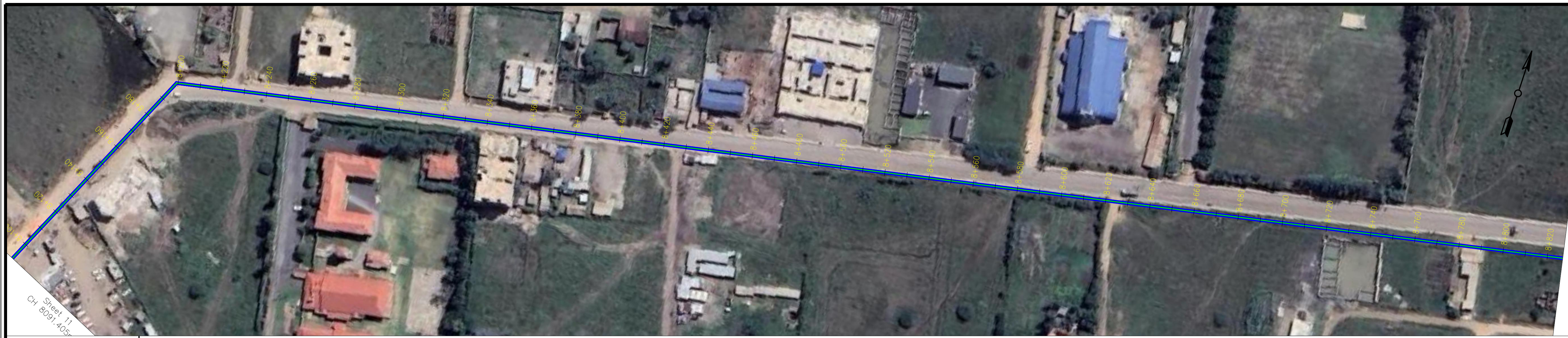
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 11 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/048



NOTES:-

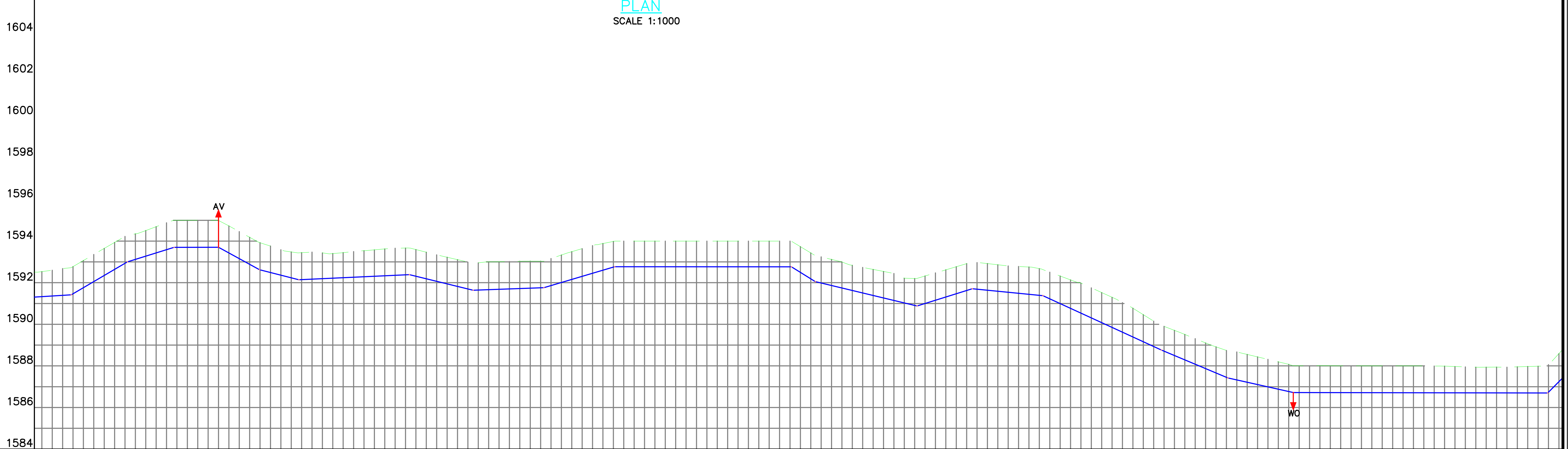
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	8+091	8+100	8+120	8+140	8+160	8+180	8+200	8+220	8+240	8+260	8+280	8+300	8+320
GROUND LEVELS (Masl)	1592.51	1592.60	1593.36	1594.34	1595.00	1594.99	1593.92	1593.44	1593.44	1593.62	1593.46	1592.99	1593.02
INVERT LEVELS (Masl)	1591.31	1591.36	1592.05	1593.12	1593.70	1593.70	1592.62	1592.15	1592.24	1592.33	1592.19	1591.70	1591.70
EXCAVATION DEPTH (m)	1.20	1.24	1.30	1.23	1.30	1.29	1.30	1.30	1.20	1.29	1.28	1.29	1.32

CHAINAGE (Km+m)	8+340	8+360	8+380	8+400	8+420	8+440	8+460	8+480	8+500	8+520	8+540	8+560	8+580
GROUND LEVELS (Masl)	1593.16	1593.78	1594.00	1594.00	1594.00	1594.00	1593.73	1593.00	1592.54	1592.32	1592.92	1592.81	1592.51
INVERT LEVELS (Masl)	1591.86	1592.45	1592.77	1592.77	1592.77	1592.76	1592.50	1591.75	1591.27	1591.00	1591.62	1591.54	1591.22
EXCAVATION DEPTH (m)	1.30	1.33	1.23	1.23	1.23	1.24	1.24	1.25	1.27	1.32	1.29	1.27	1.28

CHAINAGE (Km+m)	8+600	8+620	8+640	8+660	8+680	8+700	8+720	8+740	8+760	8+780	8+800	8+820	8+827
GROUND LEVELS (Masl)	1591.75	1590.77	1589.71	1588.91	1588.43	1588.01	1588.00	1588.00	1588.00	1587.95	1587.94	1588.06	1588.81
INVERT LEVELS (Masl)	1590.31	1589.39	1588.50	1587.66	1587.10	1586.72	1586.71	1586.71	1586.71	1586.71	1586.70	1586.74	1587.44
EXCAVATION DEPTH (m)	1.44	1.38	1.21	1.25	1.33	1.29	1.29	1.29	1.29	1.25	1.24	1.32	1.37

SIZE/TYPE OF PIPE & HGL: HDPE OD250

PIPE FITTINGS: AS PER STANDARD DRAWING

SLOPE (%): 0.63% | 5.85% | 3.11% | 0.02% | −5.45% | −2.57% | 0.47% | −2.45% | 0.36% | 2.97% | −0.01% | −6.20% | −2.39% | 3.11% | −0.98% | −4.58% | −4.20% | −2.24% | −0.01% | 10.0(

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED	BY: BMM
DRAWN	BY: MJY
CHECKED	BY: INT
APPROVED	BY: LWM

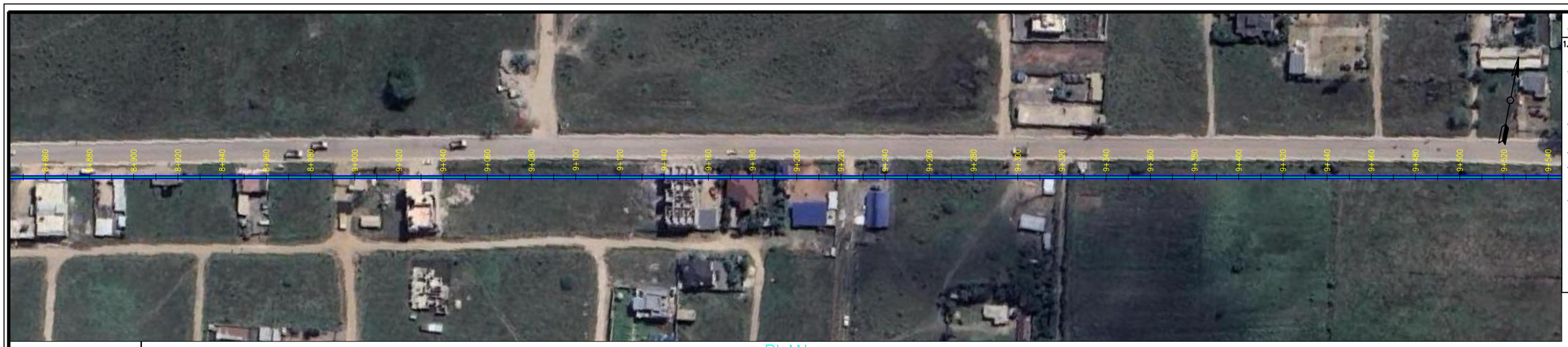
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 12 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/049



PLAN

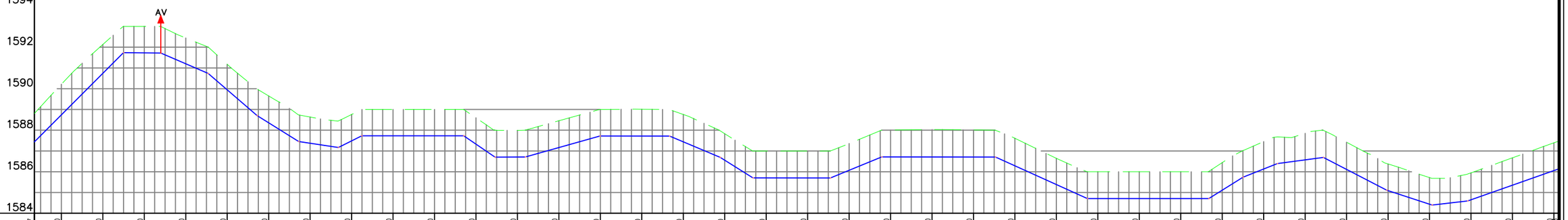
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	8+827	8+840	8+860	8+880	8+900	8+920	8+940	8+960	8+980	9+000	9+020	9+040	9+060	9+080	9+100	9+120	9+140	9+160	9+180	9+200	9+220	9+240	9+260	9+280	9+300	9+320	9+340	9+360	9+380	9+400	9+420	9+440	9+460	9+480	9+500	9+520	9+540	9+560	9+580
GROUND LEVELS (Masl)	1588.81	1590.22	1592.13	1593.00	1592.44	1591.17	1589.65	1588.63	1588.76	1589.00	1589.00	1588.60	1587.99	1588.45	1589.00	1589.01	1588.76	1587.83	1587.00	1587.00	1587.36	1588.01	1588.03	1588.01	1587.61	1586.65	1586.00	1586.00	1586.00	1586.44	1587.45	1587.85	1587.42	1586.37	1585.72	1585.94	1586.67	1587.39	1587.48
INVERT LEVELS (Masl)	1587.44	1588.74	1590.74	1591.72	1591.20	1589.94	1588.36	1587.37	1587.49	1587.73	1587.73	1587.33	1586.71	1587.16	1587.72	1587.72	1587.44	1586.56	1585.70	1585.70	1586.07	1586.71	1586.71	1586.71	1586.28	1585.38	1584.71	1584.71	1584.71	1585.11	1586.13	1586.57	1586.11	1585.09	1584.44	1584.65	1585.35	1586.05	1586.12
EXCAVATION DEPTH (m)	1.37	1.48	1.39	1.28	1.24	1.23	1.29	1.26	1.27	1.27	1.27	1.27	1.29	1.29	1.28	1.29	1.32	1.28	1.30	1.30	1.29	1.29	1.32	1.31	1.33	1.26	1.29	1.29	1.29	1.33	1.32	1.28	1.31	1.28	1.28	1.29	1.32	1.34	1.31
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	10.00%	-0.08%	-4.31%	-8.60%	-6.22%	-1.49%	4.99%	-0.00%	-6.83%	0.07%	2.81%	-0.01%	-4.20%	-6.25%	-0.01%	4.09%	-0.02%	-4.51%	0.00%	6.24%	3.95%	1.35%	-5.17%	-3.27%	1.16%	3.51%													

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 13 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/050



PLAN

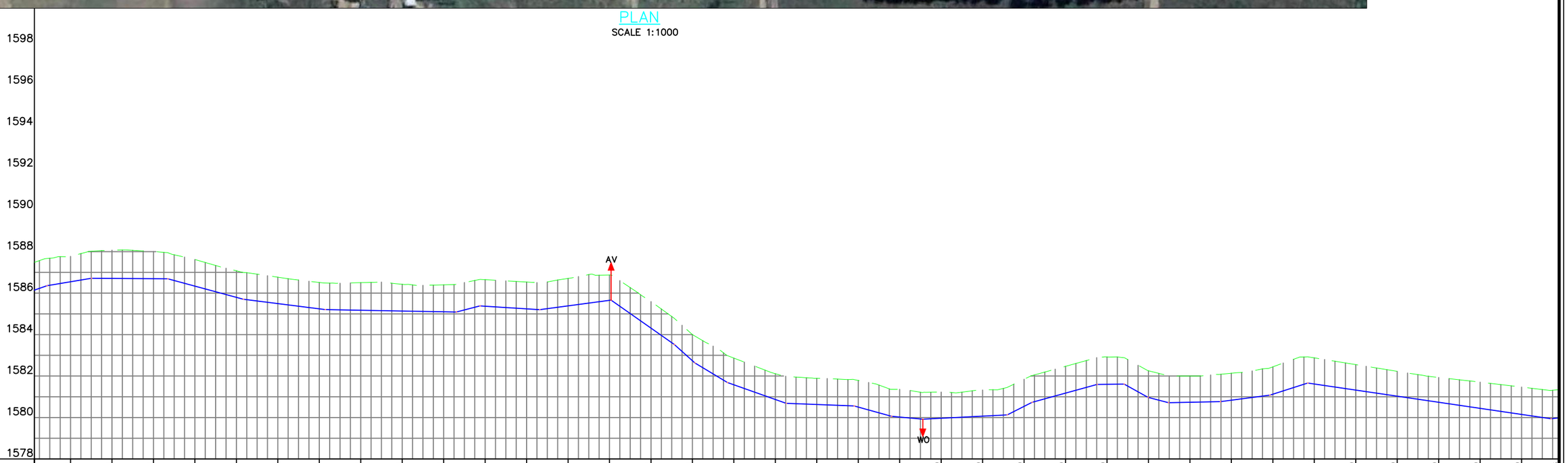
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	9+563	9+580	9+600	9+620	9+640	9+660	9+680	9+700	9+720	9+740	9+760	9+780	9+800	9+820	9+840	9+860	9+880	9+900	9+920	9+940	9+960	9+980	10+000	10+020	10+040	10+060	10+080	10+100	10+120	10+140	10+160	10+180	10+200	10+220	10+240	10+260	10+280	10+298
GROUND LEVELS (Masl)	1587.48	1587.77	1588.07	1588.01	1587.62	1587.08	1586.77	1586.51	1586.51	1586.43	1586.40	1586.65	1586.53	1586.71	1586.87	1585.59	1584.00	1582.87	1582.11	1581.89	1581.79	1581.36	1581.23	1581.32	1581.85	1582.47	1582.92	1582.25	1582.00	1582.14	1582.44	1582.88	1582.55	1582.23	1581.93	1581.71	1581.47	1581.35
INVERT LEVELS (Masl)	1586.14	1586.55	1586.71	1586.70	1586.34	1585.80	1585.49	1585.24	1585.17	1585.14	1585.10	1585.37	1585.24	1585.38	1585.65	1584.31	1582.74	1581.58	1580.87	1580.63	1580.50	1580.02	1579.96	1580.07	1580.54	1581.18	1581.60	1580.97	1580.74	1580.84	1581.12	1581.62	1581.32	1581.03	1580.74	1580.44	1580.15	1579.98
EXCAVATION DEPTH (m)	1.34	1.22	1.36	1.31	1.28	1.28	1.27	1.27	1.33	1.29	1.30	1.28	1.29	1.32	1.22	1.28	1.26	1.29	1.24	1.27	1.29	1.34	1.26	1.26	1.31	1.29	1.32	1.29	1.26	1.30	1.32	1.26	1.23	1.20	1.20	1.27	1.32	1.36
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	3.51%	1.69%	−0.08%	−2.70%	−1.27%	−0.19%	2.61%	−0.63%	1.34%	−7.01%	−8.99%	−6.00%	−3.55%	−0.38%	−2.78%	0.91%	0.51%	5.07%	2.76%	0.13%	−5.60%	−2.57%	0.20%	1.31%	3.20%	−1.47%	1.12											

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 14 0F 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/051



Sheet 14
CH 10298.152m

PLAN

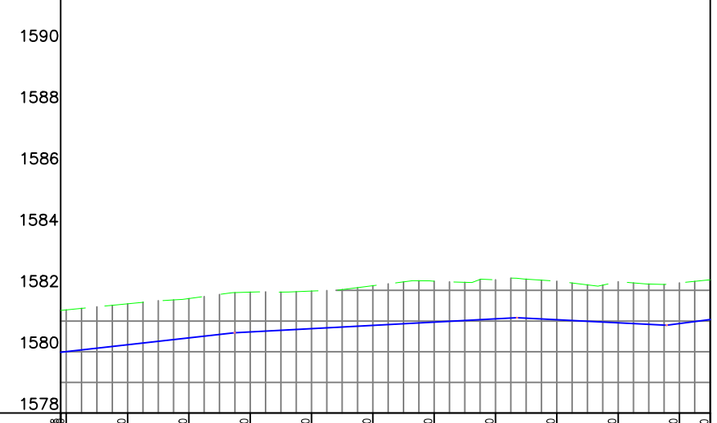
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	10+288	10+320	10+340	10+360	10+380	10+400	10+420	10+440	10+460	10+480	10+500	10+510
GROUND LEVELS (Masl)	1581.35	1581.56	1581.73	1581.94	1581.98	1582.15	1582.30	1582.34	1582.30	1582.28	1582.24	1582.34
INVERT LEVELS (Masl)	1579.98	1580.23	1580.45	1580.65	1580.75	1580.86	1580.97	1581.07	1581.04	1580.94	1580.92	1581.05
EXCAVATION DEPTH (m)	1.36	1.33	1.28	1.30	1.22	1.29	1.33	1.27	1.25	1.34	1.32	1.29
SIZE/TYPE OF PIPE & HGL	HDPE OD250											
PIPE FITTINGS	AS PER STANDARD DRAWING											
SLOPE (%)	1.12%			0.53%			~0.50%			1.30%		

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE SYT3 (SHEET 15 OF 15)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/052



NOTES:-

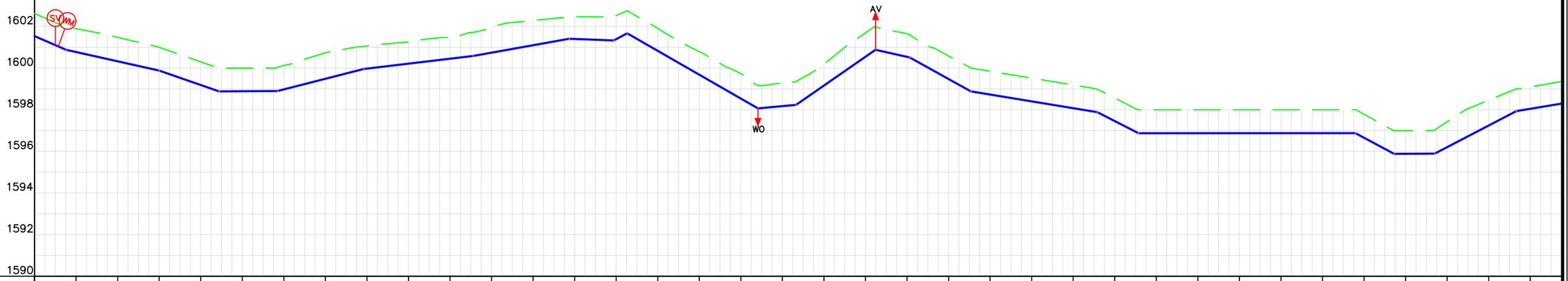
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1602.62	1601.90	1601.48	1601.00	1600.30	1600.00	1600.13	1600.74	1601.06	1601.26	1601.47	1601.98	1602.29	1602.47	1602.53	1601.91	1600.79	1599.74	1599.28	1600.19	1601.70	1601.65	1600.58	1599.85	1599.52	1599.19	1598.56	1598.00	1598.00	1598.00	1598.00	1598.00	1598.00	1597.78	1597.00	1597.43	1598.46	1599.10	1599.36
INVERT LEVELS (Masl)	1601.54	1600.77	1600.33	1599.88	1599.19	1598.89	1598.98	1599.49	1599.97	1600.21	1600.45	1600.74	1601.10	1601.40	1601.39	1600.82	1599.68	1598.53	1598.17	1599.16	1600.54	1600.54	1599.47	1598.73	1598.40	1598.07	1597.45	1596.87	1596.87	1596.87	1596.87	1596.87	1596.87	1596.65	1595.88	1596.20	1597.24	1598.04	1598.30
EXCAVATION DEPTH (m)	1.09	1.13	1.15	1.12	1.11	1.11	1.15	1.25	1.09	1.05	1.02	1.24	1.19	1.07	1.14	1.08	1.11	1.21	1.11	1.03	1.15	1.12	1.11	1.12	1.12	1.12	1.11	1.13	1.13	1.13	1.13	1.13	1.13	1.12	1.22	1.22	1.05	1.06
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-4.34%	-2.22%	-3.47%	0.06%	2.55%	1.19%	1.79%	-0.37%	5.30%	-5.73%	0.93%	6.92%	-2.24%	-5.53%	-1.64%	-5.09%	0.00%	-5.32%	0.06%	5.20%	1.65%																	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT1 (SHEET 1 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/053



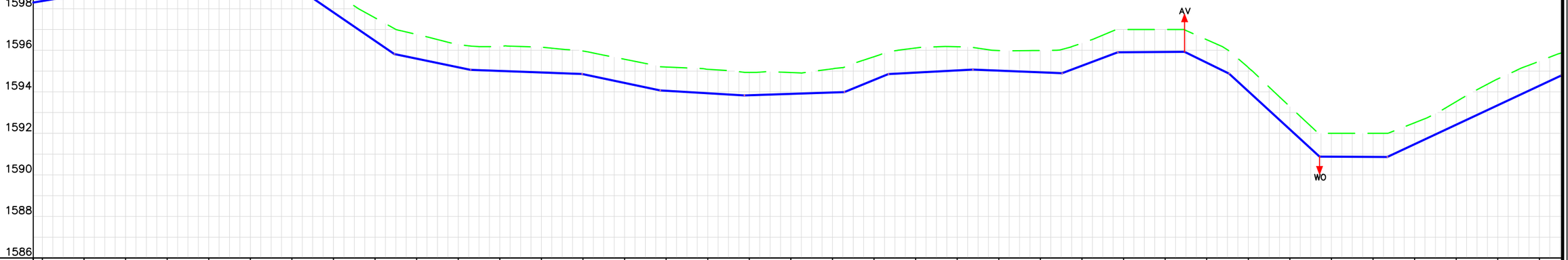
PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	0+736	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+471
GROUND LEVELS (Masl)	1599.36	1599.44	1599.79	1600.36	1601.00	1601.00	1601.00	1600.27	1598.82	1597.56	1596.76	1596.29	1596.19	1596.15	1595.97	1595.57	1595.19	1595.09	1594.94	1594.93	1595.11	1595.69	1596.11	1596.17	1595.99	1595.99	1596.35	1597.00	1597.00	1596.51	1595.17	1593.28	1592.00	1592.00	1592.51	1593.53	1594.62	1595.47	1595.89
INVERT LEVELS (Masl)	1598.30	1598.37	1598.70	1599.26	1599.92	1599.92	1599.92	1599.20	1597.82	1596.45	1595.60	1595.18	1595.01	1594.93	1594.85	1594.43	1594.05	1593.93	1593.83	1593.90	1593.97	1594.57	1594.92	1595.03	1595.02	1594.94	1595.26	1595.91	1595.92	1595.40	1594.03	1592.19	1590.88	1590.87	1591.48	1592.42	1593.35	1594.29	1594.77
EXCAVATION DEPTH (m)	1.06	1.07	1.09	1.10	1.08	1.08	1.08	1.08	0.99	1.11	1.17	1.11	1.18	1.22	1.12	1.14	1.14	1.15	1.10	1.03	1.14	1.12	1.19	1.14	0.97	1.05	1.09	1.09	1.08	1.11	1.14	1.09	1.12	1.13	1.03	1.11	1.27	1.18	1.12
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	1.65%	4.59%	−0.01%	−6.85%	−2.07%	−0.37%	−2.11%	−0.59%	0.33%	4.10%	0.53%	−0.40%	3.77%	0.07%	−4.91%	−9.19%	−0.05%	4.68%	−1.																					

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT1 (SHEET 2 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/054



PLAN

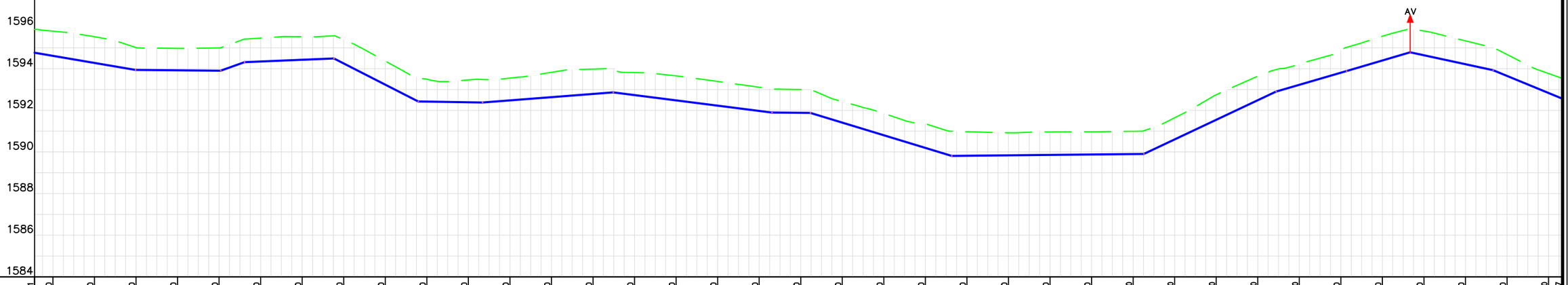
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WASHOUT
- WO – NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



CHAINAGE (Km+m)	1+471	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+207
GROUND LEVELS (Masl)	1595.89	1595.80	1595.54	1595.01	1594.98	1595.00	1595.47	1595.54	1595.39	1594.36	1593.49	1593.46	1593.55	1593.83	1593.98	1593.82	1593.66	1593.39	1593.11	1593.00	1592.42	1591.85	1591.35	1590.97	1590.92	1590.96	1590.97	1590.99	1591.64	1592.75	1593.64	1594.21	1594.87	1595.56	1595.81	1595.34	1594.68	1593.77	1593.53
INVERT LEVELS (Masl)	1594.77	1594.62	1594.28	1593.94	1593.92	1593.91	1594.35	1594.43	1594.25	1593.23	1592.42	1592.39	1592.48	1592.64	1592.79	1592.73	1592.48	1592.23	1591.97	1591.88	1591.41	1590.80	1590.19	1589.82	1589.84	1589.86	1589.88	1589.90	1590.60	1591.55	1592.49	1593.23	1593.81	1594.40	1594.65	1594.22	1593.66	1592.83	1592.56
EXCAVATION DEPTH (m)	1.12	1.18	1.26	1.07	1.05	1.09	1.12	1.11	1.14	1.13	1.08	1.07	1.07	1.19	1.19	1.08	1.18	1.16	1.14	1.12	1.01	1.05	1.16	1.16	1.09	1.10	1.09	1.09	1.04	1.20	1.16	0.98	1.07	1.17	1.16	1.12	1.03	0.93	0.97
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)		-1.70%		-0.09%	3.57%	0.41%		-5.10%		-0.15%	0.77%		-1.27%		-0.09%	-3.04%		0.10%		4.70%		2.91%	2.94%		-2.15%		-4.11%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT1 (SHEET 3 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/055



PLAN

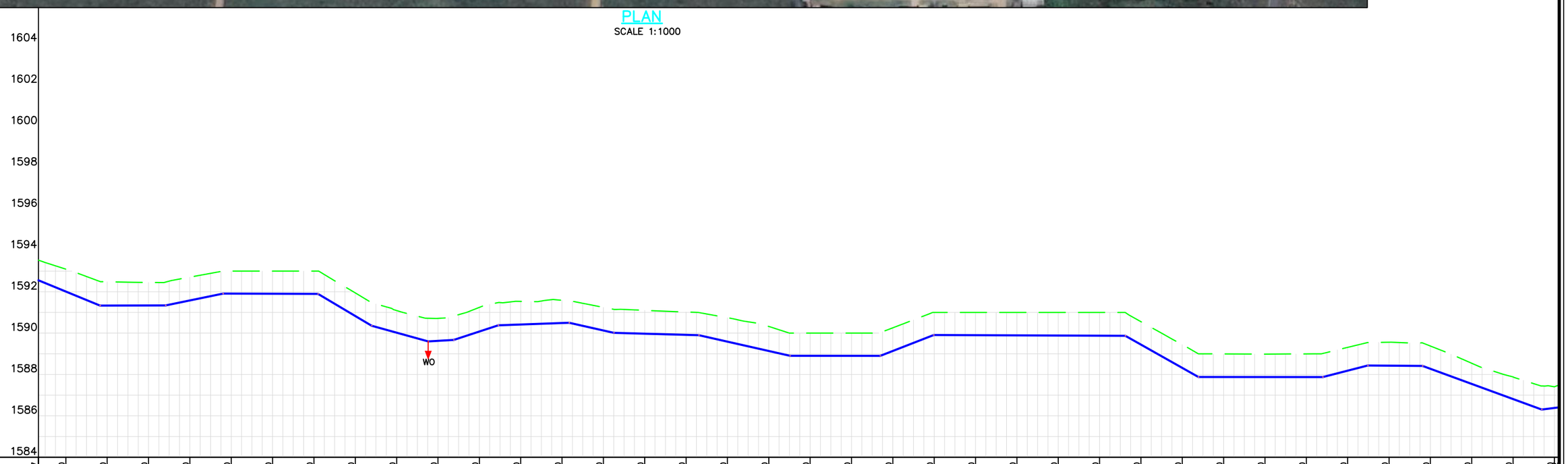
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	2+207	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940
GROUND LEVELS (Masl)	1593.53	1593.09	1592.48	1592.45	1592.71	1593.00	1593.00	1593.00	1591.95	1591.09	1590.71	1591.25	1591.53	1591.59	1591.25	1591.10	1591.02	1590.74	1590.32	1590.00	1590.00	1590.26	1591.00	1591.00	1591.00	1591.00	1591.00	1590.55	1589.44	1588.99	1588.99	1589.00	1589.31	1589.56	1589.38	1588.54	1587.88	1587.41	1587.40
INVERT LEVELS (Masl)	1592.56	1592.01	1591.33	1591.34	1591.58	1591.91	1591.90	1591.90	1590.83	1590.02	1589.63	1590.08	1590.42	1590.49	1590.13	1589.97	1589.92	1589.59	1589.14	1588.90	1588.90	1589.14	1589.91	1589.90	1589.89	1589.88	1589.87	1589.44	1588.32	1587.88	1587.88	1587.88	1588.19	1588.43	1588.27	1587.54	1586.81	1586.38	1586.37
EXCAVATION DEPTH (m)	0.97	1.08	1.15	1.11	1.13	1.09	1.10	1.10	1.12	1.07	1.09	1.17	1.11	1.10	1.12	1.13	1.10	1.16	1.19	1.10	1.10	1.12	1.09	1.10	1.11	1.12	1.13	1.11	1.13	1.12	1.11	1.12	1.13	1.13	1.10	1.00	1.07	1.03	1.03
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)		-4.11%	0.03%	2.06%	-0.03%	-5.93%	-2.78%	0.58%	3.29%	0.36%	-2.27%	-0.27%	-2.26%	-0.01%	3.90%	-0.04%			-5.64%	-0.00%		2.55%	-0.08%	-3.65%		1.24%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT1 (SHEET 4 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/056



Sheet 4
CH 2942.329m

NOTES:-

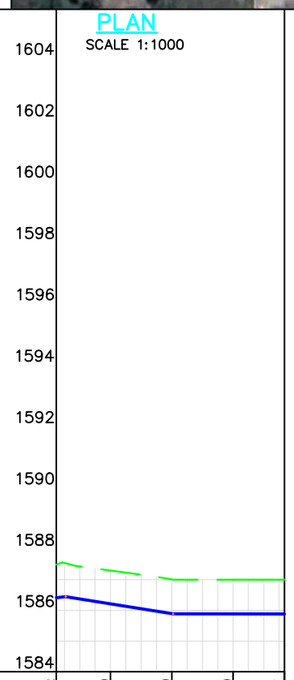
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	2+942	2+960	2+980	3+000	3+017
GROUND LEVELS (MasI)	1587.49	1587.30	1587.01	1587.00	1587.00
INVERT LEVELS (MasI)	1586.41	1586.21	1585.89	1585.89	1585.88
EXCAVATION DEPTH (m)	1.08	1.08	1.12	1.12	1.12
SIZE/TYPE OF PIPE & HGL	HDPE OD110				
PIPE FITTINGS	AS PER STANDARD DRAWING				
SLOPE (%)	1.07%	-1.60%		-0.01%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT1 (SHEET 5 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/057



PLAN

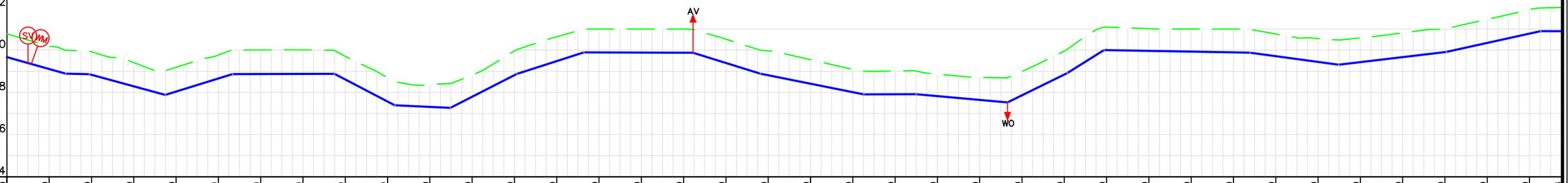
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1590.78	1590.19	1589.92	1589.41	1589.19	1589.77	1590.01	1590.01	1589.71	1588.69	1588.35	1588.82	1589.97	1590.64	1591.00	1591.00	1591.00	1590.52	1589.97	1589.55	1589.09	1589.01	1588.87	1588.71	1588.99	1589.96	1591.09	1591.02	1591.00	1591.00	1590.77	1590.55	1590.58	1590.82	1591.00	1591.46	1591.92	1592.02
INVERT LEVELS (Masl)	1589.67	1589.11	1588.83	1588.29	1588.04	1588.66	1588.87	1588.88	1588.61	1587.57	1587.31	1587.79	1588.82	1589.48	1589.89	1589.89	1589.88	1589.40	1588.81	1588.41	1588.01	1587.91	1587.82	1587.64	1587.86	1588.85	1590.00	1589.97	1589.93	1589.90	1589.72	1589.44	1589.43	1589.67	1589.91	1590.35	1590.79	1590.90
EXCAVATION DEPTH (m)	1.10	1.08	1.09	1.13	1.15	1.11	1.14	1.14	1.10	1.13	1.03	1.02	1.15	1.16	1.11	1.11	1.12	1.13	1.16	1.14	1.08	1.10	1.04	1.06	1.13	1.11	1.09	1.05	1.07	1.10	1.05	1.11	1.15	1.15	1.09	1.12	1.14	1.13
SIZE/TYPE OF PIPE & HGL	HDPE OD90																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-2.83%	-0.22%	-2.73%	3.11%	0.02%	-5.24%	-0.46%	5.12%	3.24%	-0.03%	-3.12%	-2.01%	0.03%	-0.90%	4.92%	6.26%	-0.17%	-1.36%	1.19%	2.21%	0.05%																	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT2 (SHEET 1 OF 3)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/058



PLAN

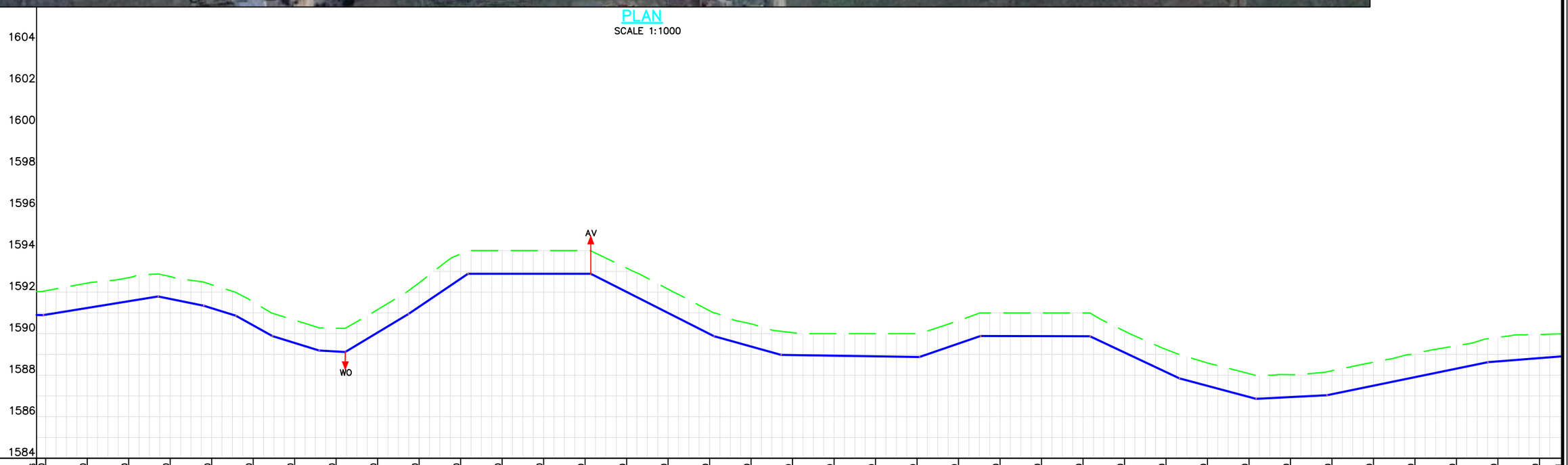
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+471
GROUND LEVELS (Masl)	1592.02	1592.07	1592.44	1592.70	1592.75	1592.36	1591.53	1590.65	1590.26	1591.16	1592.45	1593.84	1594.00	1594.00	1594.00	1593.16	1592.14	1591.10	1590.47	1590.05	1590.00	1590.00	1590.00	1590.63	1591.00	1591.00	1591.00	1590.12	1589.24	1588.59	1588.08	1588.02	1588.22	1588.62	1589.04	1589.42	1589.82	1589.96	1590.00
INVERT LEVELS (Masl)	1590.90	1590.92	1591.24	1591.56	1591.68	1591.23	1590.40	1589.55	1589.14	1590.06	1591.30	1592.65	1592.88	1592.88	1592.88	1592.01	1591.00	1589.99	1589.38	1588.97	1588.94	1588.91	1588.88	1589.52	1589.88	1589.88	1589.87	1589.09	1588.15	1587.49	1586.95	1586.94	1587.08	1587.50	1587.91	1588.32	1588.67	1588.82	1588.91
EXCAVATION DEPTH (m)	1.13	1.15	1.20	1.14	1.07	1.13	1.13	1.10	1.11	1.10	1.15	1.19	1.12	1.12	1.12	1.15	1.15	1.12	1.09	1.08	1.06	1.09	1.12	1.10	1.12	1.12	1.13	1.03	1.09	1.10	1.13	1.08	1.13	1.13	1.13	1.10	1.15	1.14	1.09
SIZE/TYPE OF PIPE & HGL	HDPE OD90																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	-0.05%	1.62%	-2.03%	-3.12%	-5.56%	-3.09%	0.57%	6.01%	6.75%	-0.00%	-5.06%	-2.79%	-0.15%	3.43%	-0.02%	-4.70%	-2.68%	0.52%	2.05%	0.78%																			

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT2 (SHEET 2 OF 3)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/059



Sheet 2
CH 1471.165m

NOTES:-

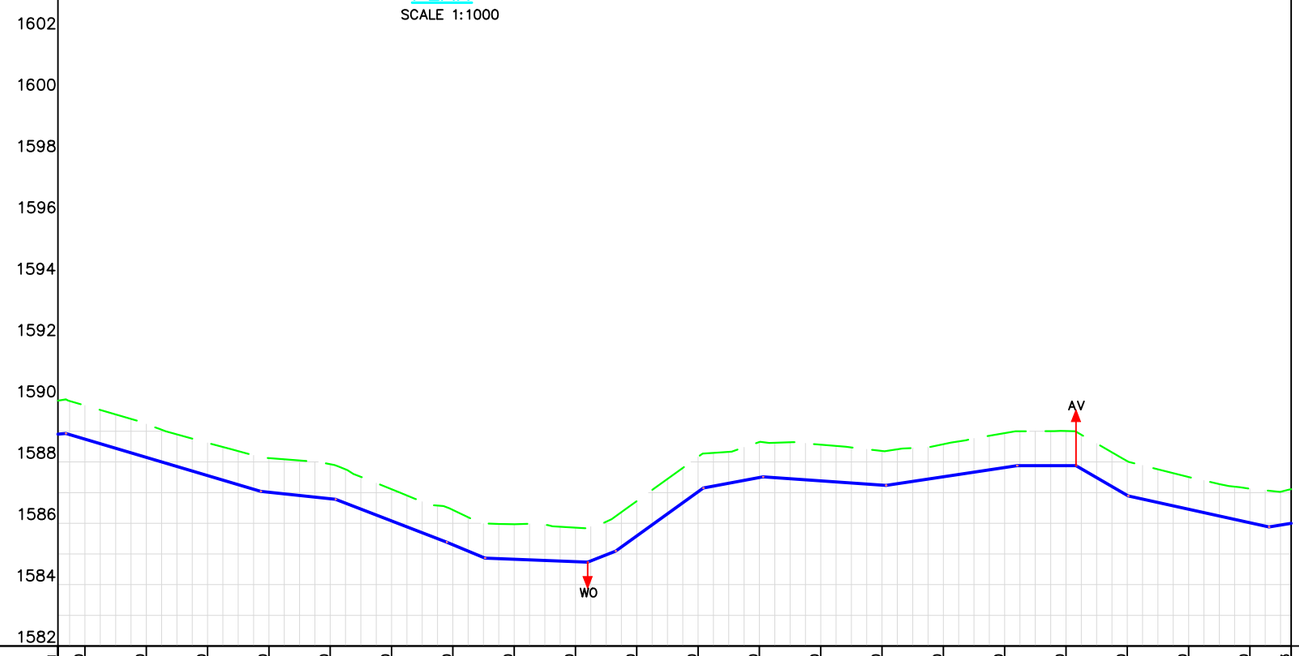
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	1+471	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+873
GROUND LEVELS (Masl)	1590.00	1589.84	1589.23	1588.62	1588.13	1587.93	1587.11	1586.44	1585.97	1585.86	1586.72	1588.17	1588.65	1588.56	1588.36	1588.58	1588.94	1589.01	1588.03	1587.51	1587.13	1587.11
INVERT LEVELS (Masl)	1588.91	1588.74	1588.15	1587.56	1587.01	1586.80	1586.08	1585.30	1584.83	1584.75	1585.59	1587.03	1587.49	1587.38	1587.24	1587.52	1587.82	1587.88	1586.91	1586.46	1586.02	1586.00
EXCAVATION DEPTH (m)	1.09	1.10	1.09	1.06	1.11	1.13	1.04	1.13	1.14	1.11	1.14	1.14	1.16	1.18	1.12	1.06	1.12	1.13	1.12	1.05	1.11	1.11
SIZE/TYPE OF PIPE & HGL	HDPE OD90																					
PIPE FITTINGS	AS PER STANDARD DRAWING																					
SLOPE (%)	0.01%	-2.97%		-1.06%	-3.85%		-4.15%	-0.40%	3.95%	7.19%	1.87%	-0.70%		1.51%	-0.01%	-5.78%		-2.20%		-1.63%		

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT2 (SHEET 3 OF 3)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/060



PLAN

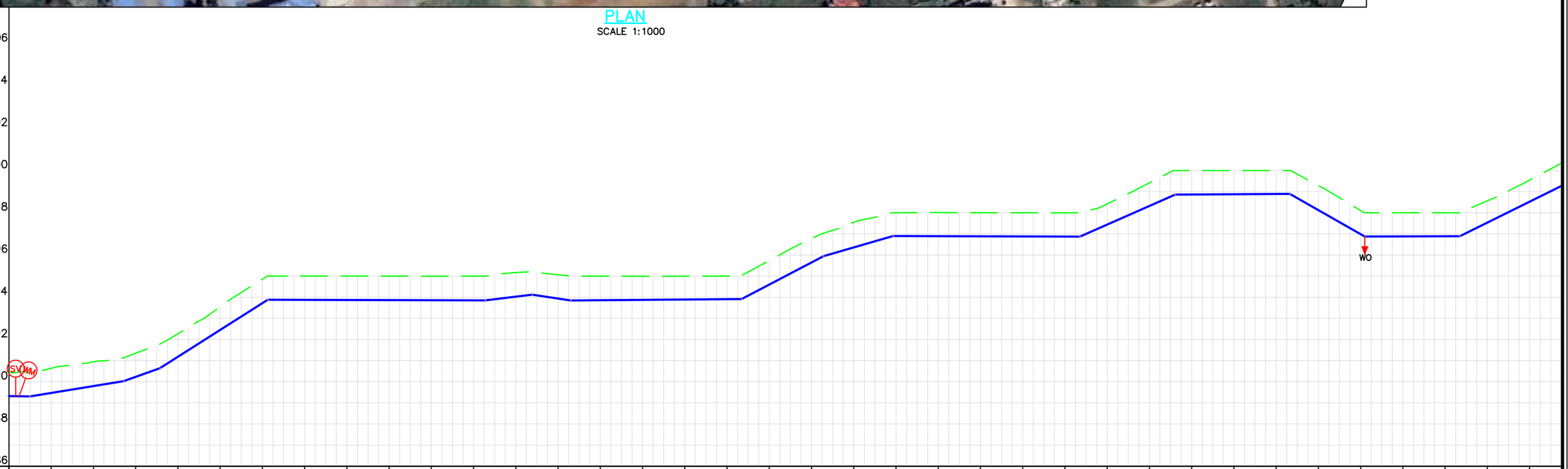
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1590.43	1590.64	1590.95	1591.35	1592.27	1593.55	1594.86	1595.00	1595.00	1595.00	1595.00	1595.00	1595.17	1595.07	1595.00	1595.00	1595.00	1595.00	1595.74	1596.78	1597.55	1598.00	1598.01	1598.00	1598.00	1598.00	1598.42	1599.42	1600.00	1600.00	1600.00	1599.29	1598.10	1598.00	1598.00	1598.56	1599.55	1600.39
INVERT LEVELS (Masl)	1589.32	1589.47	1589.79	1590.23	1591.18	1592.45	1593.72	1593.88	1593.87	1593.86	1593.86	1593.85	1594.03	1593.94	1593.86	1593.88	1593.89	1593.91	1594.60	1595.65	1596.36	1596.90	1596.89	1596.89	1596.88	1596.87	1597.44	1598.32	1598.86	1598.88	1598.89	1598.12	1596.98	1596.88	1596.89	1597.53	1598.52	1599.29
EXCAVATION DEPTH (m)	1.11	1.17	1.15	1.12	1.09	1.10	1.14	1.13	1.13	1.13	1.14	1.15	1.14	1.13	1.14	1.12	1.10	1.09	1.14	1.13	1.19	1.10	1.12	1.12	1.12	1.12	0.98	1.09	1.14	1.12	1.11	1.16	1.12	1.12	1.11	1.03	1.02	1.10
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-0.14%	1.62%	3.57%	6.36%	-0.03%								1.22%	-1.49%	0.08%				5.24%	2.90%	-0.04%					4.41%	0.06%	-5.69%	0.04%	4.95%							

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; MAKUENI

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT3 (SHEET 1 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/061



PLAN

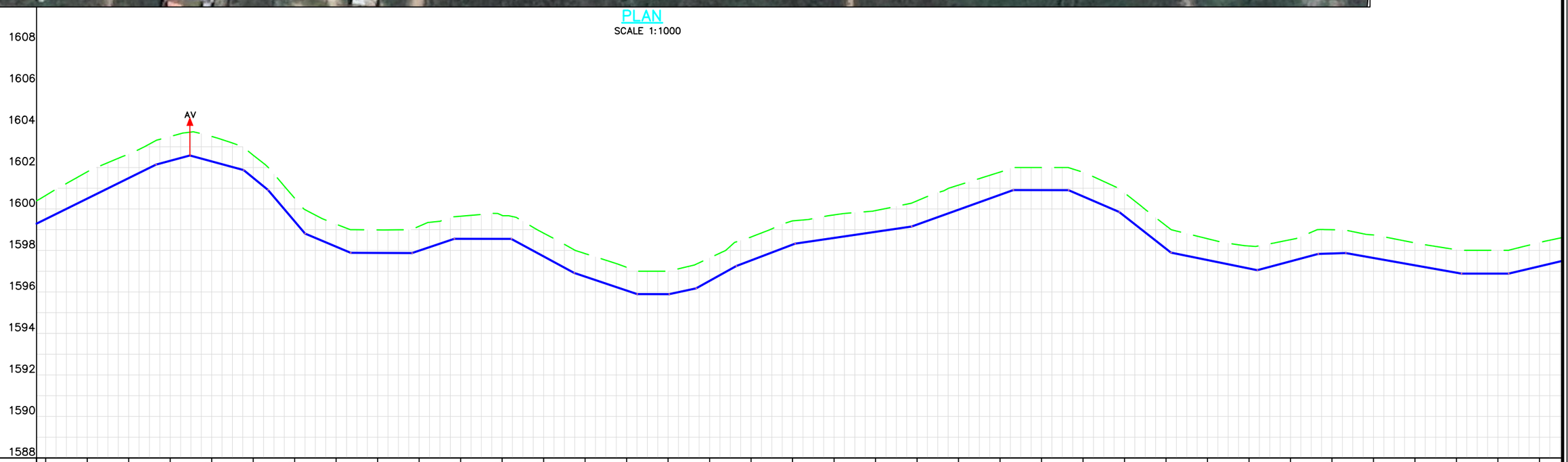
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	0+736	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+471
GROUND LEVELS (Masl)	1600.39	1600.65	1601.79	1602.64	1603.49	1603.50	1602.59	1600.52	1599.27	1598.99	1599.17	1599.65	1599.69	1598.83	1597.85	1597.19	1597.00	1597.64	1598.65	1599.43	1599.71	1599.93	1600.39	1601.15	1601.78	1602.00	1601.76	1600.77	1599.20	1598.57	1598.21	1598.52	1599.00	1598.75	1598.36	1598.04	1598.01	1598.38	1598.62
INVERT LEVELS (Masl)	1599.29	1599.51	1600.50	1601.49	1602.32	1602.29	1601.50	1599.40	1598.18	1597.88	1597.99	1598.56	1598.56	1597.71	1596.74	1596.07	1595.90	1596.53	1597.52	1598.28	1598.60	1598.90	1599.25	1599.97	1600.68	1600.91	1600.60	1599.65	1598.09	1597.54	1597.13	1597.48	1597.86	1597.64	1597.28	1596.93	1596.88	1597.24	1597.50
EXCAVATION DEPTH (m)	1.10	1.14	1.29	1.16	1.17	1.20	1.09	1.11	1.09	1.11	1.18	1.09	1.13	1.12	1.11	1.12	1.10	1.10	1.13	1.14	1.11	1.03	1.15	1.18	1.09	1.09	1.16	1.12	1.11	1.03	1.08	1.04	1.14	1.11	1.08	1.11	1.12	1.14	1.12
SIZE/TYPE OF PIPE & HGL	HDPE OD110																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	4.95%		2.68%	-2.72%	8.14%	-11.78%	-4.22%	-0.04%	3.37%	-0.02%	-5.41%	-3.36%	-0.02%	2.14%	5.57%	3.80%	1.47%	3.59%	-0.03%	-4.29%	-7.84%	-2.04%	2.68%	0.31%	-1.78%	0.00%	2.37%												

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

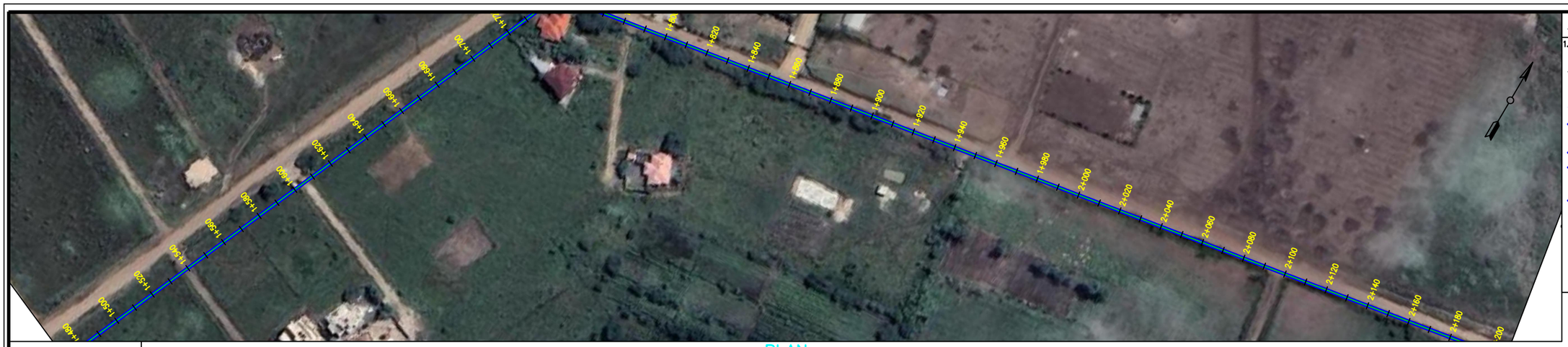
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT3 (SHEET 2 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/062



PLAN

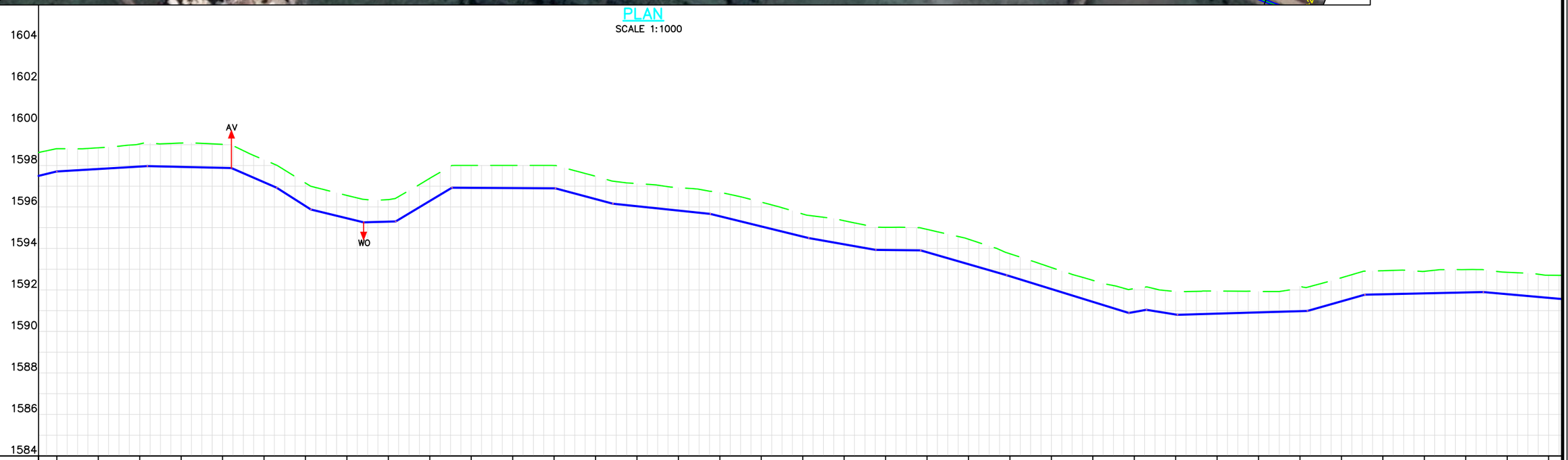
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	1+471	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+207
GROUND LEVELS (Masl)	1598.62	1598.81	1598.85	1599.04	1599.08	1599.02	1598.27	1597.15	1596.55	1596.36	1597.38	1598.00	1598.00	1598.00	1597.48	1597.13	1596.93	1596.70	1596.23	1595.66	1595.34	1595.02	1594.92	1594.45	1593.74	1593.08	1592.46	1592.06	1591.91	1591.94	1591.93	1592.18	1592.59	1592.93	1592.90	1592.98	1592.85	1592.71	1592.70
INVERT LEVELS (Masl)	1597.50	1597.71	1597.83	1597.95	1597.93	1597.89	1597.19	1596.04	1595.46	1595.29	1596.29	1596.92	1596.91	1596.90	1596.38	1596.04	1595.83	1595.55	1595.06	1594.57	1594.20	1593.93	1593.82	1593.24	1592.66	1592.04	1591.43	1590.94	1590.82	1590.86	1590.92	1590.98	1591.45	1591.79	1591.83	1591.88	1591.79	1591.62	1591.57
EXCAVATION DEPTH (m)	1.12	1.10	1.02	1.09	1.15	1.13	1.08	1.11	1.10	1.06	1.09	1.08	1.09	1.10	1.10	1.09	1.11	1.15	1.17	1.09	1.14	1.09	1.10	1.20	1.08	1.04	1.03	1.13	1.09	1.08	1.01	1.20	1.13	1.14	1.06	1.10	1.06	1.09	1.13
SIZE/TYPE OF PIPE & HGL	HDPE OD110																			HDPE OD90																				
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	2.37%	0.59%	-0.22%	-4.35%	-6.35%	-2.42%	0.26%	6.00%	-0.06%	-2.67%	-1.05%	-2.45%	-1.76%	-0.10%	-2.89%	-3.09%	1.78%	-1.59%	0.30%	2.83%	0.22%	-0.86%	0.9																

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT3 (SHEET 3 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/063



PLAN

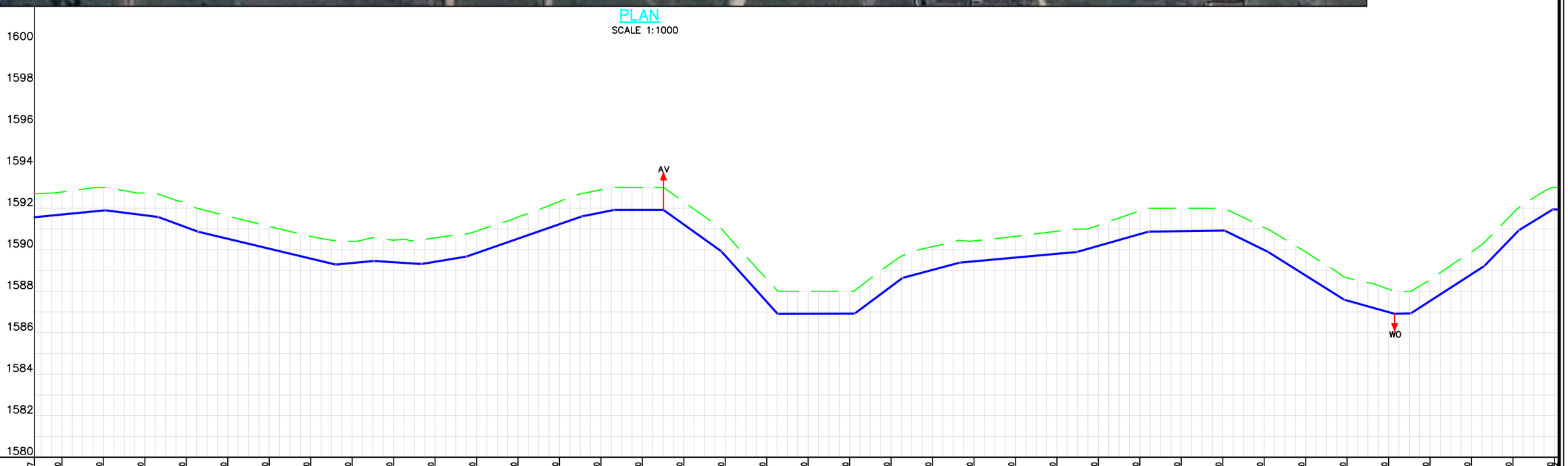
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	2+207	2+220	2+240	2+260	2+280	2+300	2+320	2+340	2+360	2+380	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940
GROUND LEVELS (Masl)	1592.70	1592.79	1593.00	1592.73	1592.24	1591.62	1591.12	1590.65	1590.40	1590.47	1590.58	1590.89	1591.58	1592.33	1592.89	1593.00	1592.31	1590.80	1588.59	1588.00	1588.00	1589.35	1590.15	1590.43	1590.65	1590.89	1591.18	1591.87	1592.00	1592.00	1591.07	1589.89	1588.65	1588.10	1588.55	1589.89	1591.77	1593.00	1593.88
INVERT LEVELS (Masl)	1591.57	1591.70	1591.89	1591.66	1591.08	1590.53	1590.05	1589.57	1589.36	1589.40	1589.42	1589.84	1590.54	1591.23	1591.79	1591.92	1591.22	1589.72	1587.49	1586.91	1586.92	1588.23	1589.03	1589.44	1589.62	1589.81	1590.19	1590.76	1590.90	1590.92	1589.99	1588.76	1587.55	1587.00	1587.53	1588.82	1590.65	1591.94	1591.94
EXCAVATION DEPTH (m)	1.13	1.09	1.11	1.07	1.16	1.09	1.07	1.07	1.04	1.06	1.16	1.05	1.04	1.10	1.09	1.08	1.09	1.09	1.10	1.09	1.08	1.12	1.12	0.98	1.02	1.09	0.99	1.12	1.10	1.08	1.08	1.13	1.10	1.10	1.01	1.07	1.12	1.06	1.06
SIZE/TYPE OF PIPE & HGL	HDPE OD90																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	0.98%	−1.26%	−3.70%	−2.38%	0.94%	−0.66%	1.66%	3.48%	2.00%	0.00%	−7.15%	−11.11%	0.03%	7.46%	2.67%	0.91%	2.84%	0.13%	−4.89%	−6.28%	−2.79%	0.28%	6.44%	10.35%	6.10%	0.0

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANCAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT3 (SHEET 4 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/064



Sheet 4
CH 2942.329m

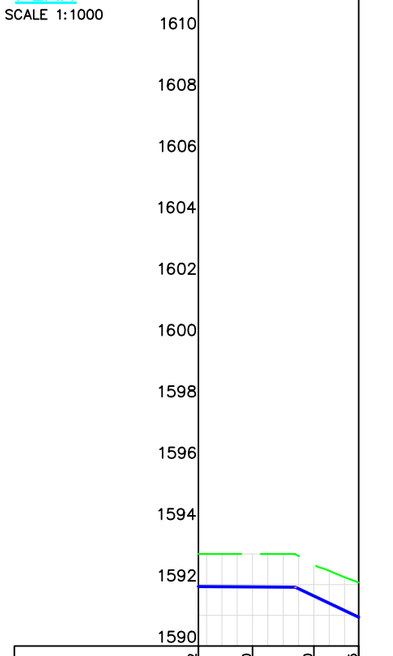
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN
SCALE 1:1000



CHAINAGE (Km+m)	2+942	2+960	2+980	2+995
GROUND LEVELS (Masl)	1593.00	1593.00	1592.65	1592.06
INVERT LEVELS (Masl)	1591.94	1591.93	1591.63	1590.94
EXCAVATION DEPTH (m)	1.06	1.07	1.03	1.13
SIZE/TYPE OF PIPE & HGL		HDPE OD90		
PIPE FITTINGS		AS PER STANDARD DRAWING		
SLOPE (%)		-0.07%	-4.74%	

PROFILE
SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE - KAT3 (SHEET 5 OF 5)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/065



PLAN

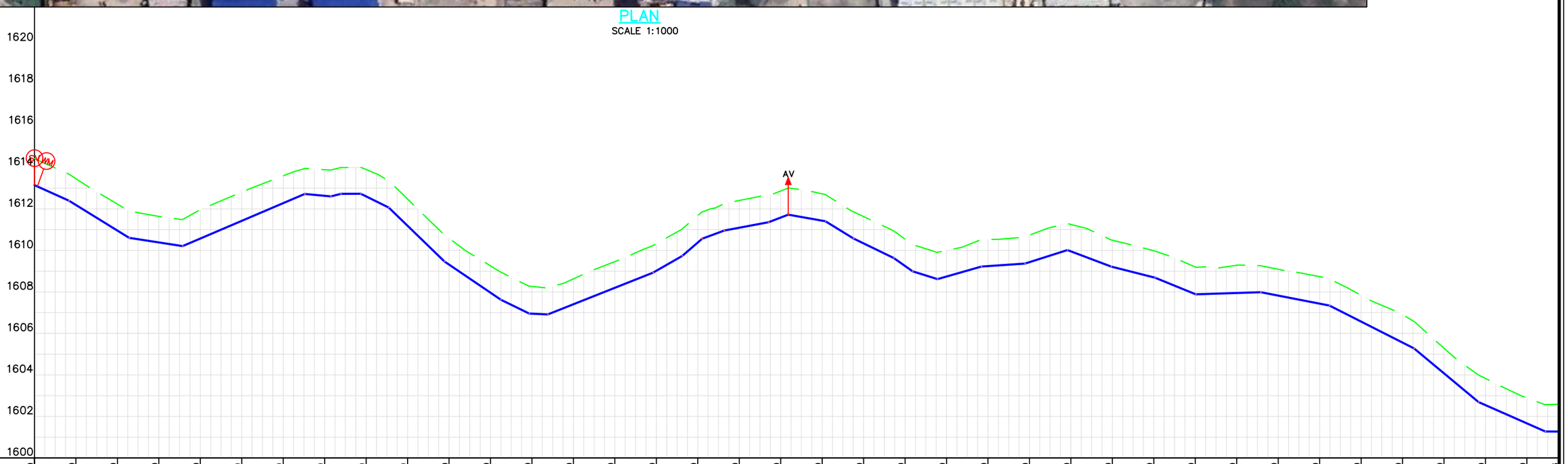
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1614.43	1613.46	1612.23	1611.64	1611.96	1612.82	1613.60	1613.89	1613.90	1612.48	1610.59	1609.26	1608.27	1608.63	1609.46	1610.33	1611.68	1612.41	1612.87	1612.73	1611.63	1610.54	1610.00	1610.52	1610.74	1611.25	1610.50	1609.99	1609.20	1609.29	1609.10	1608.74	1607.84	1606.91	1605.29	1603.83	1602.89	1602.58
INVERT LEVELS (Masl)	1613.15	1612.19	1610.96	1610.39	1610.57	1611.43	1612.28	1612.63	1612.61	1611.19	1609.32	1607.96	1606.95	1607.41	1608.20	1609.02	1610.38	1611.09	1611.59	1611.44	1610.34	1609.25	1608.74	1609.25	1609.43	1609.96	1609.21	1608.70	1607.89	1607.95	1607.82	1607.43	1606.57	1605.56	1604.08	1602.55	1601.67	1601.27
EXCAVATION DEPTH (m)	1.28	1.26	1.28	1.26	1.39	1.39	1.32	1.26	1.30	1.29	1.28	1.29	1.31	1.22	1.26	1.31	1.30	1.31	1.28	1.29	1.29	1.29	1.26	1.28	1.31	1.30	1.29	1.29	1.31	1.34	1.27	1.31	1.27	1.35	1.21	1.28	1.22	1.31
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)		-4.50%	-6.17%	-1.55%	4.27%	-0.93%	5.71%	8.05%	4.92%	-9.67%	-6.78%	-4.85%	0.49%	3.97%	5.72%	8.64%	3.71%	1.88%	3.86%	-1.77%	-6.14%	-4.85%	-2.07%	3.12%	2.86%	0.67%	3.20%	-3.78%	-2.55%	-4.07%	0.33%	-1.95%	-5.05%	-8.32%	-4.40%	-8.04%		

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 1 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/066



NOTES:-

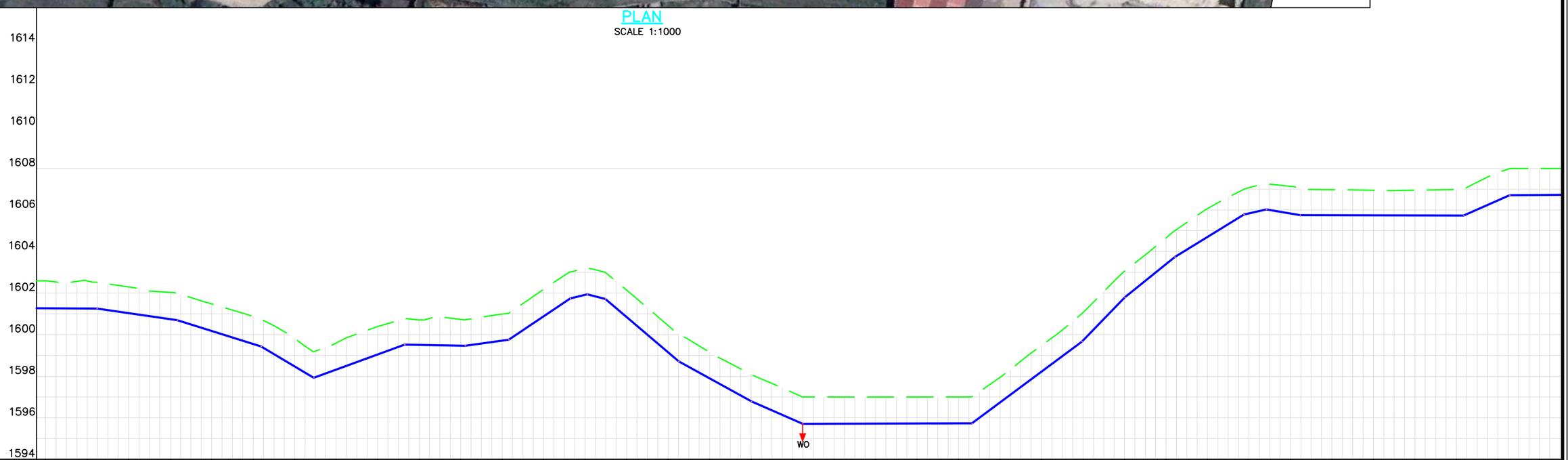
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WASHOUT
- WO – NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+736	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+471
GROUND LEVELS (Masl)	1602.58	1602.59	1602.58	1602.29	1602.04	1601.48	1600.87	1599.81	1599.60	1600.39	1600.71	1600.74	1600.99	1602.18	1603.19	1602.14	1600.44	1599.15	1598.09	1597.22	1597.00	1597.00	1597.00	1597.00	1597.94	1599.48	1601.06	1603.05	1604.66	1606.07	1607.08	1607.14	1606.98	1606.95	1606.95	1606.99	1607.80	1608.00	1608.00
INVERT LEVELS (Masl)	1601.27	1601.27	1601.26	1601.03	1600.75	1600.18	1599.55	1598.47	1598.32	1599.04	1599.51	1599.47	1599.71	1600.88	1601.92	1600.85	1599.15	1597.90	1596.80	1595.92	1595.71	1595.72	1595.72	1595.73	1596.74	1598.22	1599.72	1601.78	1603.39	1604.70	1605.83	1605.83	1605.75	1605.74	1605.74	1605.73	1606.46	1606.72	1606.73
EXCAVATION DEPTH (m)	1.31	1.32	1.33	1.26	1.29	1.30	1.32	1.34	1.28	1.34	1.21	1.27	1.28	1.30	1.28	1.29	1.29	1.26	1.30	1.30	1.28	1.28	1.27	1.27	1.21	1.26	1.35	1.28	1.26	1.37	1.24	1.31	1.23	1.21	1.21	1.26	1.34	1.28	1.27
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)		-0.06%		-1.44%		-3.13%		-5.95%		3.64%		-0.18%		1.38%		6.70%	2.45%	2.55%		-8.50%		-5.49%		-4.37%		0.02%		7.41%		10.31%		8.06%		6.13%		2.28%		1.69%		-0.02%		4.41%		0.06%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; MARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

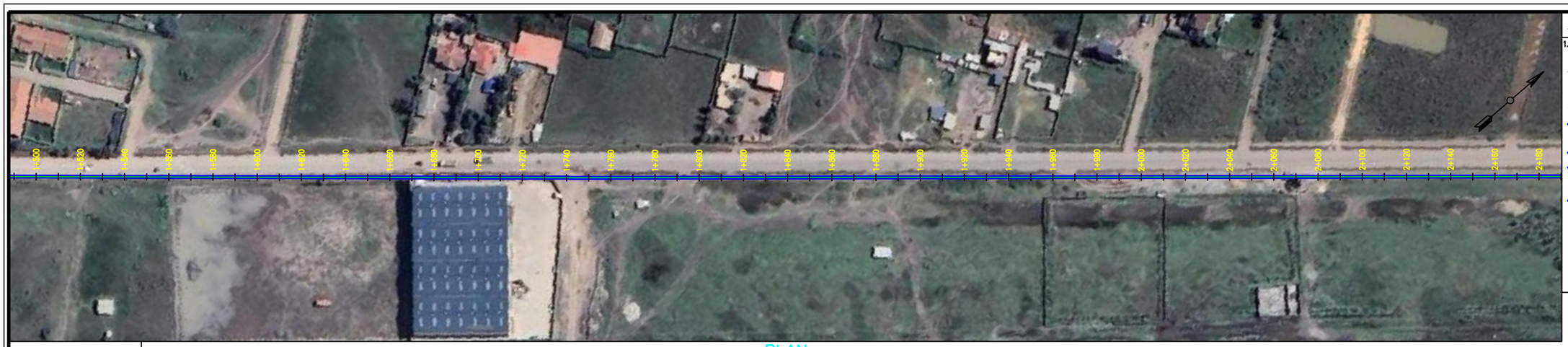
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 2 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/067



PLAN

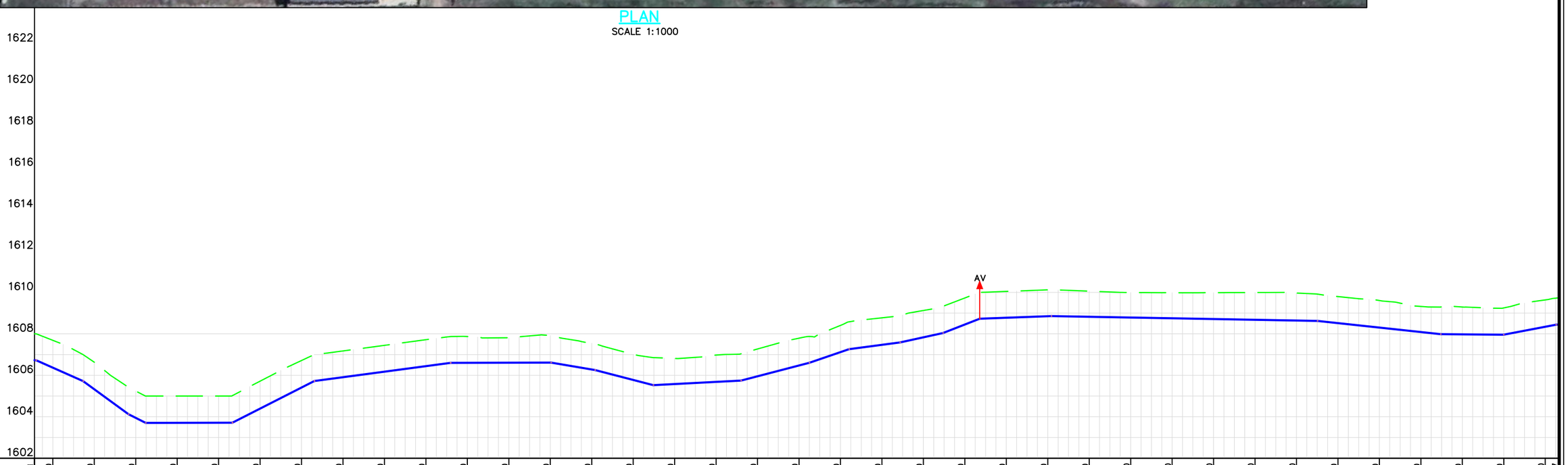
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	1+471	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160	2+180	2+200	2+207
GROUND LEVELS (Masl)	1608.00	1607.69	1606.63	1605.24	1605.00	1605.00	1605.72	1606.71	1607.18	1607.45	1607.72	1607.87	1607.81	1607.92	1607.55	1607.01	1606.82	1606.98	1607.27	1607.79	1608.41	1608.77	1609.13	1609.73	1610.05	1610.12	1610.06	1610.00	1609.99	1609.99	1609.99	1609.97	1609.80	1609.61	1609.32	1609.29	1609.25	1609.64	1609.74
INVERT LEVELS (Masl)	1606.73	1606.37	1605.33	1603.95	1603.71	1603.71	1604.39	1605.41	1605.91	1606.18	1606.44	1606.60	1606.61	1606.61	1606.28	1605.78	1605.58	1605.68	1605.95	1606.47	1607.12	1607.47	1607.83	1608.45	1608.78	1608.85	1608.82	1608.79	1608.75	1608.71	1608.68	1608.64	1608.52	1608.30	1608.09	1607.97	1607.96	1608.34	1608.45
EXCAVATION DEPTH (m)	1.27	1.32	1.30	1.29	1.29	1.29	1.32	1.30	1.27	1.27	1.27	1.27	1.20	1.30	1.27	1.23	1.24	1.29	1.32	1.32	1.29	1.30	1.29	1.28	1.27	1.27	1.24	1.21	1.23	1.27	1.32	1.32	1.28	1.31	1.24	1.32	1.29	1.30	1.29
SIZE/TYPE OF PIPE & HGL	HDPE OD315																																						
PIPE FITTINGS	AS PER STANDARD DRAWING																																						
SLOPE (%)	0.06%	-4.45%	-7.30%	-6.05%	0.02%	5.09%	1.33%	0.03%	-1.71%	-2.59%	0.51%	2.61%	3.44%	1.32%	2.20%	3.89%	0.36%	-0.18%	-1.08%	-0.09%	1.91%	0.3																	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 3 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/068



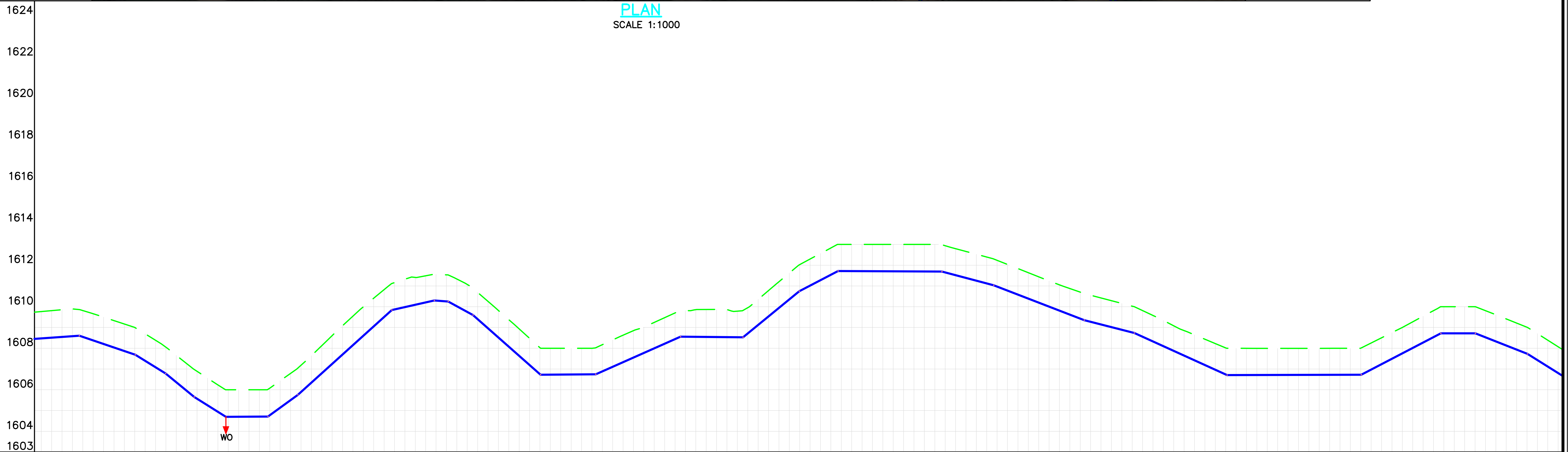
PLAN
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



CHAINAGE (Km+m)	GROUND LEVELS (Masl)	INVERT LEVELS (Masl)	EXCAVATION DEPTH (m)
2+207	1609.74	1608.45	1.29
2+220	1609.86	1608.55	1.31
2+240	1609.50	1608.21	1.29
2+260	1608.69	1607.39	1.30
2+280	1607.26	1605.95	1.31
2+300	1606.00	1604.70	1.30
2+320	1606.08	1604.78	1.30
2+340	1607.64	1606.34	1.29
2+360	1609.55	1608.15	1.40
2+380	1611.16	1609.87	1.29
2+400	1611.56	1610.30	1.26
2+420	1610.69	1609.40	1.29
2+440	1608.93	1607.64	1.30
2+460	1608.00	1606.73	1.27
2+480	1608.17	1606.88	1.29
2+500	1609.01	1607.77	1.24
2+520	1609.81	1608.55	1.26
2+540	1609.86	1608.54	1.33
2+560	1610.78	1609.53	1.25
2+580	1612.30	1611.02	1.28
2+600	1613.00	1611.72	1.28
2+620	1613.00	1611.71	1.29
2+640	1613.00	1611.70	1.30
2+660	1612.53	1611.25	1.28
2+680	1611.84	1610.58	1.26
2+700	1611.05	1609.81	1.24
2+720	1610.42	1609.15	1.28
2+740	1609.81	1608.55	1.26
2+760	1608.85	1607.64	1.20
2+780	1608.02	1606.74	1.28
2+800	1608.00	1606.71	1.28
2+820	1607.99	1606.72	1.28
2+840	1608.00	1606.72	1.28
2+860	1608.75	1607.49	1.26
2+880	1609.81	1608.53	1.28
2+900	1610.00	1608.72	1.28
2+920	1609.21	1607.93	1.28
2+940	1608.07	1606.80	1.27
2+947	1607.93	1606.66	1.27

SIZE/TYPE OF PIPE & HGL: HDPE OD315 (2+207 – 2+860); HDPE OD250 (2+860 – end)

PIPE FITTINGS: AS PER STANDARD DRAWING

SLOPE (%): 0.71% | −3.42% | −6.19% | −8.21% | −6.27% | 0.08% | 7.26% | 9.03% | 2.26% | 0.75% | −5.47% | −8.84% | 0.08% | 4.44% | −0.10% | 8.20% | 5.21% | −0.05% | −2.66% | −3.85% | −2.57% | −4.54% | 0.03% | 5.20% | 0.02% | −3.96% | −6.25%

SCALES HOR 1:1000 AND VERT 1:100

PROFILE

Client/Employer:	Financier:	Consultants:	Contractor:
ATHI WATER WORKS	AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT	egis / Losai	

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 4 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/069



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000

CHAINAGE (Km+m)	2+940	2+960	2+980	3+000	3+020	3+040	3+060	3+080	3+100	3+120	3+140	3+160	3+180	3+200	3+220	3+240	3+260	3+280	3+300	3+320	3+340	3+360	3+380	3+400	3+420	3+440	3+460	3+480	3+500	3+520	3+540	3+560	3+580	3+600	3+620	3+640	3+660	3+678
GROUND LEVELS (Masl)	1607.93	1607.00	1607.00	1607.36	1608.04	1608.07	1608.00	1608.07	1608.01	1607.79	1607.36	1607.15	1607.14	1607.32	1607.81	1608.45	1609.09	1609.74	1610.30	1610.39	1610.00	1610.00	1611.40	1613.00	1613.00	1612.89	1612.11	1611.20	1610.30	1609.66	1609.22	1608.77	1608.18	1607.05	1607.00	1607.00	1607.00	1607.01
INVERT LEVELS (Masl)	1606.66	1605.72	1605.73	1606.05	1606.73	1606.77	1606.71	1606.79	1606.76	1606.52	1605.11	1605.82	1605.92	1606.02	1606.52	1607.15	1607.79	1608.43	1608.99	1609.11	1608.73	1608.73	1610.10	1611.72	1611.73	1611.63	1610.85	1609.95	1609.03	1608.42	1607.96	1607.51	1606.89	1605.76	1605.71	1605.71	1605.71	1605.71
EXCAVATION DEPTH (m)	1.27	1.28	1.27	1.32	1.31	1.30	1.29	1.28	1.25	1.26	1.25	1.33	1.22	1.30	1.29	1.29	1.30	1.31	1.31	1.28	1.27	1.27	1.30	1.28	1.27	1.26	1.26	1.26	1.27	1.24	1.25	1.26	1.29	1.29	1.29	1.29	1.29	1.30
SIZE/TYPE OF PIPE & HGL	HDPE OD250																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-0.05%	-5.20%	0.01%	3.43%	-0.30%	0.54%	-0.35%	-2.06%	0.49%	3.18%	1.67%	-0.58%	3.46%	0.02%	6.47%	9.53%	0.02%	-3.90%	-4.59%	-2.27%	-3.48%	-5.82%	0.01%															

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 5 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/070



Sheet 5
CH 3677.911m

PLAN

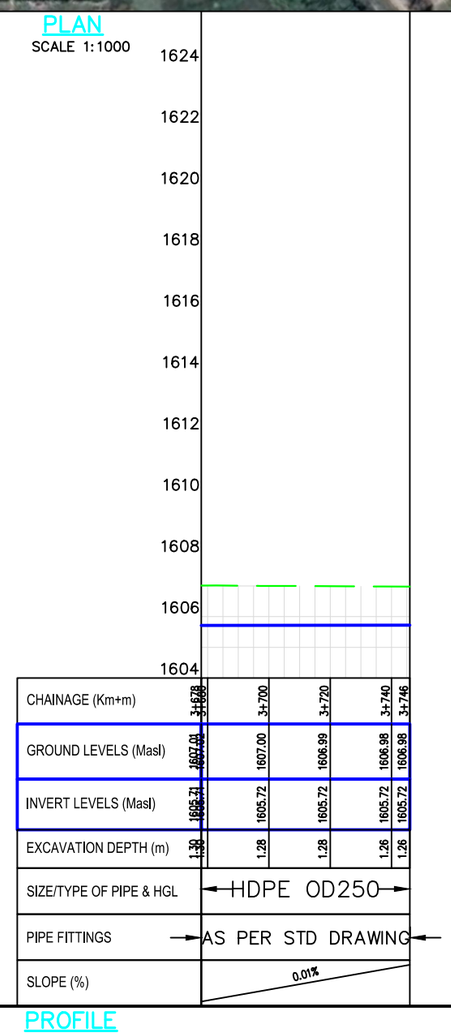
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



CHAINAGE (Km+m)	3+678	3+680	3+700	3+720	3+740	3+746
GROUND LEVELS (Masl)	1607.01	1607.00	1607.00	1606.99	1606.98	1606.98
INVERT LEVELS (Masl)	1605.71	1605.72	1605.72	1605.72	1605.72	1605.72
EXCAVATION DEPTH (m)	1.30	1.28	1.28	1.28	1.26	1.26
SIZE/TYPE OF PIPE & HGL	HDPE OD250					
PIPE FITTINGS	AS PER STD DRAWING					
SLOPE (%)	0.01%					

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: SYT4. (SHEET 6 OF 6)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/071



PLAN

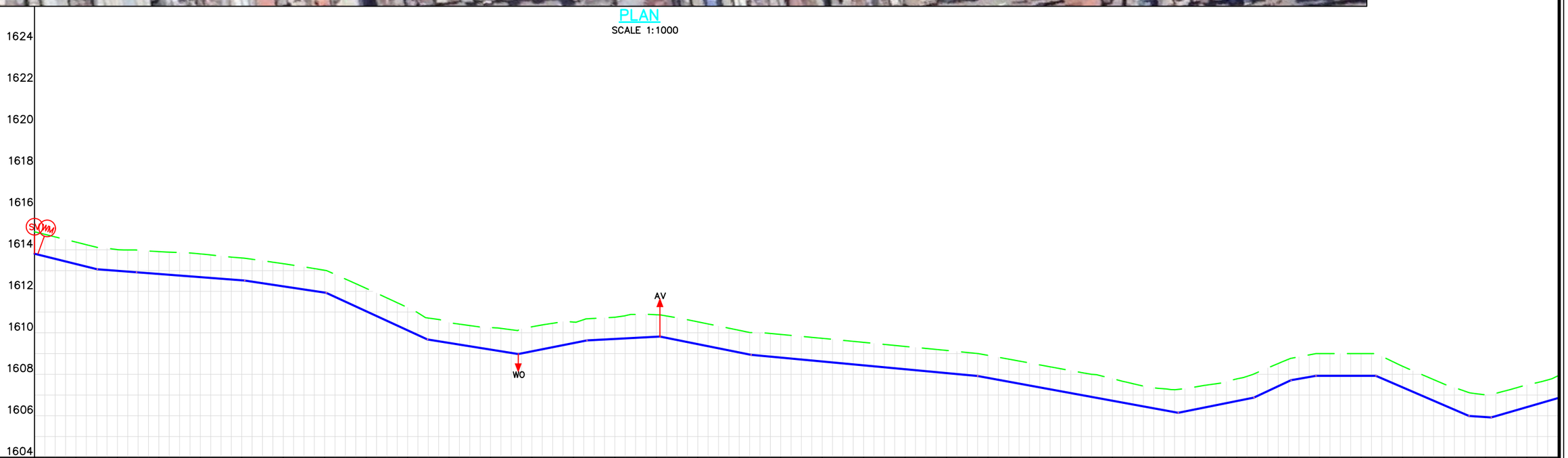
SCALE 1:1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WASHOUT
- WO – NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+736
GROUND LEVELS (Masl)	1614.87	1614.37	1614.01	1613.91	1613.80	1613.61	1613.33	1613.02	1612.14	1611.22	1610.49	1610.25	1610.29	1610.52	1610.75	1610.87	1610.53	1610.12	1609.92	1609.73	1609.54	1609.34	1609.15	1608.91	1608.55	1608.18	1607.79	1607.35	1607.39	1607.78	1608.52	1609.00	1609.00	1608.39	1607.53	1607.01	1607.49	1607.96
INVERT LEVELS (Masl)	1613.81	1613.32	1612.99	1612.84	1612.68	1612.53	1612.24	1611.94	1611.04	1610.12	1609.51	1609.19	1609.11	1609.50	1609.70	1609.81	1609.45	1609.05	1608.80	1608.62	1608.43	1608.24	1608.06	1607.83	1607.46	1607.09	1606.73	1606.36	1606.31	1606.71	1607.43	1607.93	1607.93	1607.37	1606.51	1605.94	1606.42	1606.87
EXCAVATION DEPTH (m)	1.06	1.06	1.02	1.08	1.12	1.08	1.09	1.08	1.10	1.09	0.98	1.06	1.18	1.01	1.05	1.06	1.08	1.07	1.12	1.12	1.11	1.10	1.09	1.09	1.09	1.09	1.06	0.99	1.08	1.07	1.09	1.07	1.07	1.01	1.02	1.07	1.07	1.09
SIZE/TYPE OF PIPE & HGL	STEEL OD200																																					
PIPE FITTINGS	AS PER STANDARD DRAWING																																					
SLOPE (%)	-2.47%	-0.76%	-0.76%	-1.51%	-4.60%	-1.61%	1.98%	0.53%	-2.01%	-0.93%	-1.83%	2.01%	4.67%	1.77%	0.00%	-4.30%	0.69%	2.89%																				

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: MML. (SHEET 1 OF 2)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/072



Sheet 1
CH 735.582m

NOTES:-

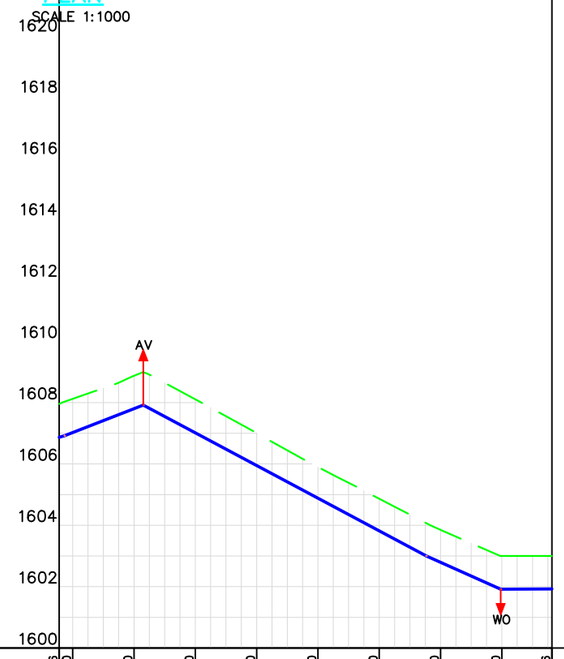
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+736	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+896
GROUND LEVELS (Masl)	1607.96	1608.12	1608.87	1608.11	1607.01	1605.90	1604.87	1603.85	1603.00	1603.00
INVERT LEVELS (Masl)	1606.87	1607.02	1607.80	1607.02	1605.95	1604.88	1603.82	1602.79	1601.92	1601.93
EXCAVATION DEPTH (m)	1.09	1.10	1.07	1.09	1.06	1.02	1.05	1.06	1.08	1.07
SIZE/TYPE OF PIPE & HGL	STEEL OD200									
PIPE FITTINGS	AS PER STANDARD DRAWING									
SLOPE (%)	2.19%	3.89%		-5.33%				-4.47%	0.05%	

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: BMM
DRAWN BY: MJY
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

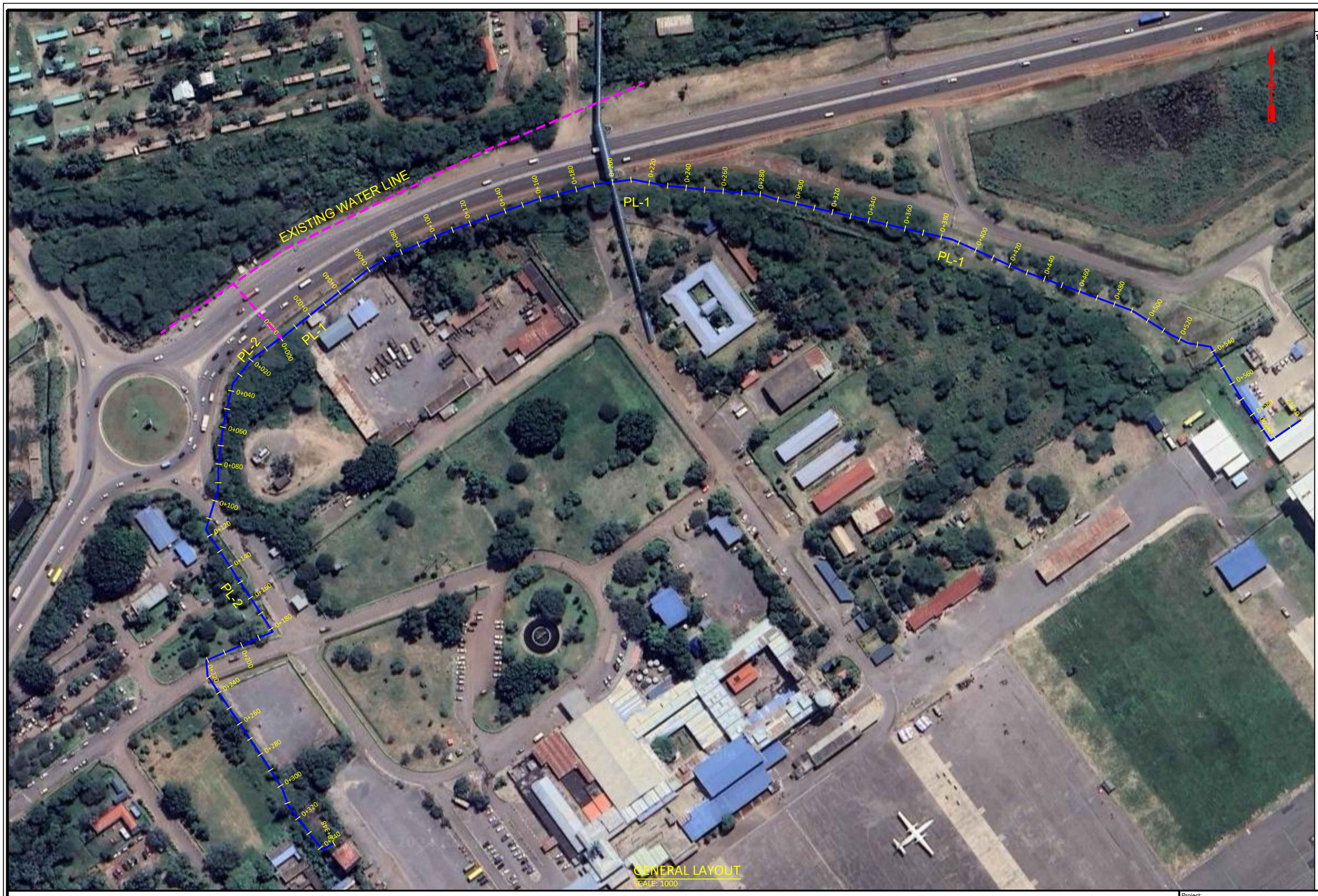
Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2
DESIGN REVIEW-SYOKIMAU

Drawing Title:
WATER TRANSMISSION LINE: MML. (SHEET 2 OF 2)

Date: NOV 2025

Drg. No.
NWSP/NCTLastMile/Lot2/Syokimau/073

EMBAKASI KDF



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING PIPELINE
- PROPOSED PIPELINE

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis, Losai

Revisions:		
REV.	DATE	REMARKS

Notes:

SURVEYED	BY: JM
DRAWN	BY: KN
CHECKED	BY: INT
APPROVED	BY: PM

SCALE: AS SHOWN (AT A1)

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2

Drawing Title: GENERAL LAYOUT
PROPOSED PIPELINE PL-1 & PL-2 (SHEET 1 OF 2)

Date: DEC 2025

Drg. No. NWSP/NCTLastMile/Lot 2/PL1 & PL2/GENERAL LAYOUT/01



GENERAL LAYOUT
SCALE: 1000

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING PIPELINE
- PROPOSED PIPELINE

Client/Employer: ATHI WATER WORKS

Financier: AFD

Consultants: egis, Losai

Revisions:		
REV.	DATE	REMARKS

Notes:

SURVEYED	BY: JM
DRAWN	BY: KN
CHECKED	BY: INT
APPROVED	BY: PM

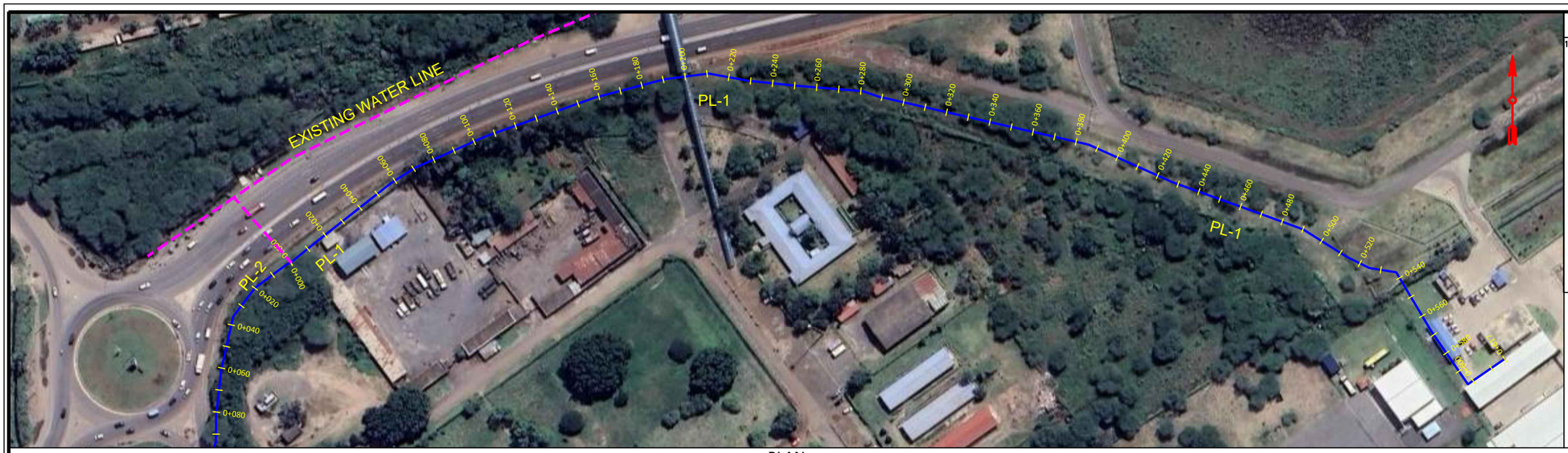
SCALE: AS SHOWN (AT A1)

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2

Drawing Title:
GENERAL LAYOUT
PROPOSED PIPELINE PL-3 (SHEET 1 OF 2)

Date: DEC 2025

Drg. No.
NWSP/NCTLastMile/Lot 2/PL1 & PL2/GENERAL LAYOUT/02



NOTES:-

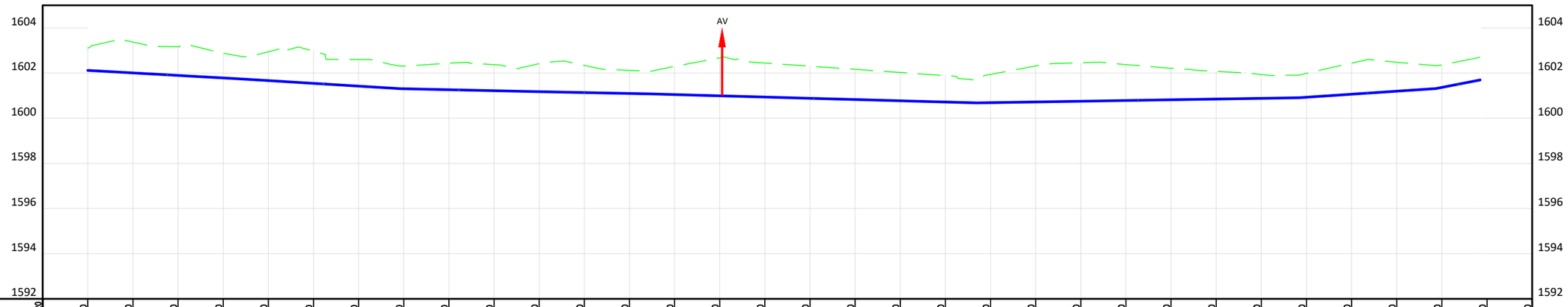
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640
GROUND LEVELS (Masl)	1603.12	1603.37	1603.17	1602.88	1602.94	1602.97	1602.60	1602.31	1602.44	1602.37	1602.42	1602.34	1602.12	1602.29	1602.67	1602.44	1602.30	1602.17	1602.03	1601.89	1601.94	1602.31	1602.46	1602.37	1602.21	1602.08	1601.94	1601.99	1602.44	1602.48	1602.36		
INVERT LEVELS (Masl)	1602.12	1602.01	1601.89	1601.78	1601.67	1601.54	1601.42	1601.30	1601.26	1601.22	1601.18	1601.14	1601.10	1601.05	1600.99	1600.94	1600.88	1600.83	1600.77	1600.72	1600.69	1600.72	1600.75	1600.79	1600.82	1600.85	1600.88	1600.93	1601.06	1601.20	1601.37		
EXCAVATION DEPTH (m)	1.00	1.37	1.27	1.09	1.27	1.43	1.18	1.01	1.18	1.15	1.24	1.20	1.02	1.25	1.68	1.51	1.42	1.34	1.25	1.17	1.26	1.59	1.70	1.59	1.40	1.23	1.05	1.06	1.38	1.28	1.00		
SIZE/TYPE OF PIPE & HGL	OD 110 (HDPE) PN16																																
PIPE FITTINGS/STRUCTURES	PRV	SV DN 100 WM DN 100														AV																	
SLOPE (%)	−0.56%		−0.61%		−0.21%		−0.20%		−0.28%			0.16%								0.67%			1.92%										

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

SURVEYED BY: JM
DRAWN BY: KN
CHECKED BY: INT
APPROVED BY: PM
SCALE: AS SHOWN (AT A1)

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS- LOT 2

Drawing Title: PROPOSED KDF PIPELINE PL-1 (SHEET 1 OF 3)

Date: DEC 2025

Drg. No. NWSP/NCTLastMILE/LOT 2/KDF/01



NOTES:-

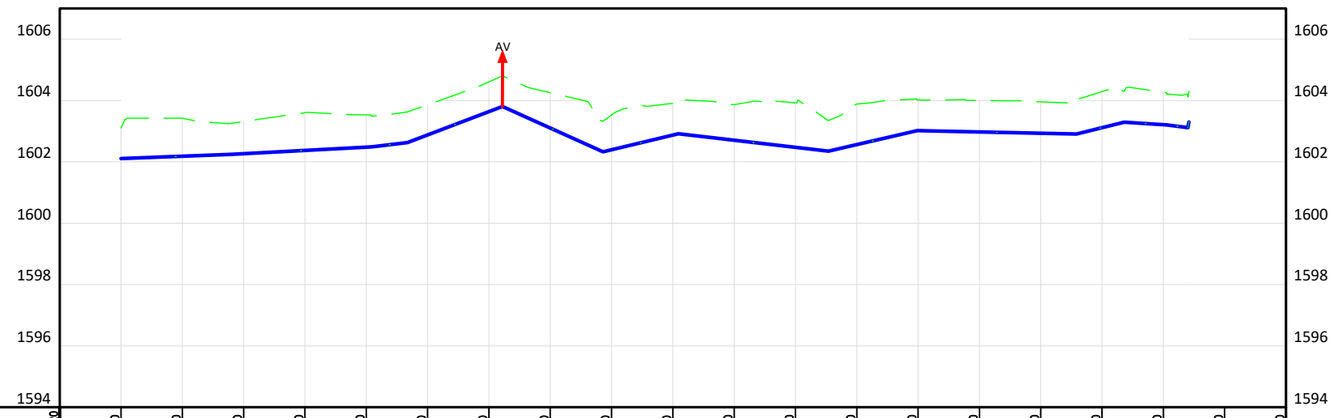
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	-0+020	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380
GROUND LEVELS (Masl)		1603.11	1603.42	1603.31	1603.60	1603.53	1603.86	1604.60	1604.25	1603.53	1603.90	1603.86	1603.92	1603.88	1604.01	1604.01	1603.95	1604.29	1604.27		
INVERT LEVELS (Masl)		1602.11	1602.18	1602.26	1602.37	1602.48	1602.88	1603.64	1603.10	1602.39	1602.87	1602.70	1602.47	1602.56	1603.01	1602.97	1602.93	1603.11	1603.21		
EXCAVATION DEPTH (m)		1.00	1.24	1.05	1.23	1.05	0.98	0.97	1.15	1.13	1.03	1.16	1.45	1.32	1.00	1.03	1.02	1.18	1.06		
SIZE/TYPE OF PIPE & HGL		OD 160 (HDPE) PN16																			
PIPE FITTINGS/STRUCTURES			PRV	SV DN 150 WM DN 150				AV													
SLOPE (%)			0.38%	0.54%	1.20%	3.79%	-4.51%	2.40%	-1.16%	2.31%	-0.21%	2.50%	0.65%	-2.60%							

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS

Financier: AFD Agence Française de Développement

Consultants: egis, Losai

Revisions:

REV.	DATE	REMARKS

Notes:

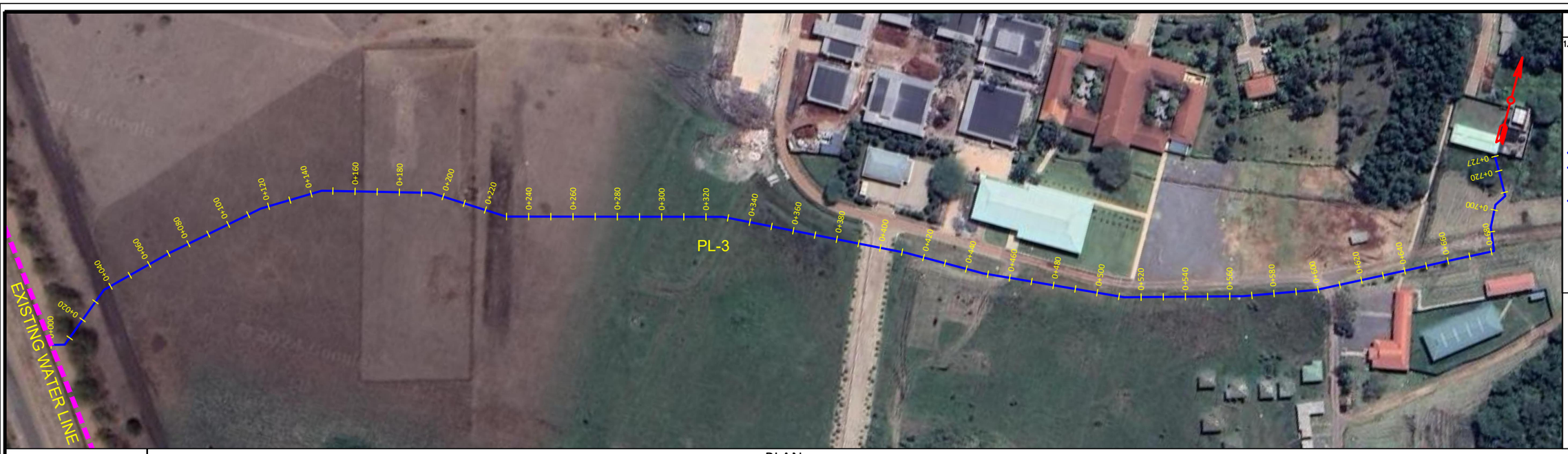
SURVEYED BY: JM
DRAWN BY: KN
CHECKED BY: INT
APPROVED BY: PM
SCALE: AS SHOWN (AT A1)

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS- LOT 2

Drawing Title: PROPOSED KDF PIPELINE PL-2 (SHEET 2 OF 3)

Date: DEC 2025

Drg. No. NWSP/NCTLastMILE/LOT 2/KDF/02



NOTES:-

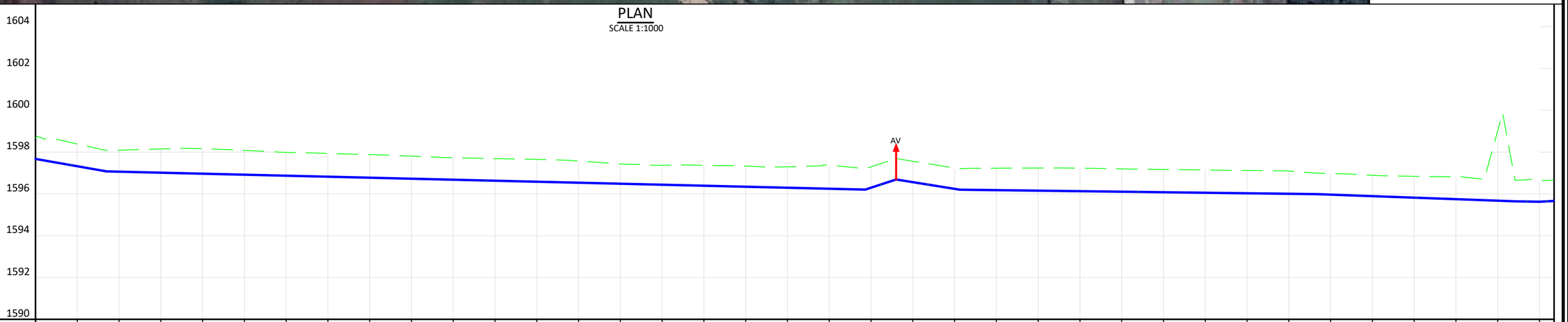
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WASHOUT
- WO – NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

PLAN

SCALE 1:1000



CHAINAGE (Km+m)	GROUND LEVELS (Masl)	INVERT LEVELS (Masl)	EXCAVATION DEPTH (m)
0+000	1598.67	1597.67	1.00
0+020	1598.39	1597.32	1.07
0+040	1598.08	1597.06	1.02
0+060	1598.15	1597.01	1.14
0+080	1598.16	1596.96	1.20
0+100	1598.08	1596.92	1.16
0+120	1597.99	1596.87	1.12
0+140	1597.93	1596.82	1.11
0+160	1597.88	1596.77	1.10
0+180	1597.80	1596.72	1.08
0+200	1597.73	1596.68	1.05
0+220	1597.69	1596.63	1.06
0+240	1597.65	1596.58	1.07
0+260	1597.57	1596.53	1.04
0+280	1597.43	1596.49	0.95
0+300	1597.37	1596.44	0.93
0+320	1597.37	1596.39	0.98
0+340	1597.33	1596.34	0.99
0+360	1597.29	1596.29	1.00
0+380	1597.37	1596.25	1.13
0+400	1597.30	1596.30	1.00
0+420	1597.56	1596.56	1.00
0+440	1597.23	1596.24	0.99
0+460	1597.23	1596.18	1.05
0+480	1597.24	1596.15	1.08
0+500	1597.23	1596.13	1.10
0+520	1597.20	1596.10	1.09
0+540	1597.17	1596.08	1.09
0+560	1597.14	1596.05	1.09
0+580	1597.12	1596.03	1.09
0+600	1597.10	1596.00	1.09
0+620	1596.97	1595.96	1.01
0+640	1596.89	1595.89	1.00
0+660	1596.84	1595.82	1.02
0+680	1596.82	1595.75	1.07
0+700	1599.02	1595.67	3.34
0+720	1596.63	1595.62	1.00
0+727			

SIZE/TYPE OF PIPE & HGL: OD 160 (HDPE) PN16

PIPE FITTINGS/STRUCTURES: PRV; SV DN 150 WM DN 150; AV

SLOPE (%): ~1.75%; ~0.24%; 3.27%; ~1.60%; ~0.13%; ~0.36%; ~0.17%; ~5.37%

PROFILE

SCALES HOR 1:1000 AND VERT 1:100

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD Agence Française de Développement

Consultants: egis; LOSAI

Revisions:		
REV.	DATE	REMARKS

Notes:

SURVEYED BY: JM
DRAWN BY: KN
CHECKED BY: INT
APPROVED BY: PM
SCALE: AS SHOWN (AT A1)

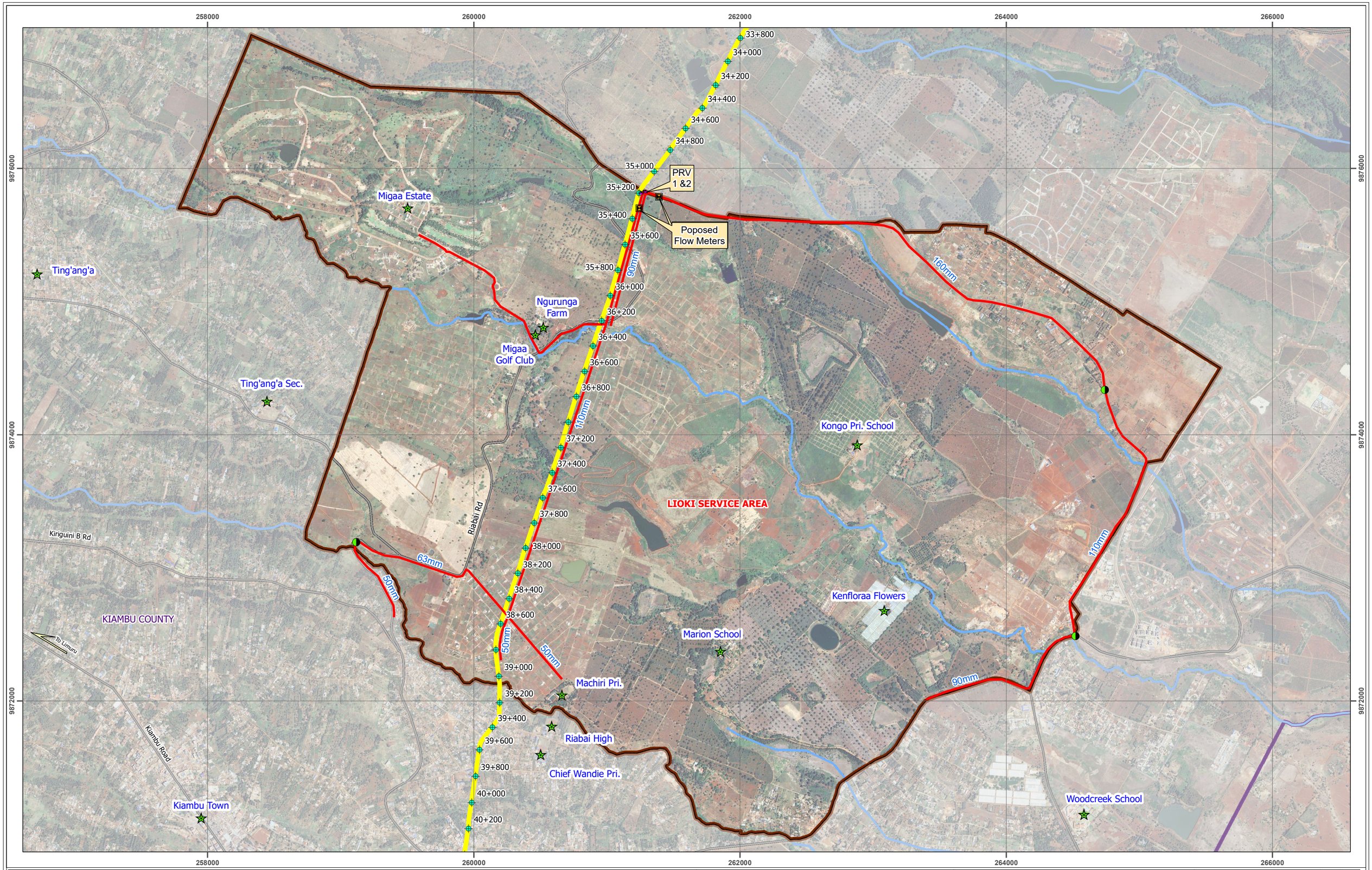
Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS- LOT 2

Drawing Title: PROPOSED KDF PIPELINE PL-3 (SHEET 3 OF 3)

Date: DEC 2025

Drg. No. NWSP/NCTLastMILE/LOT 2/KDF/03

THINDIGUA & LIOKI



Client

Financier:

Consultant:

Legend:

- Placemarks
- Rivers
- Major Roads
- Proposed Secondary Water Mains
- Change in Diameter
- Proposed Flow Meters
- Pressure Reducing Valve (PRV)
- NCT Bulk Pipeline
- Service Area Boundary
- County Boundary

Project Name:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS LOT 2

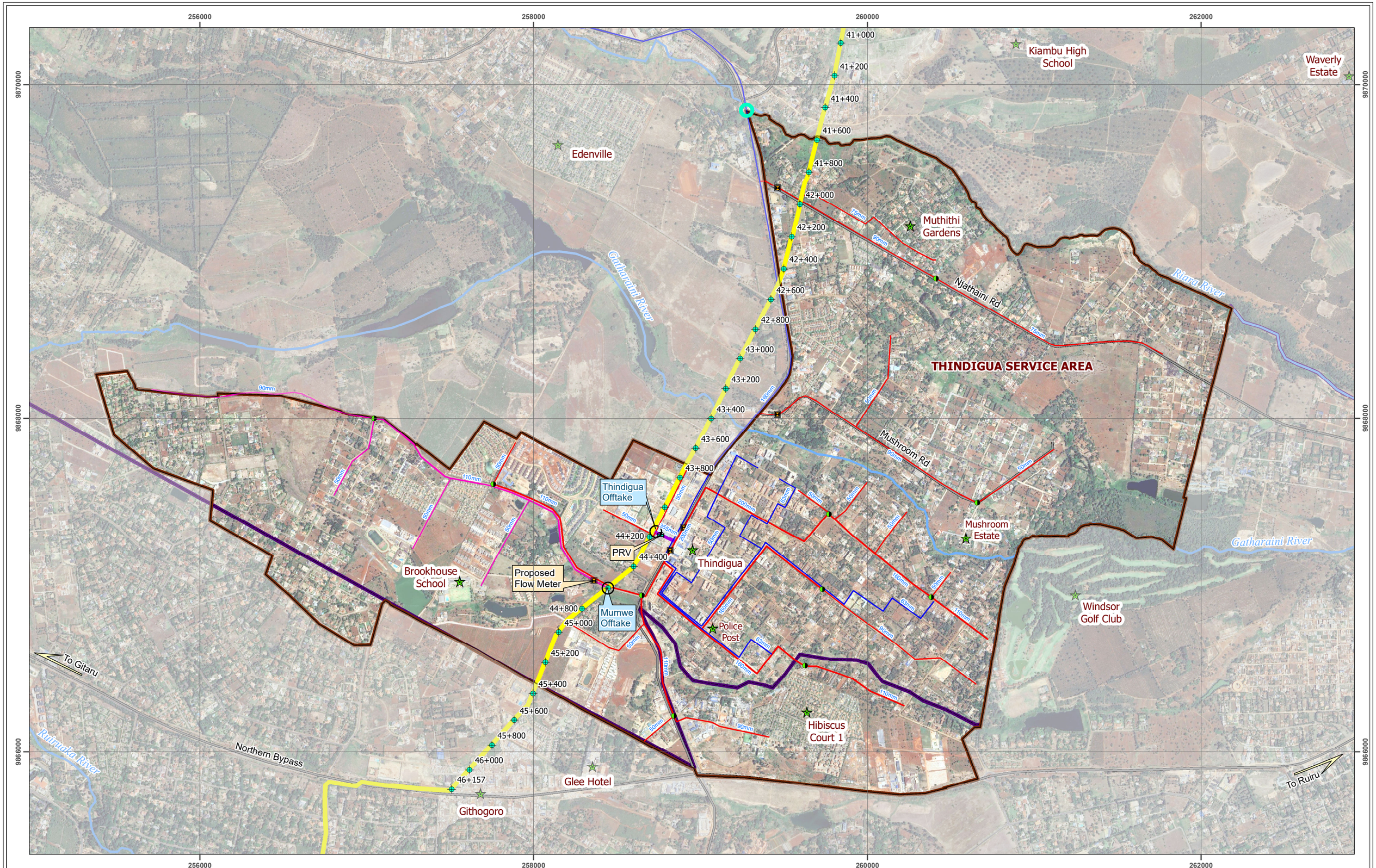
Drawing Title:

LAYOUT PLAN OF PROPOSED WATER NETWORK FOR LIOKI SERVICE AREA

LIOKI

Scale: AS SHOWN

0 0.25 0.5 1 Km



Client

Financier: AFD Agence Française de Développement

Consultant: egis

Legend:

- Placemarks
- Rivers
- Major Roads
- Existing Water Main
- Proposed Secondary Water Mains
- Change in Diameter
- Pressure Reducing Valve (PRV)
- Proposed Primary Water Main
- NCT Bulk Pipeline
- Service Area Boundary
- County Boundary

Project Name:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS LOT 2

Drawing Tittle:

LAYOUT PLAN OF EXISTING AND PROPOSED WATER NETWORK FOR THINDIGUA SERVICE AREA

THINDIGUA

Scale: AS SHOWN

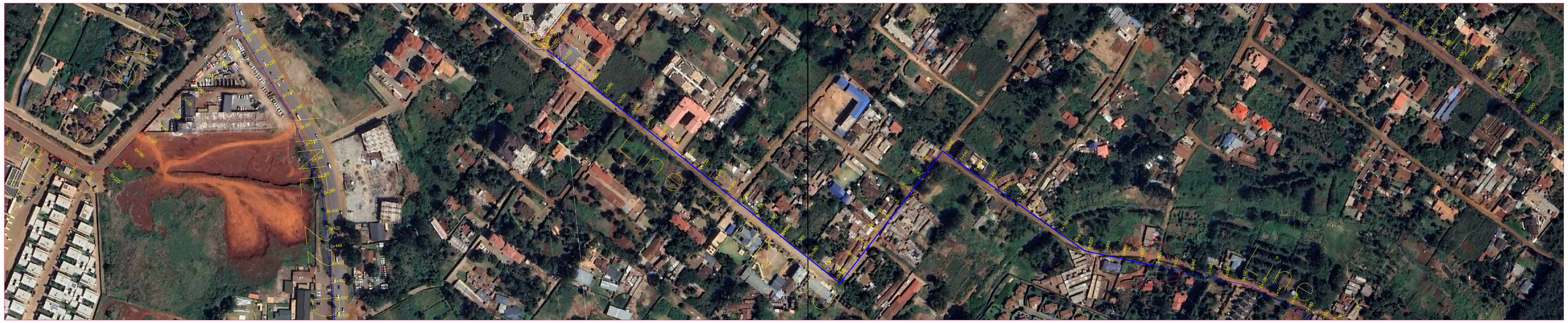
0 0.2 0.4 0.8 Km

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

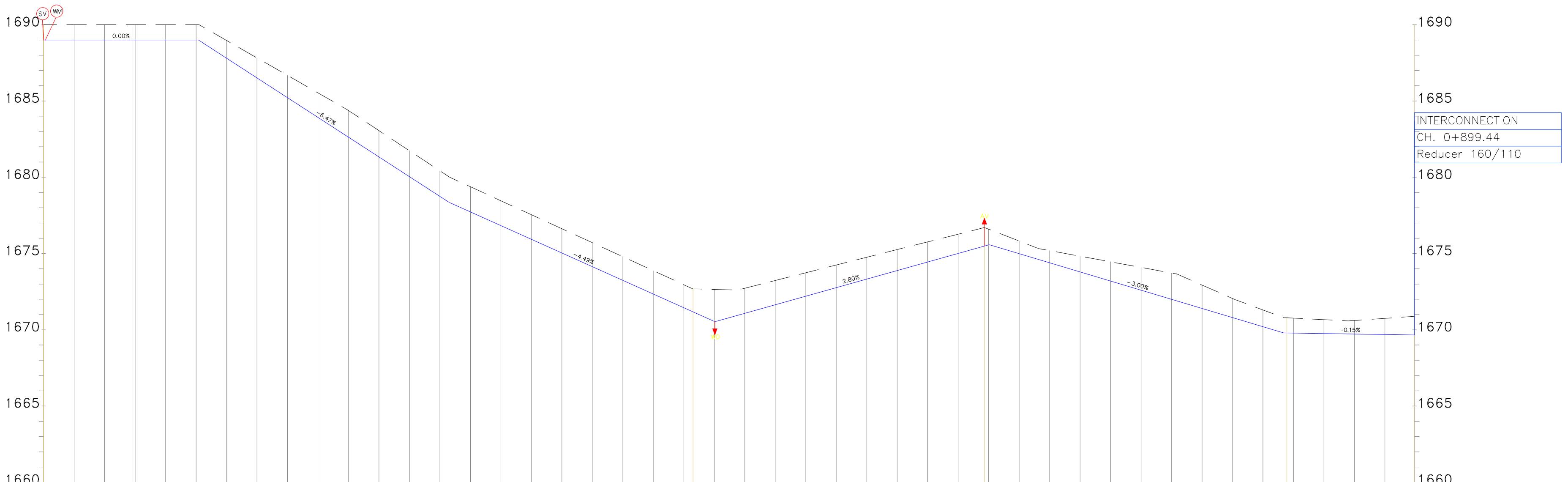
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN

LINE 1 DN160 FROM POLICE STATION



Cut: HDPE PN16 DN160

CHAINAGE (m)	Profile Data / INVERT LEVELS (m)	DEPTH OF INVERT (m)
	1689.00	1.00
0+020	1689.001690.00	1.00
0+040	1689.001690.00	1.00
0+060	1689.001690.00	1.00
0+080	1689.001690.00	1.00
0+100	1689.001690.00	1.00
0+120	1687.811688.97	1.16
0+140	1686.511687.82	1.31
0+160	1685.221686.68	1.46
0+180	1683.921685.53	1.61
0+200	1682.631684.38	1.75
0+220	1681.331683.06	1.72
0+240	1680.041681.74	1.70
0+260	1678.751680.42	1.67
0+280	1677.731679.38	1.65
0+300	1676.831678.46	1.63
0+320	1675.931677.54	1.61
0+340	1675.041676.63	1.59
0+360	1674.141675.71	1.57
0+380	1673.241674.79	1.55
0+400	1672.341673.88	1.53
0+420	1671.451672.95	1.51
0+440	1670.531672.65	2.11
0+460	1671.081672.72	1.64
0+480	1671.641673.23	1.59
0+500	1672.201673.74	1.53
0+520	1672.761674.25	1.48
0+540	1673.331674.75	1.43
0+560	1673.891675.26	1.37
0+580	1674.451675.76	1.32
0+600	1675.011676.27	1.26
0+620	1675.571676.59	1.03
0+640	1674.991675.82	0.83
0+660	1674.391675.19	0.80
0+680	1673.791674.82	1.03
0+700	1673.191674.46	1.26
0+720	1672.591674.09	1.50
0+740	1672.001673.72	1.73
0+760	1671.401672.93	1.54
0+780	1670.801672.06	1.26
0+800	1670.201671.30	1.10
0+820	1669.781670.76	0.98
0+840	1669.751670.66	0.91
0+860	1669.721670.61	0.89
0+880	1669.691670.75	1.06
0+899.44	1669.661670.89	1.23

VERTICAL ALIGNMENT: 0.00% | −0.00% | 0.00% | −5.73% | −6.59% | −4.58% | −4.66% | 0.02% | −0.27% | 2.53% | 2.55% | 2.52% | 2.52% | −3.87% | −1.83% | −4.39% | −3.73% | −0.15% | −0.51% | 0.71%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/001**

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

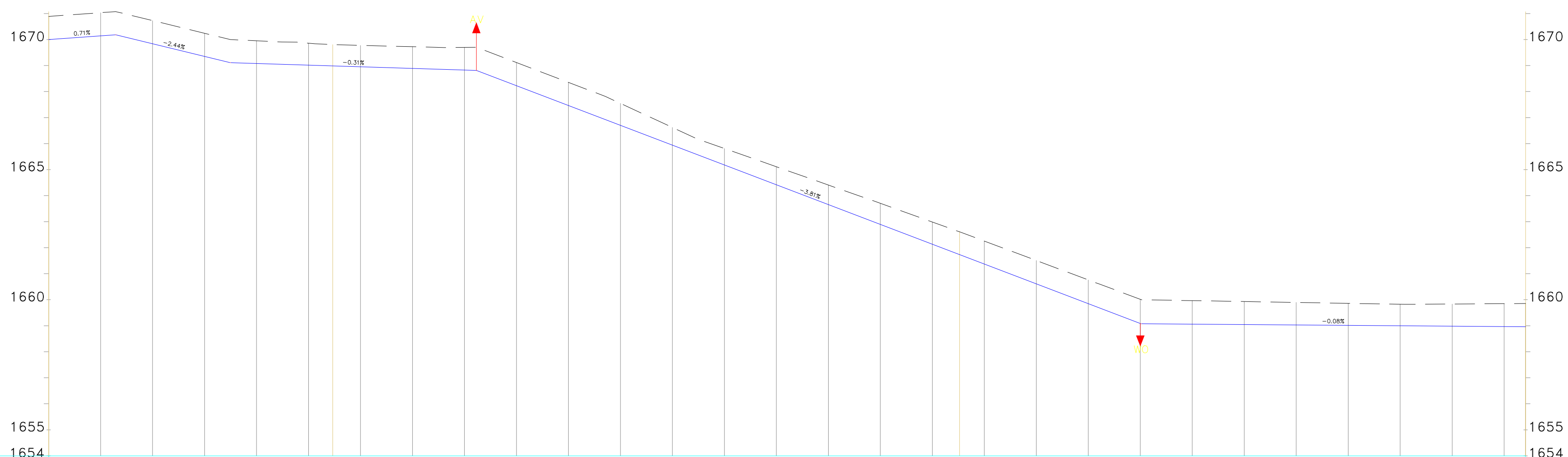
LEGEND:

- — EXISTING GROUND PROFILE
- — PIPE INVERT
- — EXISTING NMS LINE
- AV — AIR VALVE
- WO — WASHOUT
- — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



PLAN

LINE 2 DN110 : REDUCES FROM LINE 1



Cut: HDPE PN16 DN110

Chainage (m)	Profile Data	Invert Levels (m)	Depth of Invert (m)
		1670.00	0.89
0+020	1671.03 / 1671.032	1670.14	0.89
		1670.18	0.89
0+040	1670.73 / 1670.728	1669.84	0.89
0+060	1670.24 / 1670.240	1669.35	0.89
		1669.11	0.89
0+080	1669.95 / 1669.951	1669.08	0.87
0+100	1669.86 / 1669.859	1669.02	0.84
		1668.99	0.82
0+120	1669.78 / 1669.776	1668.95	0.82
0+140	1669.72 / 1669.724	1668.89	0.83
0+160	1669.70 / 1669.699	1668.83	0.87
		1668.81	0.89
0+180	1669.12 / 1669.115	1668.23	0.89
0+200	1668.35 / 1668.354	1667.46	0.89
0+220	1667.54 / 1667.544	1666.70	0.84
0+240	1666.62 / 1666.620	1665.94	0.68
0+260	1665.81 / 1665.813	1665.18	0.63
0+280	1665.11 / 1665.111	1664.42	0.69
0+300	1664.41 / 1664.408	1663.66	0.75
0+320	1663.70 / 1663.704	1662.89	0.81
0+340	1662.99 / 1662.986	1662.13	0.85
		1661.73	0.88
0+360	1662.25 / 1662.255	1661.37	0.88
0+380	1661.51 / 1661.508	1660.61	0.90
0+400	1660.76 / 1660.761	1659.85	0.91
0+420	1660.01 / 1660.014	1659.09	0.93
0+440	1659.97 / 1659.966	1659.06	0.90
0+460	1659.93 / 1659.931	1659.05	0.88
0+480	1659.90 / 1659.896	1659.03	0.86
0+500	1659.86 / 1659.861	1659.02	0.84
0+520	1659.83 / 1659.825	1659.00	0.82
0+540	1659.83 / 1659.835	1658.99	0.85
0+560	1659.85 / 1659.848	1658.97	0.88
		1658.96	0.89

VERTICAL ALIGNMENT: 0.71% | −2.44% | −0.48% | −0.13% | 0.87% | 0.50% | −0.26% | 0.10% | −3.81% | −4.62% | −3.51% | −3.59% | −3.73% | −3.69% | −3.77% | 0.19% | 0.16% | −0.18% | 0.07%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/002**

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

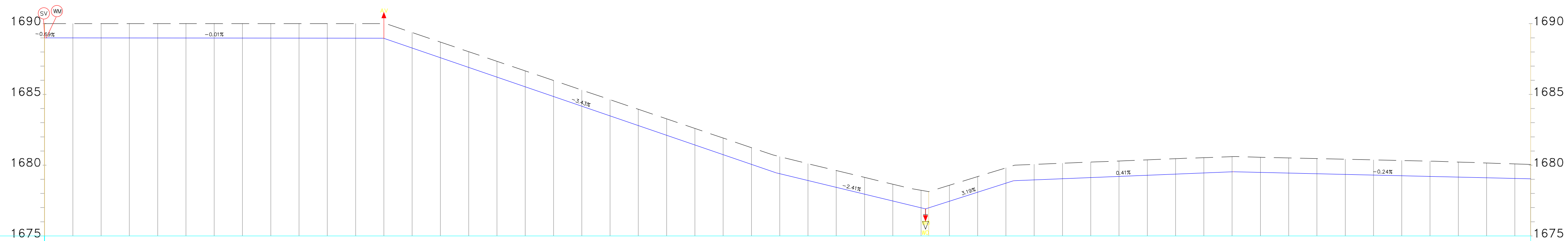
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN

LINE 3 DN160 FROM POLICE STATION



Cut: HDPE PN16 DN160

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1689.00	1.00
0+020	1690.00 / 1690.000	1689.00	1.00
0+040	1690.00 / 1690.000	1688.99	1.01
0+060	1690.00 / 1690.000	1688.99	1.01
0+080	1690.00 / 1690.000	1688.99	1.01
0+100	1690.00 / 1690.000	1688.99	1.01
0+120	1690.00 / 1690.000	1688.98	1.02
0+140	1690.00 / 1690.000	1688.98	1.02
0+160	1690.00 / 1690.000	1688.98	1.02
0+180	1690.00 / 1690.000	1688.98	1.02
0+200	1690.00 / 1690.000	1688.98	1.02
0+220	1690.00 / 1690.000	1688.97	1.03
0+240	1690.00 / 1690.000	1688.96	1.04
0+260	1689.37 / 1689.373	1688.28	1.10
0+280	1688.69 / 1688.695	1687.59	1.10
0+300	1688.02 / 1688.017	1686.91	1.11
0+320	1687.34 / 1687.339	1686.22	1.12
0+340	1686.66 / 1686.661	1685.54	1.12
0+360	1685.98 / 1685.983	1684.85	1.13
0+380	1685.30 / 1685.305	1684.17	1.14
0+400	1684.63 / 1684.626	1683.48	1.15
0+420	1683.95 / 1683.948	1682.79	1.15
0+440	1683.27 / 1683.270	1682.11	1.16
0+460	1682.59 / 1682.592	1681.42	1.17
0+480	1681.91 / 1681.914	1680.74	1.18
0+500	1681.24 / 1681.236	1680.05	1.18
0+520	1680.60 / 1680.600	1679.38	1.21
0+540	1680.10 / 1680.103	1678.91	1.19
0+560	1679.62 / 1679.618	1678.43	1.19
0+580	1679.14 / 1679.136	1677.95	1.19
0+600	1678.65 / 1678.654	1677.47	1.19
0+620	1678.22 / 1678.221	1676.98	1.24
0+625.37		1676.91	
0+640	1678.58 / 1678.578	1677.45	1.13
0+660	1679.19 / 1679.194	1678.09	1.11
0+680	1679.81 / 1679.809	1678.72 / 1678.90	1.09 / 1.08
0+700	1680.06 / 1680.055	1678.96	1.10
0+720	1680.14 / 1680.135	1679.04	1.10
0+740	1680.22 / 1680.215	1679.12	1.10
0+760	1680.30 / 1680.295	1679.20	1.09
0+780	1680.38 / 1680.376	1679.28	1.09
0+800	1680.46 / 1680.456	1679.36	1.09
0+820	1680.53 / 1680.529	1679.45	1.08
0+840	1680.60 / 1680.596	1679.53	1.07
0+860	1680.56 / 1680.555	1679.49	1.07
0+880	1680.51 / 1680.510	1679.44	1.07
0+900	1680.46 / 1680.464	1679.39	1.07
0+920	1680.42 / 1680.419	1679.34	1.07
0+940	1680.37 / 1680.374	1679.30	1.08
0+960	1680.33 / 1680.328	1679.25	1.08
0+980	1680.28 / 1680.283	1679.20	1.08
		1676.98	
1+000	1680.22 / 1680.220	1679.16	1.06
1+020	1680.15 / 1680.153	1679.11	1.04
1+040	1680.09 / 1680.087	1679.06	1.03
		1679.04	1.02

VERTICAL ALIGNMENT: -0.00% | 0.00% | 0.00% | -0.00% | 0.00% | -3.39% | -2.48% | -2.41% | -1.72% | 3.08% | 0.40% | 0.34% | -0.28% | -0.23% | -0.33% | -0.33%

LONGITUDINAL SECTION

Client/Employer:	Financier:	Consultants:	Contractor:
ATHI WATER WORKS	AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT	egis / Losai	

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/003



NOTES:-

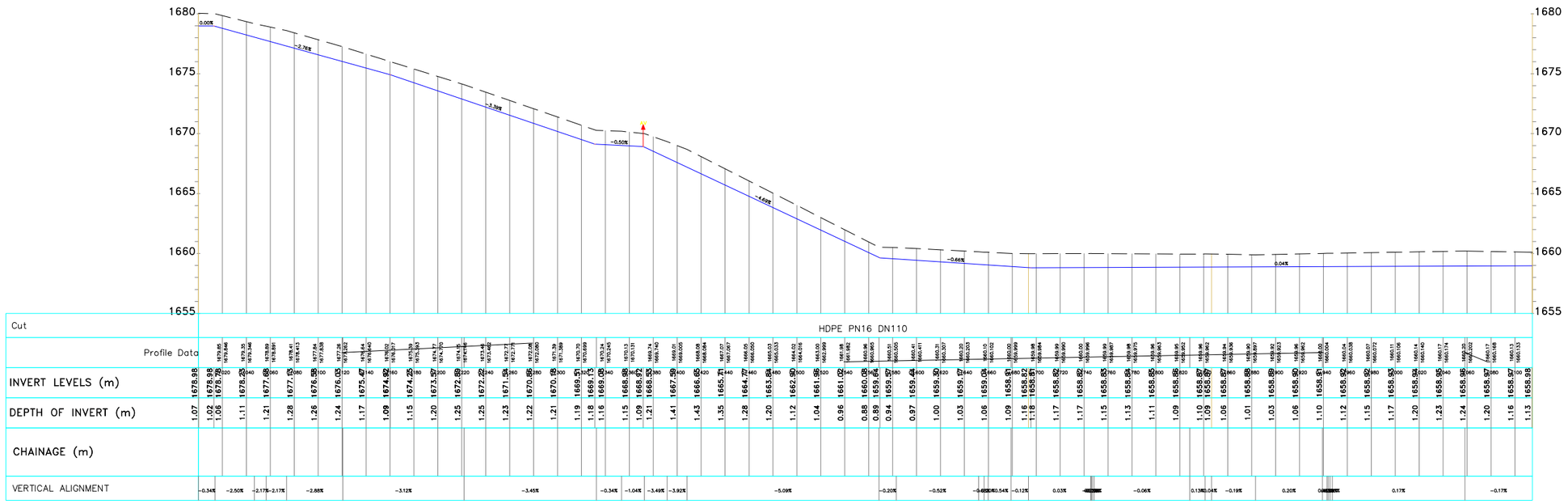
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE (AV)
- WASHOUT
- NODE (WO)
- HORIZONTAL BEND (HB 45°)
- SLUICE VALVE (SV)
- WATER METER (WM)

PLAN

LINE 4 DN110 : REDUCES FROM LINE 3



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/004**

NOTES:-

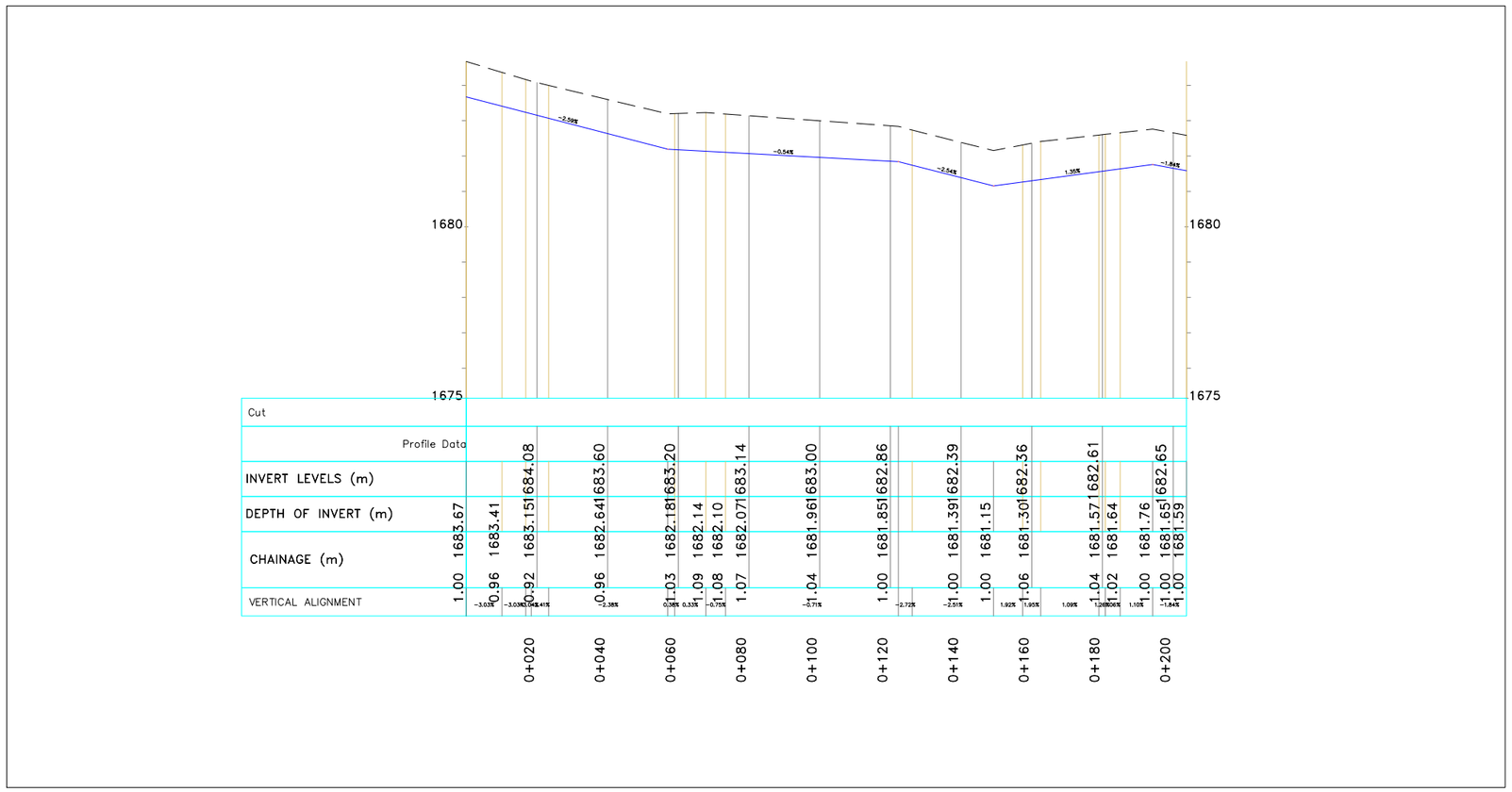
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

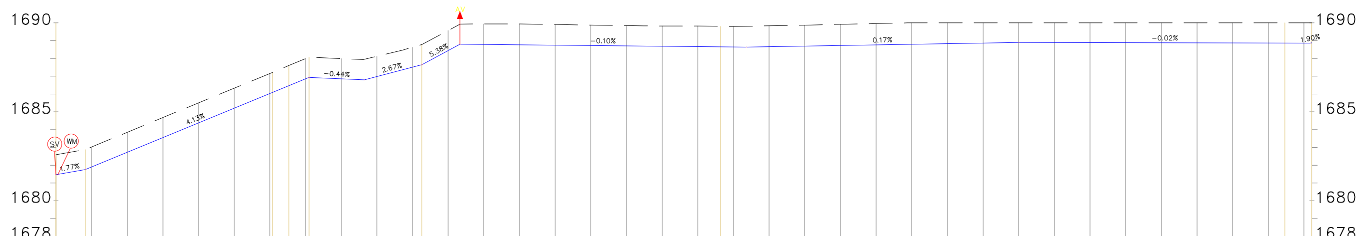
Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/005



PLAN

LINE 6 DN200 FROM TEE OFF FROM MAIN LINE TO POLICE STATION



Cut: HDPE PN16 DN200

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1681.47	1.12
0+020	1683.02	1681.90	1.12
0+040	1683.85	1682.73	1.12
0+060	1684.68	1683.55	1.12
0+080	1685.50	1684.38	1.13
0+100	1686.33	1685.20	1.13
0+120	1687.16	1686.03	1.13
		1686.47	1.13
0+140	1687.99	1686.85	1.13
0+160	1687.99	1686.85	1.14
		1686.79	1.16
0+180	1688.12	1686.98	1.14
0+200	1688.63	1687.51	1.12
		1687.65	1.13
0+220	1689.57	1688.45	1.13
	1689.93	1688.80	1.13
0+240	1689.94	1688.79	1.15
0+260	1689.94	1688.77	1.17
0+280	1689.91	1688.75	1.16
0+300	1689.88	1688.73	1.15
0+320	1689.85	1688.71	1.14
	1689.83		
0+340	1689.82	1688.69	1.14
0+360	1689.83	1688.67	1.16
		1688.66	1.15
0+380	1689.80	1688.65	1.15
		1688.64	1.17
0+400	1689.83	1688.66	1.17
0+420	1689.87	1688.70	1.18
0+440	1689.92	1688.73	1.19
0+460	1689.96	1688.76	1.20
0+480	1690.00	1688.80	1.20
0+500	1690.00	1688.83	1.17
0+520	1690.00	1688.86	1.14
0+540	1690.00	1688.90	1.10
0+560	1690.00	1688.89	1.11
0+580	1690.00	1688.89	1.11
0+600	1690.00	1688.88	1.12
0+620	1690.00	1688.88	1.12
0+640	1690.00	1688.88	1.12
0+660	1690.00	1688.87	1.13
0+680	1690.00	1688.87	1.13
		1688.87	1.13
0+700	1690.00	1688.87	1.13

VERTICAL ALIGNMENT: 1.78% | 4.13% | 4.20% | 4.13% | -0.43% | 2.42% | 2.85% | 5.38% | 0.04% | -0.17% | -0.17% | -0.14% | -0.09% | 0.07% | 0.01% | -0.15% | 0.16% | 0.19% | 0.22% | 0.00% | -0.00% | 0.00% | 0.00%

LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS — HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis — Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

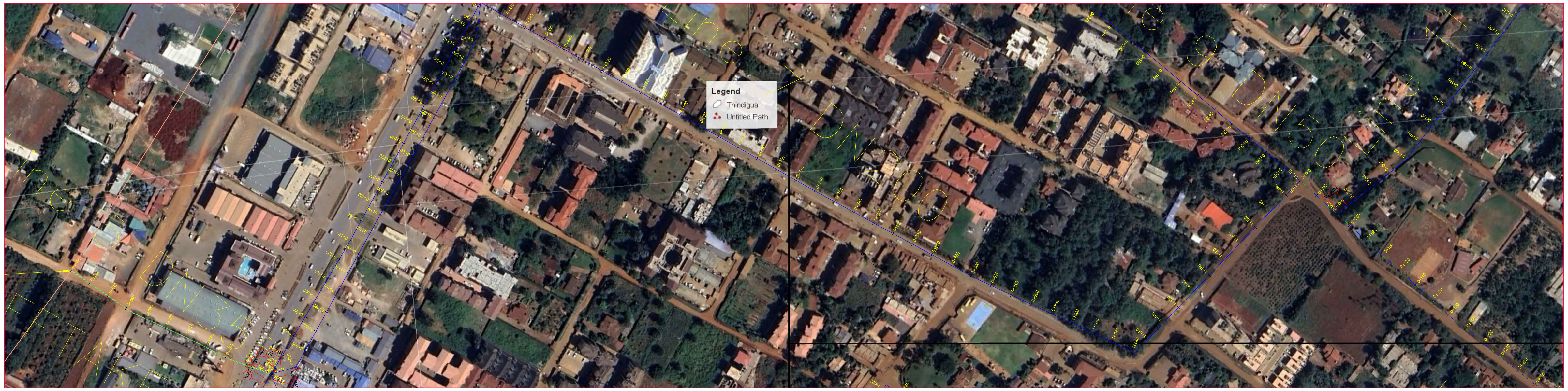
Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/006**

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

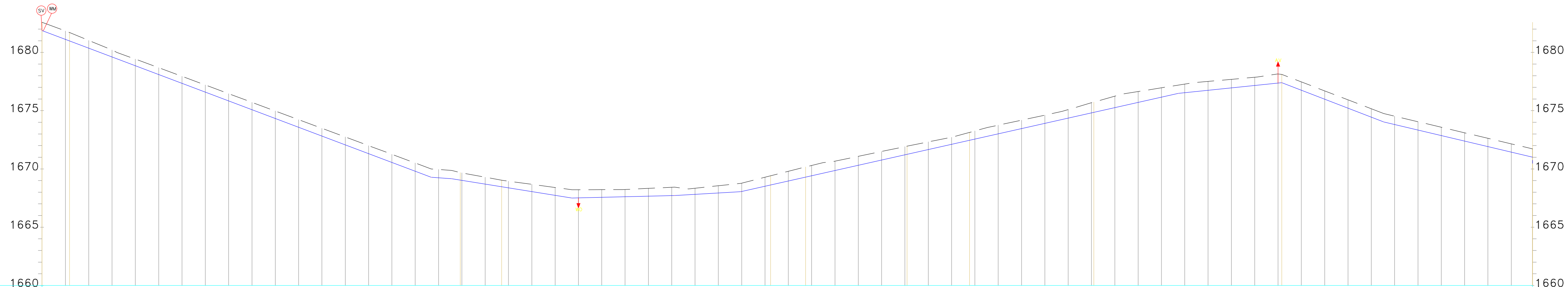
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN

LINE 7 DN200 FROM TEE OFF FROM MAIN LINE TO the lower part



Cut: HDPE PN16 DN200

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1681.87	0.71
0+020	1681.84 / 1681.839	1681.12 / 1680.99	0.72 / 0.72
0+040	1681.03 / 1681.028	1680.36	0.66
0+060	1680.20 / 1680.204	1679.61	0.59
0+080	1679.43 / 1679.428	1678.85	0.57
0+100	1678.69 / 1678.690	1678.10	0.59
0+120	1677.95 / 1677.946	1677.35	0.60
0+140	1677.20 / 1677.202	1676.59	0.61
0+160	1676.46 / 1676.459	1675.84	0.62
0+180	1675.72 / 1675.715	1675.08	0.63
0+200	1674.97 / 1674.972	1674.33	0.64
0+220	1674.23 / 1674.228	1673.58	0.65
0+240	1673.48 / 1673.485	1672.82	0.66
0+260	1672.74 / 1672.741	1672.07	0.67
0+280	1672.00 / 1671.998	1671.31	0.68
0+300	1671.25 / 1671.254	1670.56	0.70
0+320	1670.51 / 1670.510	1669.80	0.71
0+333.73		1669.29	0.71
0+340	1669.95 / 1669.955	1669.24	0.71
		1669.16	0.71
0+360	1669.66 / 1669.661	1669.04 / 1669.02	0.64 / 0.64
0+380	1669.29 / 1669.289	1668.70	0.59
0+400	1668.95 / 1668.948	1668.47 / 1668.38	0.56 / 0.57
0+420	1668.68 / 1668.677	1668.05	0.62
0+440	1668.41 / 1668.407	1667.73	0.68
0+454.33		1667.50	0.71
0+460	1668.21 / 1668.215	1667.51	0.70
0+480	1668.22 / 1668.221	1667.56	0.66
0+500	1668.24 / 1668.236	1667.61	0.62
0+520	1668.33 / 1668.330	1667.66	0.67
0+540	1668.42 / 1668.423	1667.71 / 1667.70	0.71 / 0.71
0+554.35			
0+560	1668.34 / 1668.344	1667.82	0.52
0+580	1668.56 / 1668.556	1667.94	0.62
0+600	1668.78 / 1668.778	1668.06 / 1668.05	0.72 / 0.72
0+620	1669.29 / 1669.286	1668.51 / 1668.62	0.77 / 0.79
0+640	1669.80 / 1669.797	1668.96	0.84
0+654.84		1669.30	0.88
0+660	1670.30 / 1670.301	1669.41	0.89
0+680	1670.67 / 1670.667	1669.86	0.81
0+700	1671.08 / 1671.083	1670.31	0.77
0+720	1671.50 / 1671.498	1670.76	0.74
0+740	1671.91 / 1671.914	1671.24 / 1671.20	0.70 / 0.70
0+760 / 0+764.15	1672.32 / 1672.321	1671.66	0.66
0+780	1672.71 / 1672.714	1672.11	0.60
0+800	1673.26 / 1673.258	1672.46 / 1672.56	0.68 / 0.70
0+820	1673.75 / 1673.753	1673.01	0.74
0+840	1674.18 / 1674.184	1673.46	0.73
0+860	1674.62 / 1674.615	1673.91	0.71
0+874.66 / 0+880	1675.09 / 1675.089	1674.36	0.73
0+900	1675.68 / 1675.679	1674.85 / 1674.81	0.87 / 0.89
0+920	1676.24 / 1676.243	1675.26	0.99
0+940	1676.64 / 1676.640	1675.71	0.93
0+960	1676.96 / 1676.962	1676.16	0.81
0+980	1677.28 / 1677.283	1676.48	0.71
0+987.34		1676.54	0.75
1+000	1677.51 / 1677.513	1676.74	0.77
1+020	1677.69 / 1677.689	1676.95	0.74
1+040	1677.87 / 1677.865	1677.16	0.71
1+060	1678.15 / 1678.152	1677.36 / 1677.40	0.79 / 0.71
1+080	1677.47 / 1677.465	1676.75	0.71
1+100	1676.70 / 1676.697	1675.98	0.71
1+120	1675.93 / 1675.928	1675.21	0.71
1+140	1675.16 / 1675.160	1674.45	0.71
1+150.72		1674.03	0.71
1+160	1674.53 / 1674.527	1673.81	0.71
1+180	1674.05 / 1674.053	1673.34	0.71
1+200	1673.58 / 1673.578	1672.86	0.71
1+220	1673.10 / 1673.103	1672.39	0.71
1+240	1672.63 / 1672.628	1671.91	0.71
1+260	1672.15 / 1672.153	1671.44	0.71
1+278.26		1671.01	0.71

VERTICAL ALIGNMENT: −3.73% | −4.12% | −5.64% | −3.57% | −3.72% | −0.72% | −2.56% | −1.86% | −1.35% | 0.03% | 0.47% | −1.25% | 1.06% | 2.54% | 2.56% | 2.50% | 2.48% | 0.54% | 2.40% | 2.08% | 2.04% | 1.94% | 2.74% | 2.74% | 2.16% | 2.95% | 2.80% | 1.61% | 1.61% | 0.88% | 1.53% | 1.31% | −3.84% | −2.37%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/007**



PLAN



LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No.



PLAN

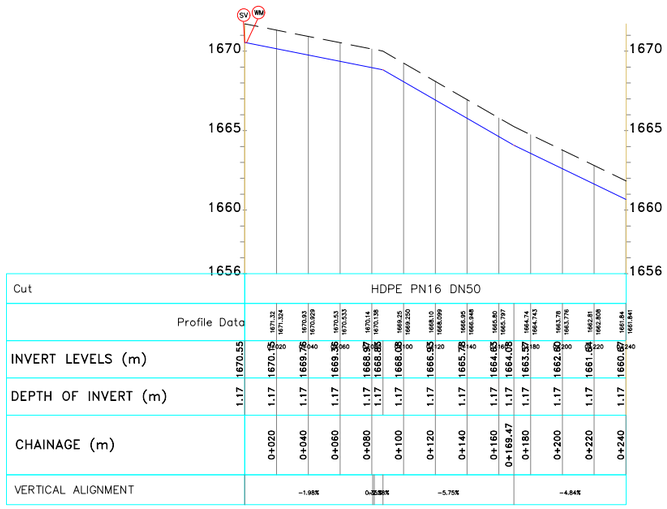
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

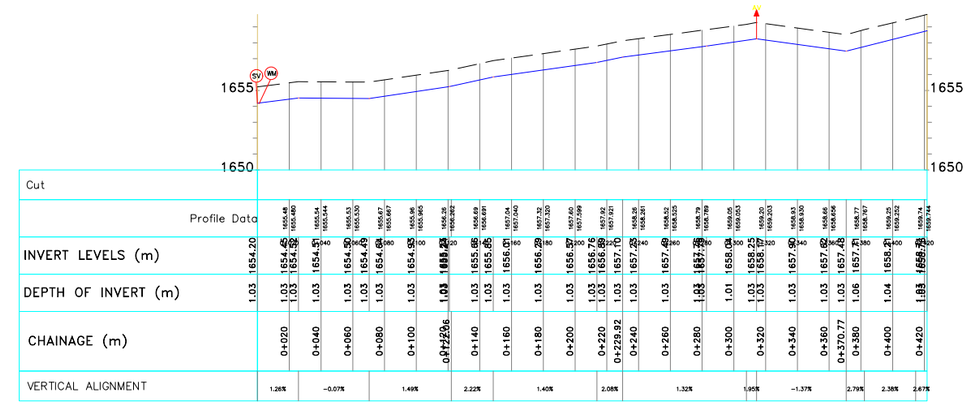
- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

LINE 9 DN50



Cut		HDPE PN16 DN50																					
Profile Data		1671.72 1671.324	1670.83 1670.959	1670.53 1670.533	1670.14 1670.138	1669.25 1669.250	1668.10 1668.099	1666.95 1666.948	1665.80 1665.797	1664.74 1664.743	1663.78 1663.776	1662.81 1662.808	1661.84 1661.841										
INVERT LEVELS (m)	1670.55	1670.45	1669.78	1669.36	1668.57	1668.08	1666.93	1665.79	1664.63	1663.57	1662.60	1661.64	1660.67										
DEPTH OF INVERT (m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17										
CHAINAGE (m)		0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240										
VERTICAL ALIGNMENT		-1.98%			-5.75%				-4.84%														

LINE 10 DN50



Cut																							
Profile Data		1655.48 1655.480	1655.54 1655.544	1655.53 1655.530	1655.67 1655.667	1655.96 1655.965	1656.28 1656.282	1656.69 1656.691	1657.24 1657.245	1657.32 1657.320	1657.40 1657.399	1657.92 1657.921	1658.39 1658.391	1658.52 1658.525	1658.79 1658.789	1659.06 1659.055	1659.20 1659.203	1658.93 1658.930	1658.66 1658.656	1658.77 1658.767	1659.25 1659.252	1659.74 1659.744	
INVERT LEVELS (m)	1654.20	1654.48	1654.54	1654.50	1654.49	1654.50	1654.69	1655.65	1656.01	1656.29	1656.57	1656.76	1656.90	1657.22	1657.48	1657.73	1658.03	1658.25	1657.90	1657.62	1657.48	1658.21	1658.70
DEPTH OF INVERT (m)	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.01	1.03	1.03	1.03	1.06	1.04	1.03
CHAINAGE (m)		0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+229.92	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+370.77	0+380	0+400	0+420
VERTICAL ALIGNMENT		1.26%		-0.07%		1.49%		2.22%		1.40%		2.08%		1.32%		1.95%		-1.37%		2.79%		2.38%	2.67%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/009**

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

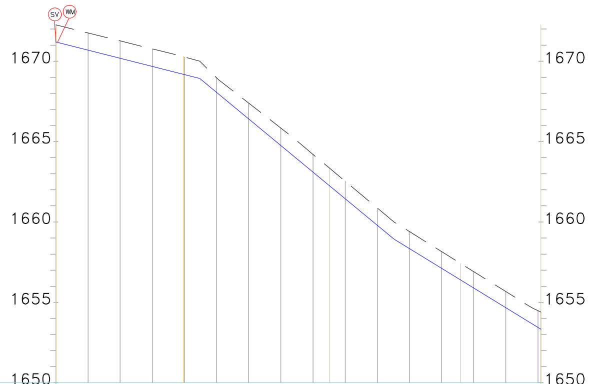
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



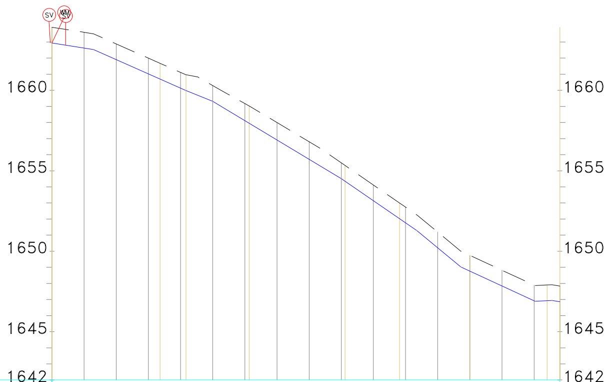
PLAN

LINE 11 DN50



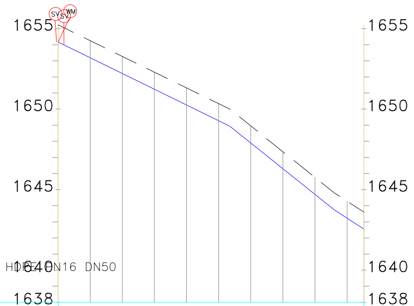
Cut	HDPE PN16 DN50
Profile Data	1671.76 1671.763, 1671.26 1671.265, 1670.77 1670.767, 1670.27 1670.266, 1668.97 1668.973, 1667.39 1667.394, 1665.84 1665.842, 1664.21 1664.206, 1662.54 1662.536, 1660.87 1660.868, 1659.40 1659.403, 1658.16 1658.157, 1656.91 1656.912, 1655.67 1655.667, 1654.48 1654.479
INVERT LEVELS (m)	1671.19, 1670.69, 1670.18, 1669.68, 1669.19, 1668.93, 1668.06, 1666.41, 1664.75, 1663.10, 1662.25, 1661.45, 1659.79, 1658.93, 1658.34, 1657.12, 1656.39, 1655.89, 1654.67, 1653.44
DEPTH OF INVERT (m)	1.07, 1.07, 1.08, 1.09, 1.09, 1.07, 0.91, 0.98, 1.09, 1.10, 1.10, 1.09, 1.07, 1.07, 1.06, 1.04, 1.03, 1.02, 1.00, 1.04
CHAINAGE (m)	0+020, 0+040, 0+060, 0+080, 0+100, 0+101.36, 0+120, 0+140, 0+160, 0+180, 0+200, 0+210.41, 0+220, 0+240, 0+260, 0+280, 0+300
VERTICAL ALIGNMENT	−2.49%, −2.81%, −9.77%, −7.76%, −8.36%, −8.34%, −6.23%, −6.23%, −4.65%

LINE 12 DN50



Cut	HDPE PN16 DN50
Profile Data	1663.60 1663.603, 1662.88 1662.882, 1662.00 1661.996, 1661.11 1661.111, 1660.29 1660.293, 1659.17 1659.175, 1658.00 1657.997, 1656.81 1656.807, 1655.49 1655.490, 1654.11 1654.115, 1652.74 1652.739, 1651.19 1651.188, 1649.74 1649.744, 1648.82 1648.821, 1647.90 1647.899
INVERT LEVELS (m)	1662.94, 1662.62, 1662.55, 1661.90, 1661.02, 1660.70, 1660.14, 1659.99, 1659.31, 1658.11, 1657.95, 1656.91, 1655.71, 1654.51, 1654.35, 1653.14, 1652.01, 1651.76, 1651.28, 1650.21, 1649.02, 1648.76, 1647.84, 1646.92, 1646.86
DEPTH OF INVERT (m)	0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.97, 0.98, 0.98, 1.06, 1.07, 1.08, 1.10, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98, 0.98
CHAINAGE (m)	0+020, 0+040, 0+060, 0+080, 0+100, 0+105.09, 0+120, 0+140, 0+160, 0+180, 0+200, 0+216.31, 0+220, 0+240, 0+260, 0+280, 0+300
VERTICAL ALIGNMENT	−1.58%, −4.43%, −4.43%, −5.76%, −5.53%, −5.95%, −6.88%, −6.88%, −6.88%, −8.23%, −4.61%, −4.61%, 0.46%

LINE 13 DN50



Cut	HDPE PN16 DN50
Profile Data	1654.25 1654.250, 1653.27 1653.272, 1652.29 1652.295, 1651.32 1651.317, 1650.34 1650.339, 1648.96 1648.956, 1647.36 1647.357, 1645.76 1645.758, 1644.28 1644.280
INVERT LEVELS (m)	1654.17, 1653.19, 1652.22, 1651.24, 1650.26, 1649.28, 1648.94, 1647.90, 1646.30, 1644.70, 1643.74, 1643.22, 1642.55
DEPTH OF INVERT (m)	1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06, 1.06
CHAINAGE (m)	0+020, 0+040, 0+060, 0+080, 0+100, 0+106.94, 0+120, 0+140, 0+160, 0+180
VERTICAL ALIGNMENT	−4.89%, −8.00%, −6.47%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/010**

NOTES:-

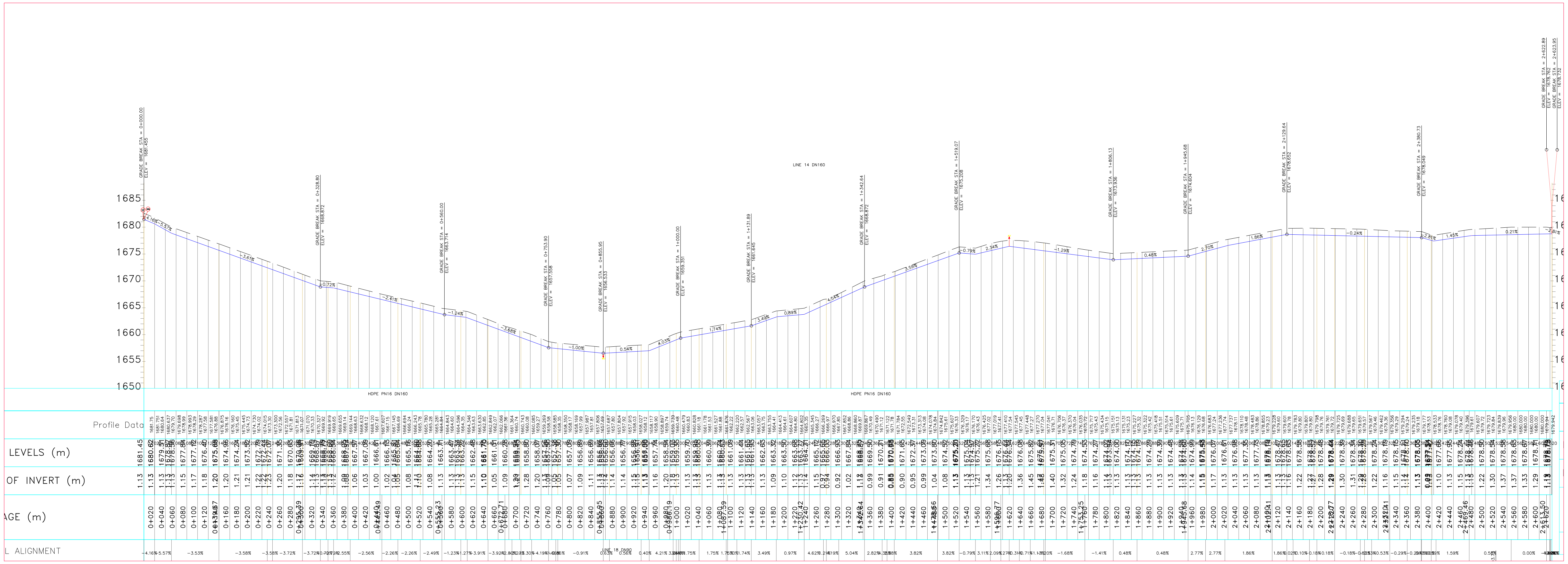
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer:	Financier:	Consultants:	Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No.
NWSP/NCTLASTMILE/LOT2/THINDIGUA/011

NOTES:-

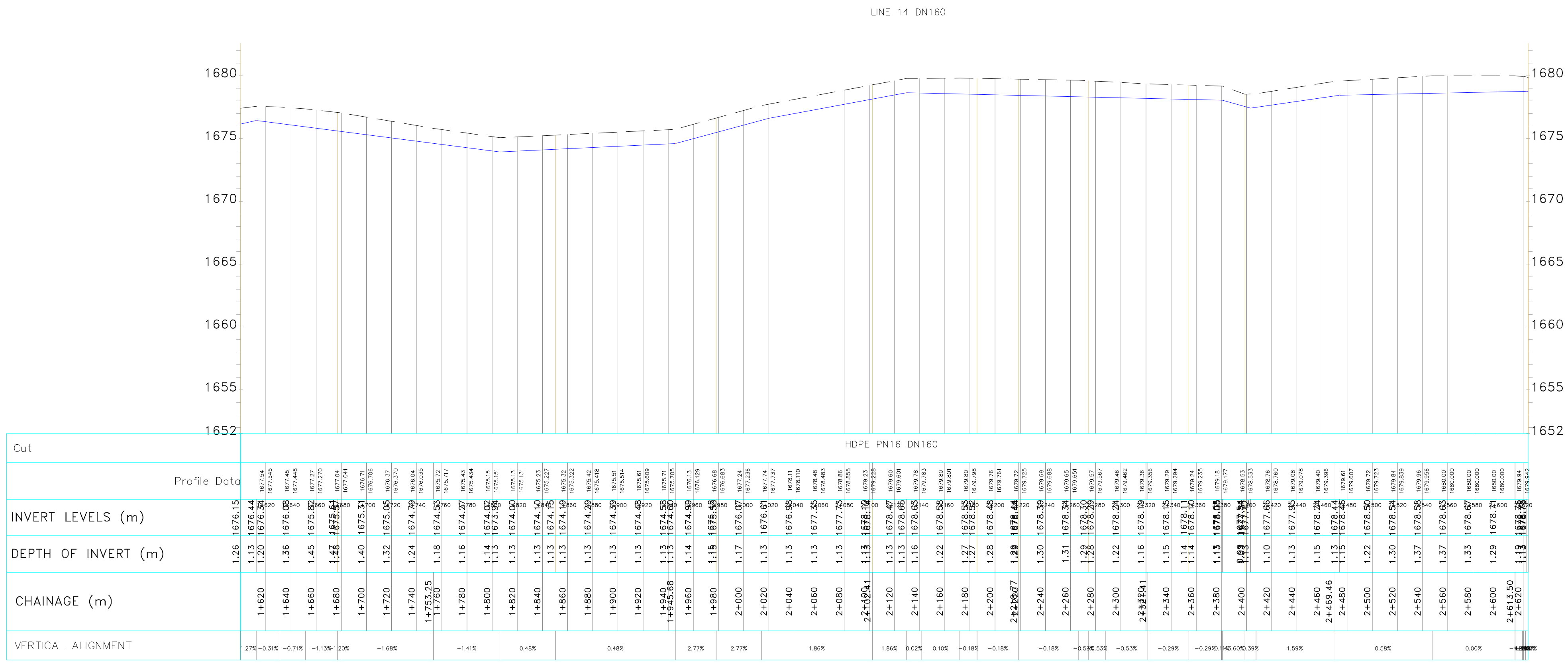
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer:

Financier:

Consultants:

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

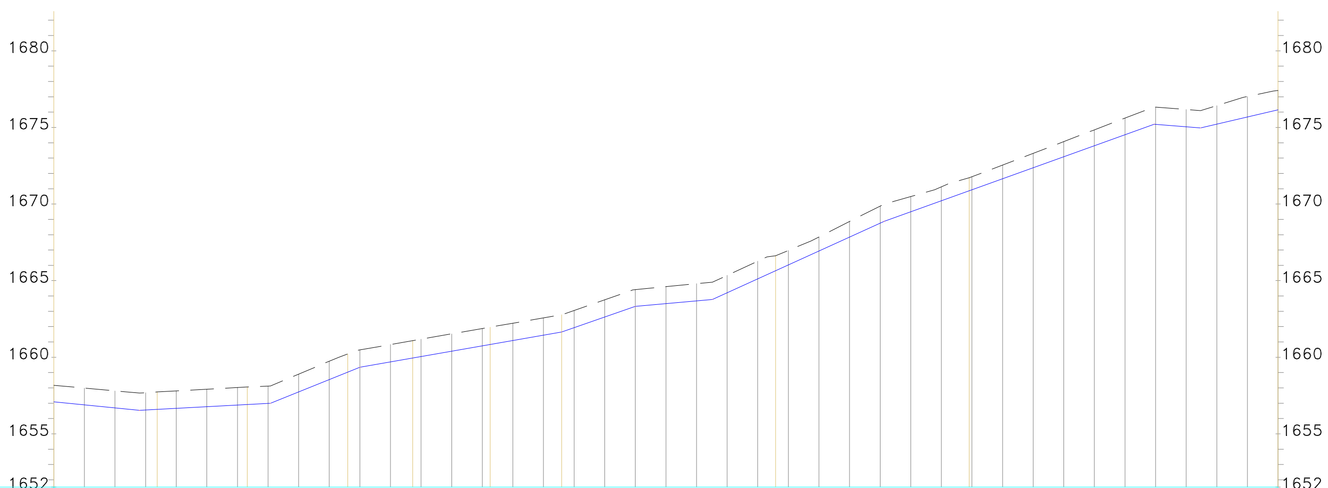
Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No.
NWSP/NCTLASTMILE/LOT2/THINDIGUA/012



PLAN



Row	Values (left to right)
Cut	HDPE PN16 DN160
Profile Data	1657.99 / 1657.987, 1657.81 / 1657.806, 1657.69 / 1657.687, 1657.80 / 1657.804, 1657.92 / 1657.915, 1658.03 / 1658.027, 1658.12 / 1658.117, 1658.90 / 1658.897, 1659.74 / 1659.739, 1660.48 / 1660.479, 1660.83 / 1660.828, 1661.18 / 1661.178, 1661.53 / 1661.527, 1661.88 / 1661.876, 1662.22 / 1662.220, 1662.57 / 1662.567, 1663.06 / 1663.057, 1663.75 / 1663.755, 1664.41 / 1664.413, 1664.61 / 1664.607, 1664.80 / 1664.802, 1665.35 / 1665.345, 1666.27 / 1666.269, 1666.97 / 1666.970, 1667.85 / 1667.852, 1668.86 / 1668.860, 1669.87 / 1669.867, 1670.49 / 1670.490, 1671.12 / 1671.122, 1671.78 / 1671.784, 1672.55 / 1672.549, 1673.31 / 1673.313, 1674.08 / 1674.078, 1674.84 / 1674.842, 1675.61 / 1675.607, 1676.33 / 1676.329, 1676.17 / 1676.170, 1676.43 / 1676.425, 1677.02 / 1677.019
INVERT LEVELS (m)	1657.09, 1656.89, 1656.69, 1656.53, 1656.60, 1656.66, 1656.77, 1656.88, 1656.91, 1656.99, 1657.74, 1658.54, 1659.03, 1659.35, 1659.70, 1659.95, 1660.05, 1660.39, 1660.74, 1660.83, 1661.09, 1661.44, 1661.65, 1661.93, 1662.63, 1663.32, 1663.50, 1663.68, 1663.77, 1664.21, 1665.12, 1665.65, 1666.03, 1666.93, 1667.84, 1668.75, 1668.87, 1669.50, 1670.21, 1670.86, 1670.89, 1671.65, 1672.37, 1673.09, 1673.80, 1674.52, 1675.20, 1675.04, 1674.97, 1675.22, 1675.68, 1676.15
DEPTH OF INVERT (m)	1.07, 1.09, 1.11, 1.13, 1.14, 1.14, 1.14, 1.15, 1.15, 1.13, 1.16, 1.20, 1.18, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.13, 1.09, 1.10, 1.12, 1.13, 1.14, 1.15, 0.97, 0.94, 0.92, 1.02, 1.12, 1.13, 0.99, 0.91, 0.85, 0.89, 0.90, 0.95, 0.99, 1.04, 1.08, 1.13, 1.13, 1.13, 1.13, 1.21, 1.34, 1.26
CHAINAGE (m)	0+820, 0+840, 0+860, 0+880, 0+900, 0+920, 0+926.46, 0+940, 0+960, 0+980, 1+000, 1+020, 1+034.58, 1+040, 1+060, 1+080, 1+100, 1+120, 1+140, 1+160, 1+178.43, 1+180, 1+200, 1+220, 1+240, 1+260, 1+280, 1+294.73, 1+300, 1+320, 1+340, 1+360, 1+380, 1+390.13, 1+400, 1+420, 1+440, 1+460, 1+480, 1+500, 1+519.07, 1+520, 1+540, 1+560, 1+580
VERTICAL ALIGNMENT	-0.91%, 0.63%, 0.56%, 0.40%, 4.21%, 3.6[illegible]%, 1.75%, 1.75%, 1.75%, 1.70%, 1.74%, 3.49%, 0.97%, 4.62%, 1.21%, 4.19%, 5.04%, 2.82%, 4.35%, 2.88%, 3.82%, 3.82%, -0.79%, 3.11%, 2.09%, 1.27%

LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/013



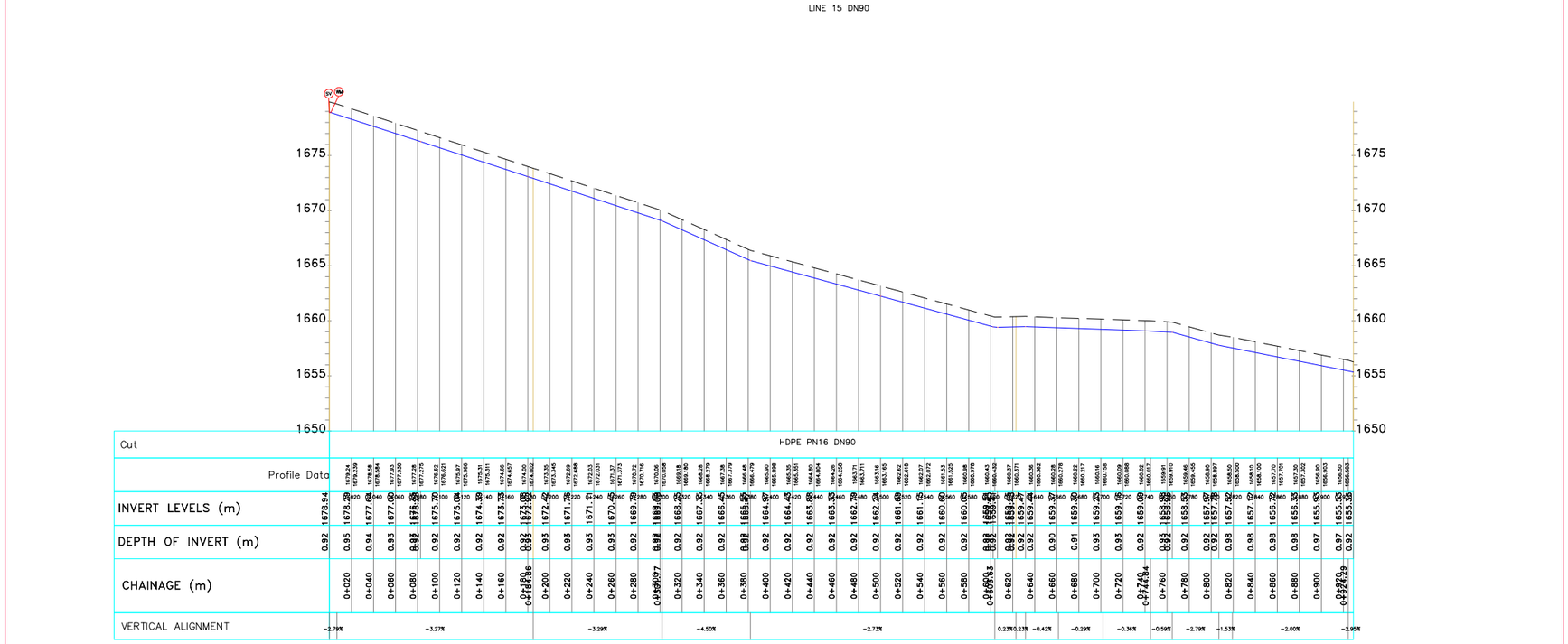
PLAN

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS; HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/014**



PLAN

NOTES:-

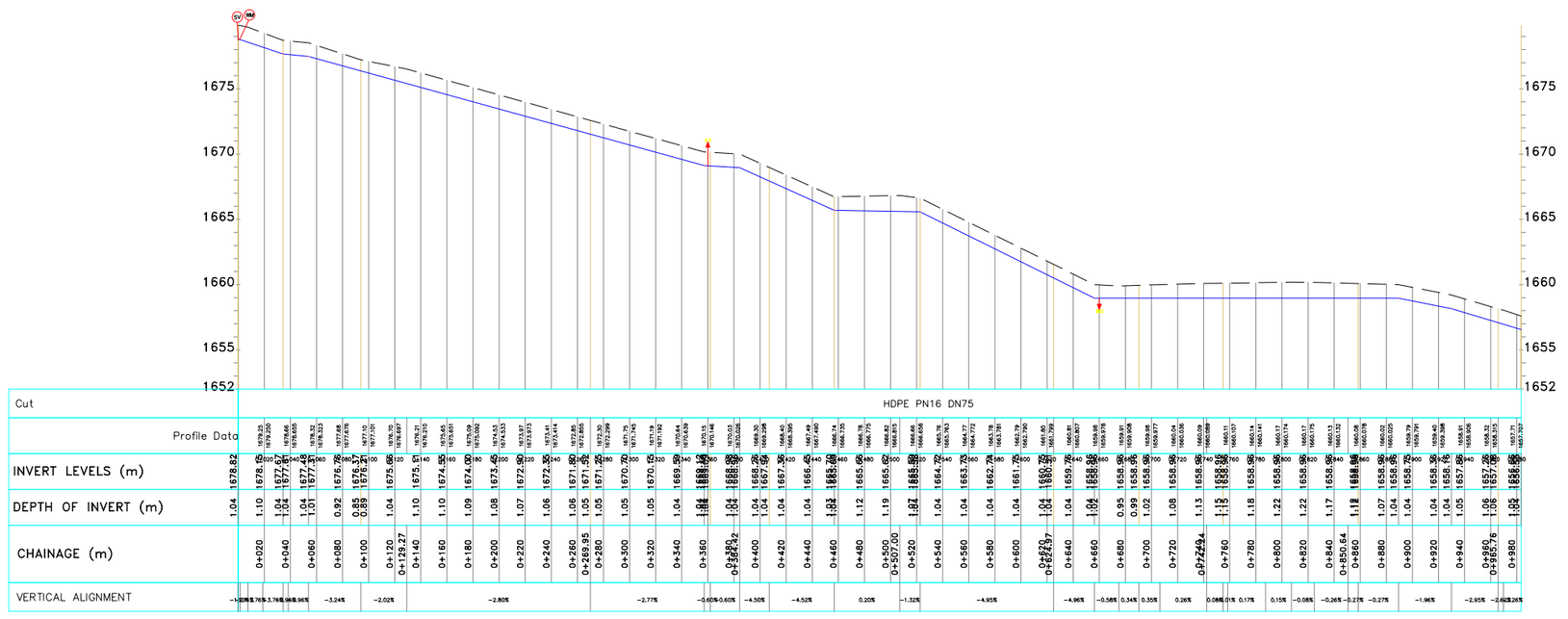
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE (AV)
- WASHOUT
- NODE (WO)
- HORIZONTAL BEND (HB 45°)
- SLUICE VALVE (SV)
- WATER METER (WM)

PLAN

LINE 16 DN75



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/015



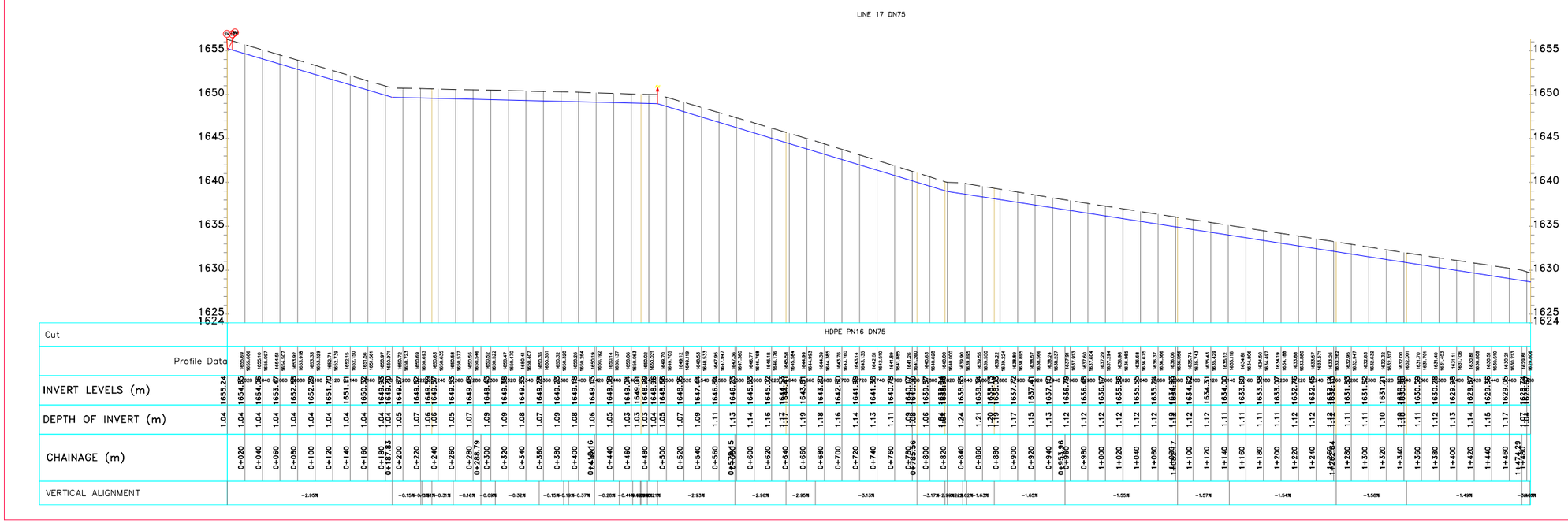
PLAN

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE (AV)
- WASHOUT
- NODE (WO)
- HORIZONTAL BEND (HB 45°)
- SLUICE VALVE (SV)
- WATER METER (WM)



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS; MAKAMBEN

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis; LOSAI

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/016



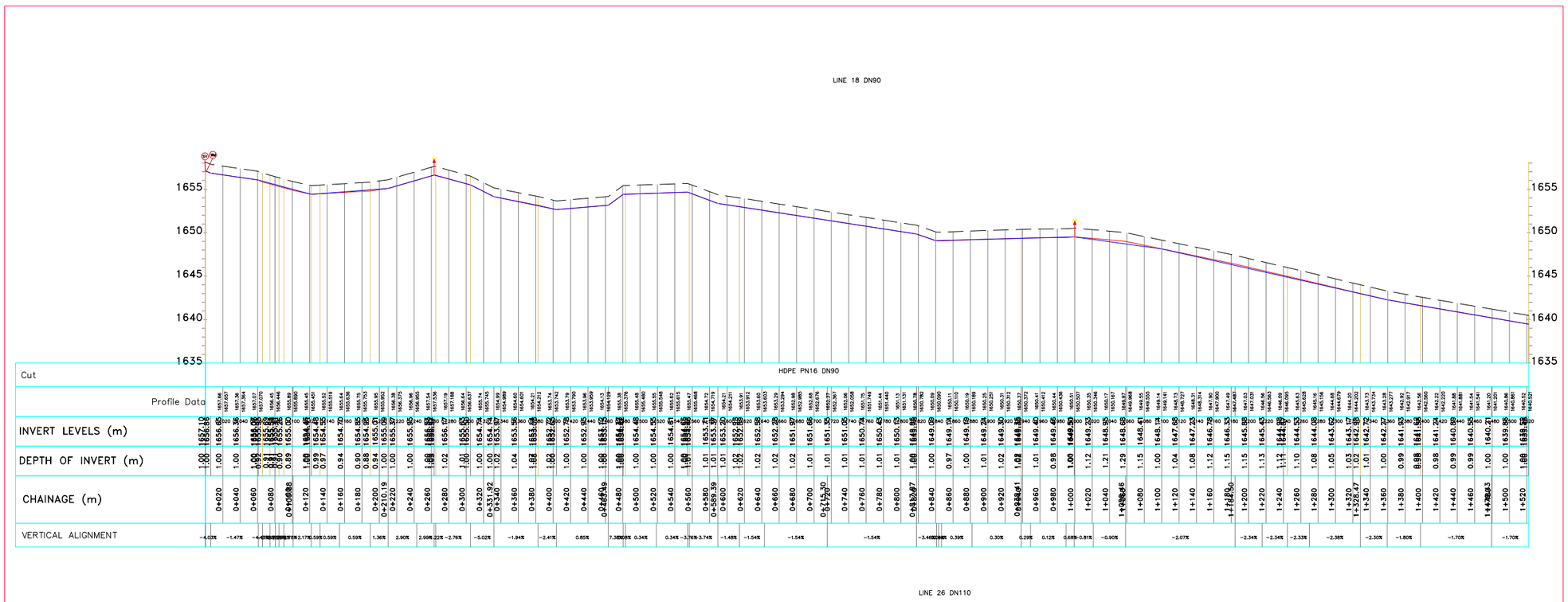
PLAN

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

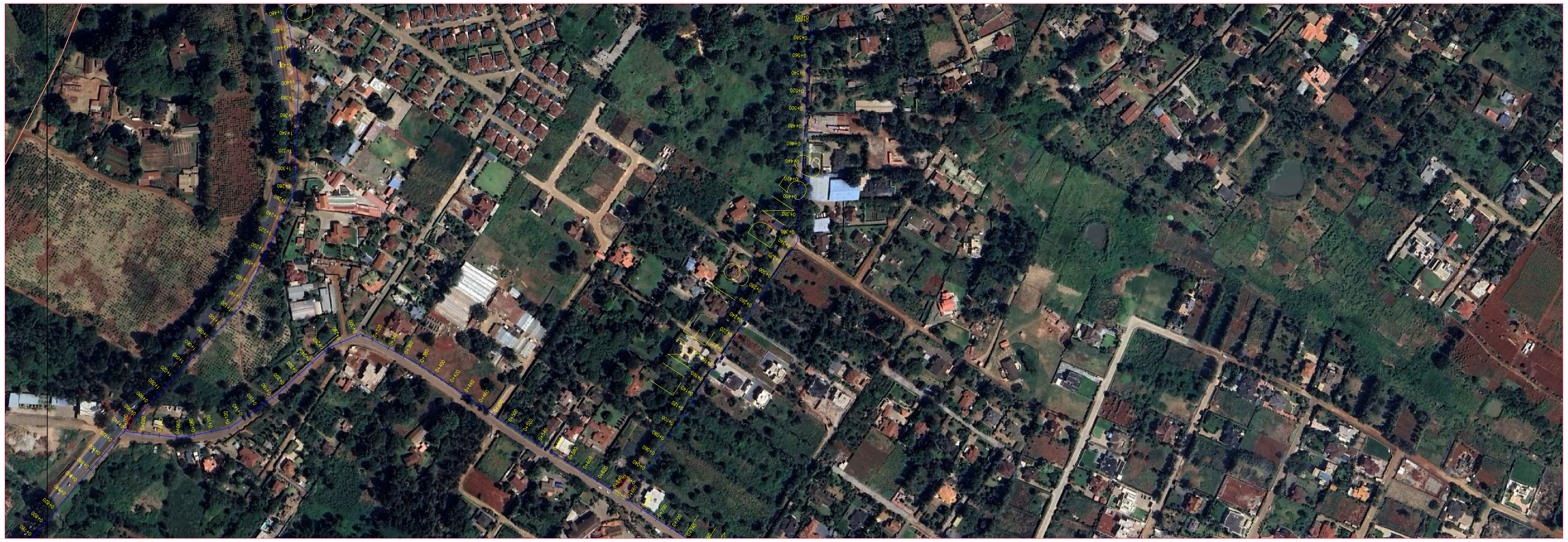
Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/017

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

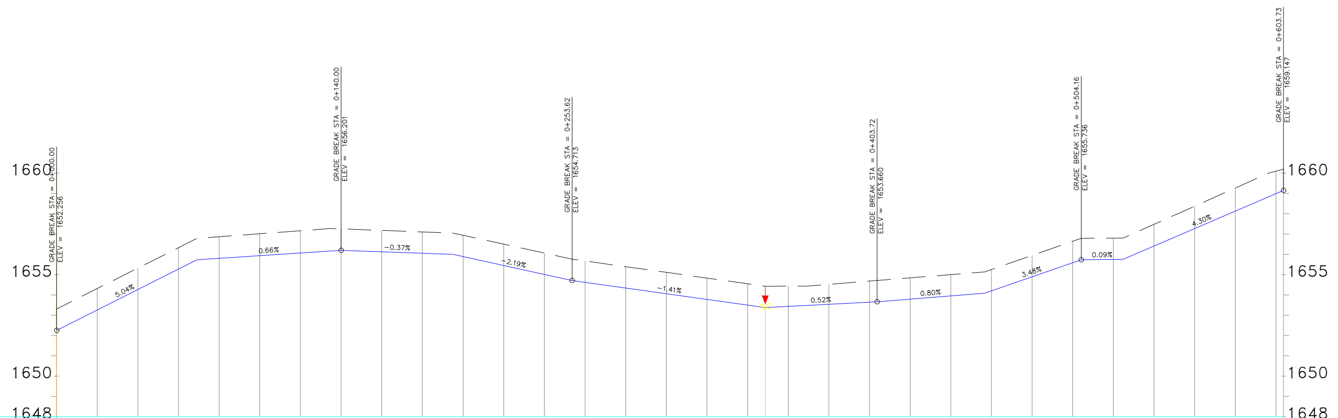
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
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- WM – WATER METER



PLAN

LINE 19 DN50



HDPE PN16 DN50

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1652.26	1.05
0+020	1654.32 / 1654.316	1653.26	1.05
0+040	1655.32 / 1655.324	1654.27	1.05
0+060	1656.33 / 1656.333	1655.28	1.05
		1655.74	1.05
0+080	1656.87 / 1656.869	1655.81	1.06
0+100	1657.02 / 1657.017	1655.94	1.08
0+120	1657.16 / 1657.165	1656.07	1.09
0+134.69 / 0+140	1657.25 / 1657.253	1656.20	1.05
0+160	1657.18 / 1657.180	1656.13	1.05
0+180	1657.11 / 1657.106	1656.05	1.05
0+200	1656.94 / 1656.941	1656.00 / 1655.89	1.05 / 1.05
0+220	1656.50 / 1656.502	1655.45	1.05
0+240	1656.06 / 1656.064	1655.01	1.05
0+253.62 / 0+260	1655.68 / 1655.676	1654.71 / 1654.62	1.05 / 1.05
0+280	1655.39 / 1655.395	1654.34	1.05
0+300	1655.11 / 1655.113	1654.06	1.05
0+320	1654.83 / 1654.832	1653.78	1.05
0+340	1654.55 / 1654.551	1653.50 / 1653.38	1.05 / 1.05
0+360 / 0+368.96	1654.43 / 1654.432	1653.43	1.00
0+380	1654.52 / 1654.523	1653.54	0.98
0+400	1654.68 / 1654.683	1653.64 / 1653.66	1.04 / 1.05
0+420	1654.84 / 1654.843	1653.79	1.05
0+440	1655.00 / 1655.003	1653.95	1.05
0+460	1655.25 / 1655.251	1654.08 / 1654.20	1.05 / 1.05
0+480	1655.95 / 1655.947	1654.90	1.05
0+500 / 0+504.16	1656.64 / 1656.643	1655.59 / 1655.74	1.05 / 1.05
0+520	1656.80 / 1656.802	1655.75 / 1655.75	1.05 / 1.05
0+540	1657.48 / 1657.483	1656.41	1.08
0+560	1658.37 / 1658.375	1657.27	1.11
0+580	1659.27 / 1659.267	1658.13	1.14
0+600	1660.10 / 1660.098	1658.99 / 1659.15	1.11 / 1.05

VERTICAL ALIGNMENT: 5.04% | 5.04% | 0.74% | -0.37% | -2.19% | -1.41% | 0.03% | 0.80% | 3.48% | 0.09% | 4.46% | 3.9870%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

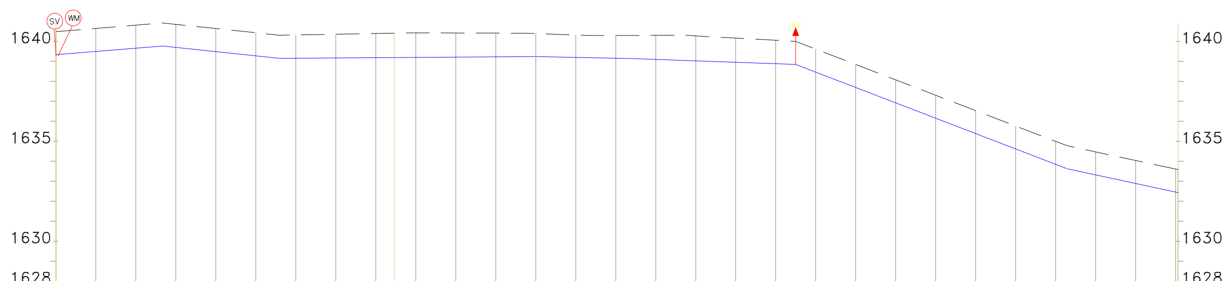
Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/018**



PLAN

LINE 20 DN50



HDPE PN16 DN50

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1639.33	1.15
0+020	1640.65 / 1640.647	1639.50	1.15
0+040	1640.81 / 1640.811	1639.66	1.15
		1639.77	1.15
0+060	1640.85 / 1640.849	1639.70	1.15
0+080	1640.64 / 1640.639	1639.49	1.15
0+100	1640.43 / 1640.429	1639.28	1.15
0+111.91		1639.15	1.15
0+120	1640.32 / 1640.319	1639.16	1.16
0+140	1640.35 / 1640.355	1639.17	1.18
0+160	1640.39 / 1640.391	1639.18	1.21
		1639.19	1.22
0+180	1640.42 / 1640.421	1639.20	1.22
0+200	1640.42 / 1640.416	1639.21	1.21
0+220	1640.41 / 1640.410	1639.22	1.19
0+235.40			
0+240	1640.39 / 1640.389	1639.24	1.15
0+260	1640.32 / 1640.316	1639.20	1.12
0+280	1640.29 / 1640.293	1639.16	1.14
		1639.14	1.15
0+300	1640.30 / 1640.299	1639.10	1.20
0+320	1640.27 / 1640.274	1639.03	1.25
0+340	1640.16 / 1640.160	1638.95	1.21
0+360	1640.05 / 1640.053	1638.88	1.17
0+369.96		1638.85	1.15
0+380	1639.61 / 1639.614	1638.46	1.15
0+400	1638.84 / 1638.844	1637.69	1.15
0+420	1638.07 / 1638.074	1636.92	1.15
0+440	1637.30 / 1637.305	1636.15	1.15
0+460	1636.54 / 1636.535	1635.38	1.15
0+480	1635.77 / 1635.766	1634.61	1.15
0+500	1635.00 / 1634.996	1633.84	1.15
0+505.74		1633.62	1.15
0+520	1634.47 / 1634.469	1633.32	1.15
0+540	1634.04 / 1634.040	1632.89	1.15
0+560	1633.61 / 1633.611	1632.45 / 1632.46	1.15 / 1.15

VERTICAL ALIGNMENT: 0.82% | −1.10% | −1.05% | 0.18% | 0.20% | −0.03% | −0.36% | 0.03% | −0.68% | −0.54% | −3.85% | −3.85% | −2.15% | −2.15%

LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE (AV)
- WASHOUT (WO)
- NODE
- HORIZONTAL BEND (HB 45°)
- SLUICE VALVE (SV)
- WATER METER (WM)

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/019

NOTES:-

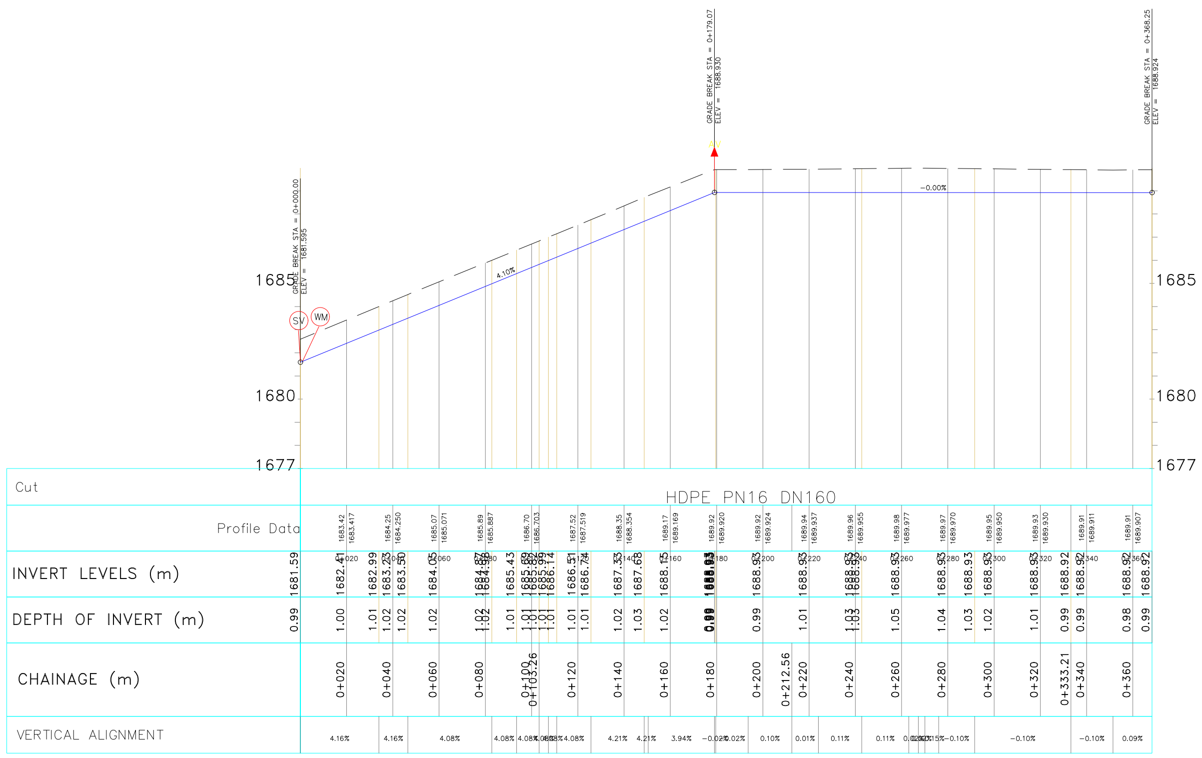
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- — EXISTING GROUND PROFILE
- — PIPE INVERT
- — EXISTING NMS LINE
- AV — AIR VALVE
- WO — WASHOUT
- — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

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DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No.
NWSP/NCTLASTMILE/LOT2/THINDIGUA/020

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

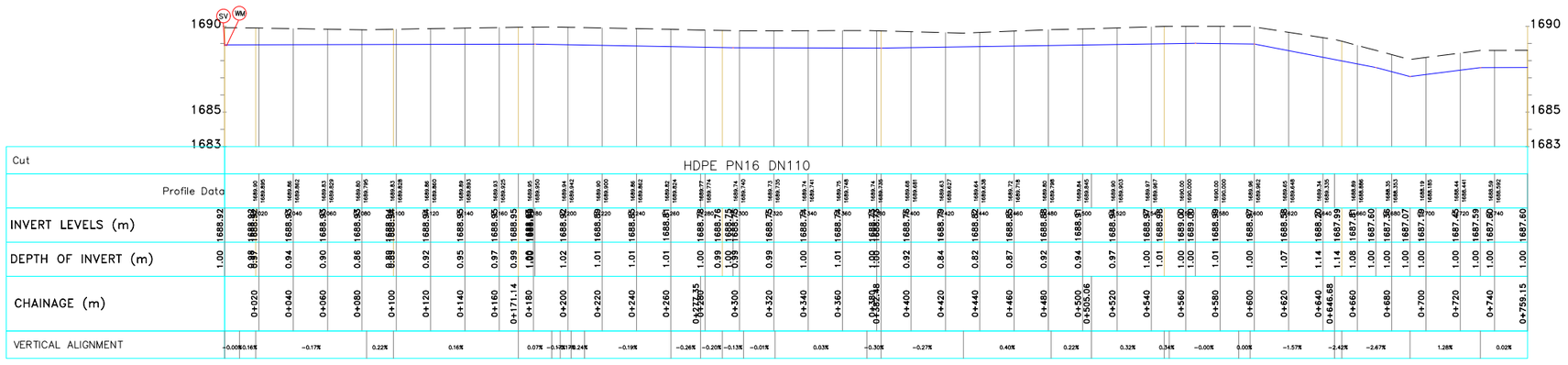
LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



PLAN

LINE 22 DN110



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

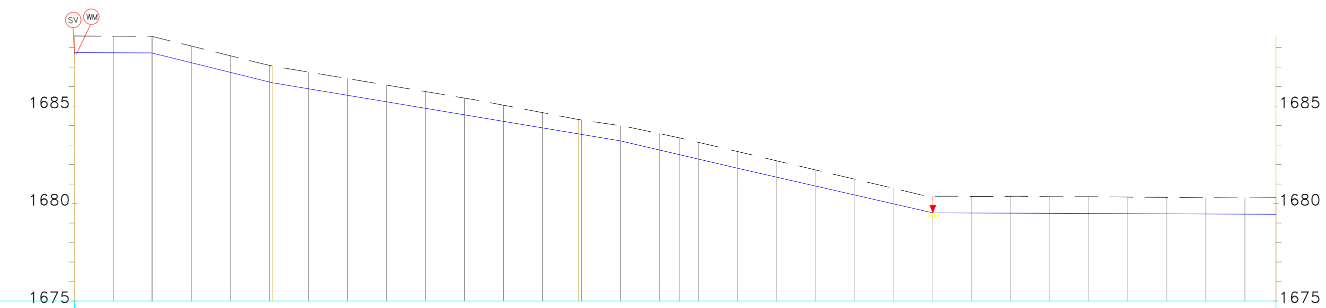
Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/021



PLAN

LINE 23 DN90



Cut: HDPE PN16 DN90

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1687.74	0.85
0+020	1688.59 / 1688.588	1687.73	0.85
0+040	1688.57 / 1688.569	1687.72	0.85
0+060	1688.07 / 1688.073	1687.22	0.85
0+080	1687.58 / 1687.576	1686.73	0.85
0+100 / 0+101.51	1687.09 / 1687.086	1686.23 / 1686.20	0.85 / 0.85
0+120	1686.74 / 1686.742	1685.89	0.85
0+140	1686.41 / 1686.407	1685.55	0.85
0+160	1686.07 / 1686.073	1685.22	0.85
0+180	1685.74 / 1685.738	1684.88	0.85
0+200	1685.40 / 1685.404	1684.55	0.85
0+207.98			
0+220	1685.04 / 1685.041	1684.22	0.83
0+240	1684.66 / 1684.658	1683.88	0.78
0+260	1684.28 / 1684.283	1683.57 / 1683.55	0.73 / 0.74
0+280	1683.99 / 1683.990	1683.21	0.78
0+300	1683.58 / 1683.581	1682.74	0.84
0+310.17		1682.51	0.86
0+320	1683.14 / 1683.136	1682.28	0.86
0+340	1682.66 / 1682.664	1681.81	0.85
0+360	1682.19 / 1682.192	1681.35	0.84
0+380	1681.72 / 1681.719	1680.89	0.82
0+400	1681.25 / 1681.247	1680.44	0.81
0+420	1680.77 / 1680.775	1679.98	0.80
0+436.86 / 0+440	1680.38 / 1680.375	1679.52	0.85
0+460	1680.37 / 1680.367	1679.51	0.85
0+480	1680.37 / 1680.370	1679.50	0.87
0+500	1680.35 / 1680.349	1679.50	0.85
0+520	1680.35 / 1680.352	1679.49	0.86
0+539.07 / 0+540	1680.33 / 1680.328	1679.48	0.85
0+560	1680.32 / 1680.315	1679.47	0.84
0+580	1680.30 / 1680.302	1679.46	0.84
0+600	1680.29 / 1680.291	1679.45	0.84
		1679.45	0.85

VERTICAL ALIGNMENT																
−0.04%	−2.48%	−2.32%	−1.67%	−1.67%	−1.91%	−1.46%	−2.09%	−2.36%	−0.04%	0.02%	−0.13%	0.02%	−0.13%	−0.06%	−0.06%	0.07%

LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/022

NOTES:-

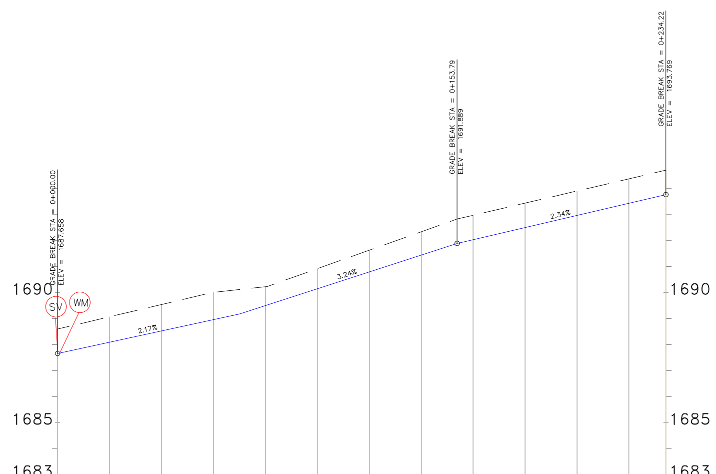
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



PLAN



Cut	HDPE PN16 DN50														
Profile Data		1689.07 1689.069	1689.54 1689.541	1690.01 1690.006		1690.23 1690.226	1690.92 1690.919	1691.63 1691.628	1692.34 1692.338		1692.97 1692.973	1693.44 1693.441	1693.91 1693.908	1694.38 1694.375	
INVERT LEVELS (m)	1687.66	1688.09	1688.53	1688.96	1689.18	1689.50	1690.15	1690.79	1691.44	1691.89	1692.03	1692.50	1692.97	1693.44	1693.77
DEPTH OF INVERT (m)	0.94	0.98	1.02	1.05	0.94	0.73	0.77	0.83	0.90	0.94	0.94	0.94	0.94	0.94	0.94
CHAINAGE (m)		0+020	0+040	0+060		0+080	0+100	0+120	0+140	0+153.79	0+160	0+180	0+200	0+220	
VERTICAL ALIGNMENT	2.36%				1.10%	3.55%				2.34%					

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA**
PLAN AND PROFILE

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/023**



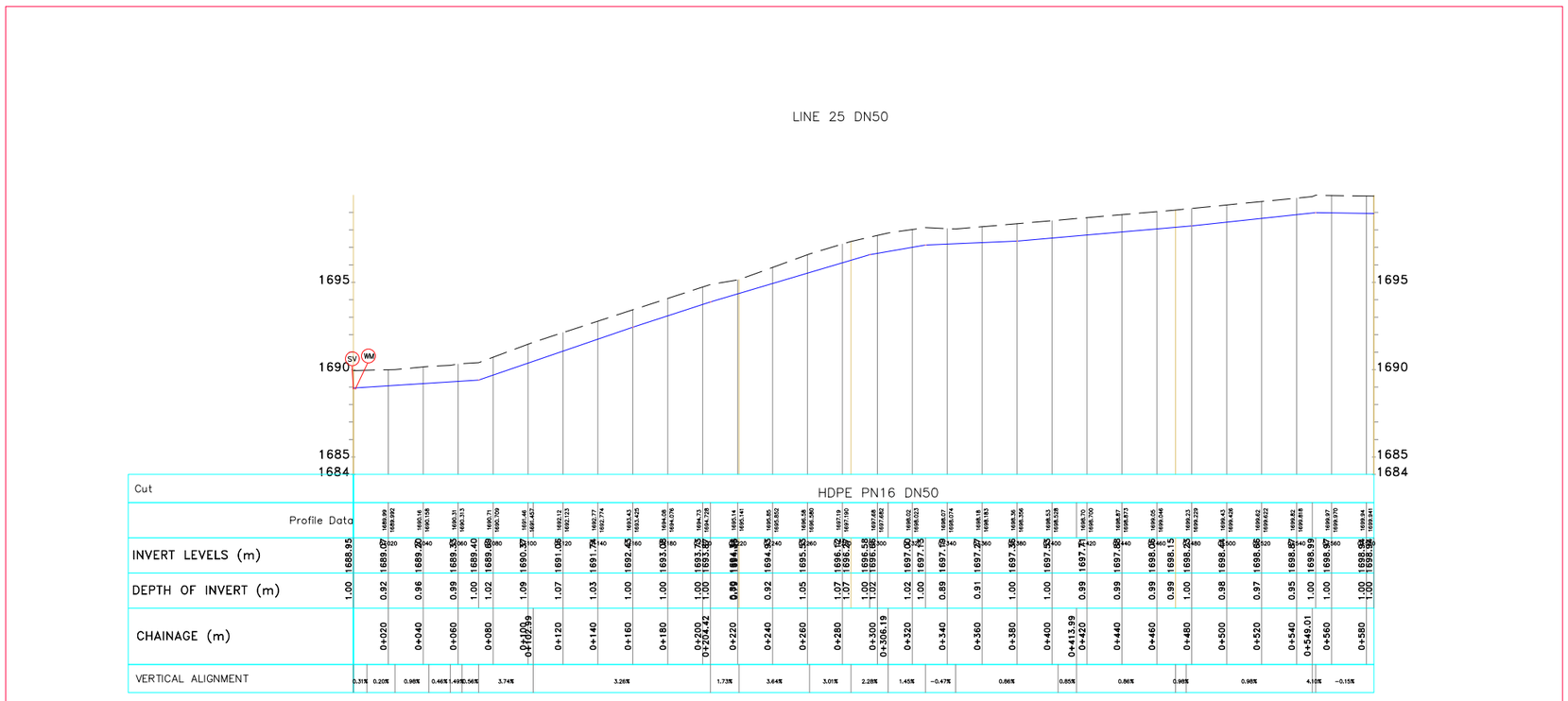
NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE (AV)
- WASHOUT (WO)
- NODE
- HORIZONTAL BEND (HB 45°)
- SLUICE VALVE (SV)
- WATER METER (WM)

PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/024



PLAN



LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS · HARAMBEE

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis · Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY:	TPK
DRAWN BY:	TPK
CHECKED BY:	INT
APPROVED BY:	LWM

SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/025**

NOTES:-

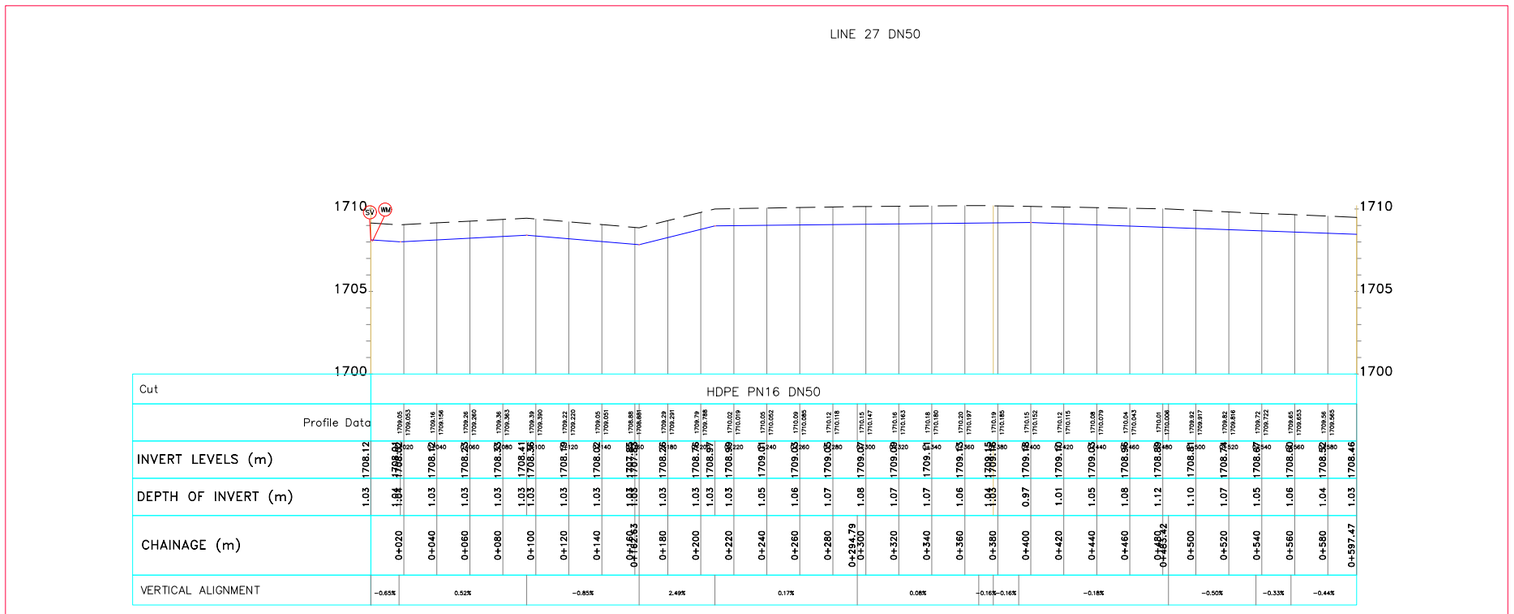
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

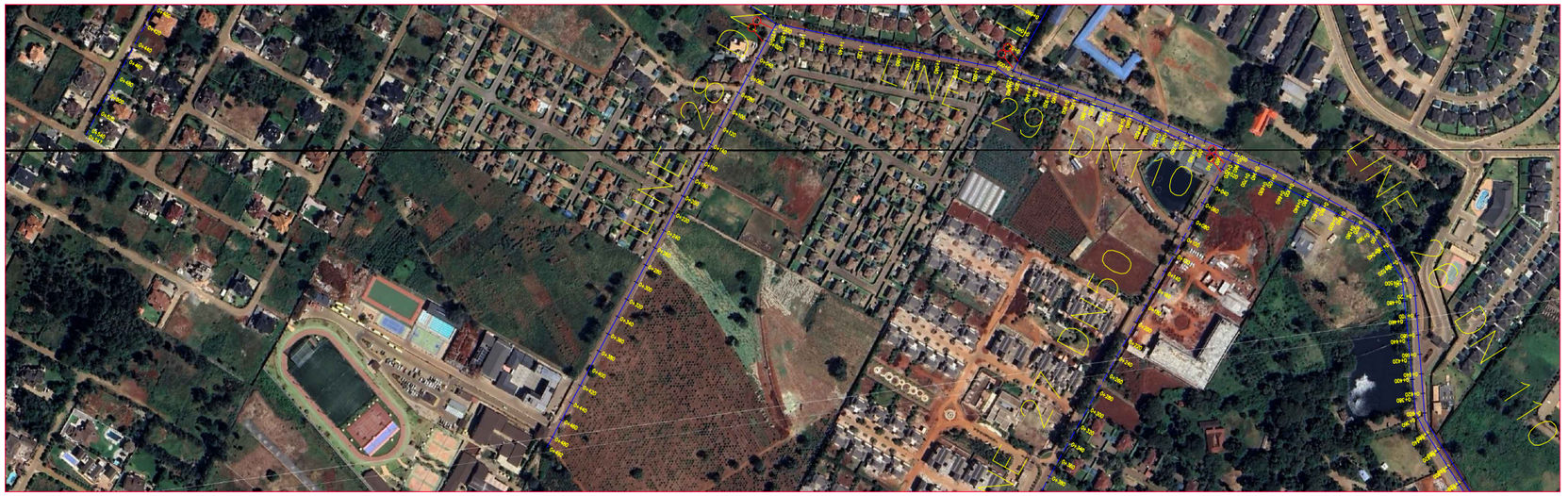
Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/026**

NOTES:-

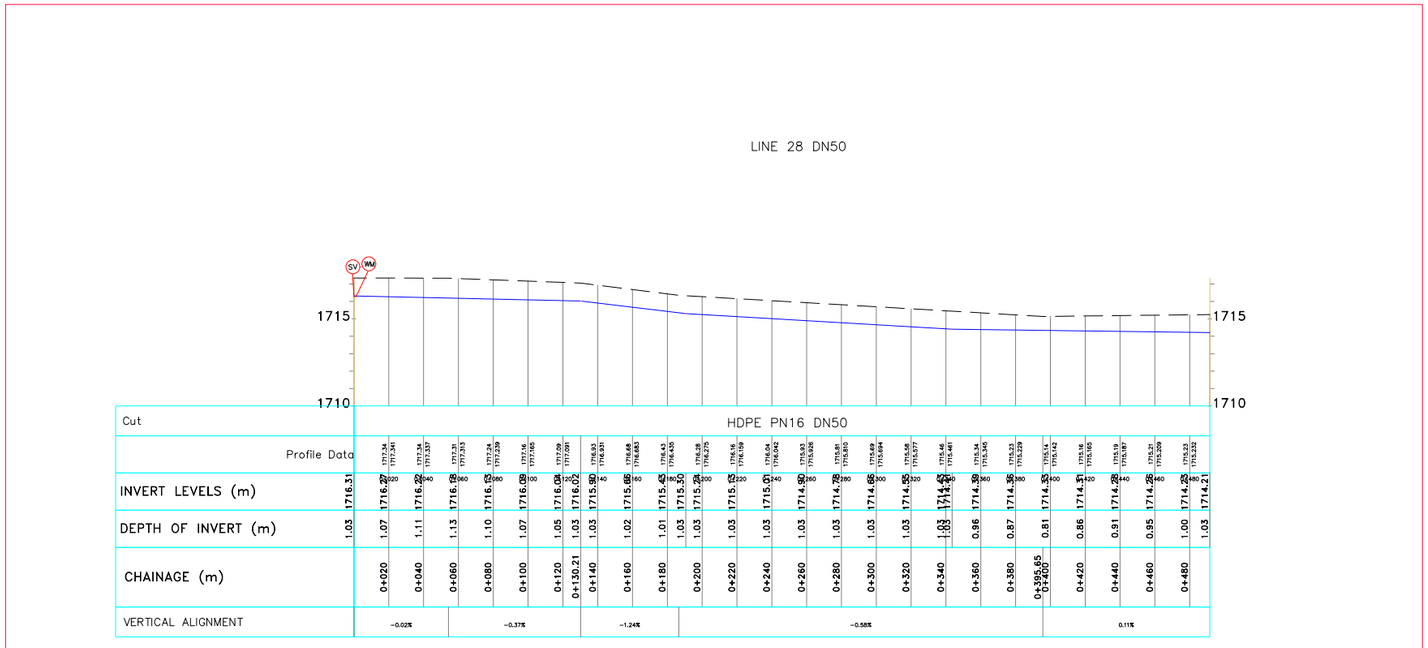
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA
PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/027



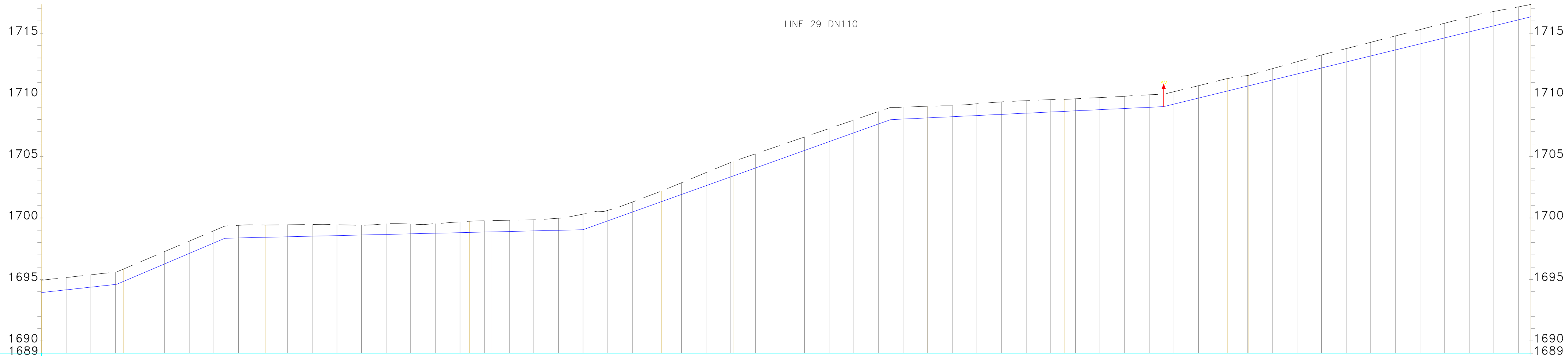
PLAN

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



Cut: HDPE PN16 DN110

CHAINAGE (m)	Profile Data (ground)	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1693.93	1.00
0+020	1695.16 / 1695.155	1694.15	1.00
0+040	1695.37 / 1695.375	1694.37	1.00
0+060	1695.59 / 1695.595	1694.59	1.00
		1694.84	1.00
0+080	1696.41 / 1696.414	1695.41	1.00
0+100	1697.26 / 1697.263	1696.26	1.00
0+120	1698.11 / 1698.113	1697.11	1.00
0+140	1698.96 / 1698.962	1697.96	1.00
0+148.96		1698.34	1.00
0+160	1699.40 / 1699.397	1698.37	1.03
0+180	1699.42 / 1699.417	1698.42 / 1698.43	1.00 / 0.99
0+200	1699.44 / 1699.441	1698.46	0.98
0+220	1699.47 / 1699.471	1698.51	0.96
0+240	1699.45 / 1699.451	1698.56	0.89
0+258.73 / 0+260	1699.40 / 1699.400	1698.61	0.79
0+280	1699.52 / 1699.524	1698.66	0.87
0+300	1699.50 / 1699.497	1698.70	0.79
0+320	1699.53 / 1699.531	1698.75	0.78
0+340	1699.68 / 1699.678	1698.80	0.88
		1698.82	0.91
0+360	1699.77 / 1699.772	1698.85	0.93
0+365.29		1698.86	0.93
0+380	1699.81 / 1699.815	1698.89	0.92
0+400	1699.85 / 1699.846	1698.94	0.90
0+420	1699.97 / 1699.969	1698.99	0.98
0+440	1700.31 / 1700.308	1699.04	1.27
0+460	1700.61 / 1700.612	1699.75	0.86
0+468.85			
0+480	1701.29 / 1701.288	1700.47	0.82
0+500	1702.04 / 1702.044	1701.19 / 1701.32	0.86 / 0.87
0+520	1702.86 / 1702.857	1701.90	0.96
0+540	1703.68 / 1703.683	1702.62	1.07
0+560	1704.51 / 1704.509	1703.34 / 1703.29	1.18 / 1.19
0+580	1705.21 / 1705.208	1704.05	1.16
0+600	1705.90 / 1705.895	1704.77	1.13
0+620	1706.58 / 1706.582	1705.48	1.10
0+640	1707.27 / 1707.269	1706.20	1.07
0+660	1707.96 / 1707.956	1706.91	1.04
0+680	1708.64 / 1708.643	1707.63	1.01
0+689.89		1707.98	1.00
0+700	1709.00 / 1708.999	1708.03	0.97
0+720	1709.07 / 1709.072	1708.13	0.95
0+740	1709.11 / 1709.110	1708.22	0.89
0+760	1709.27 / 1709.272	1708.32	0.95
0+780	1709.43 / 1709.434	1708.42	1.02
0+800	1709.53 / 1709.529	1708.51	1.02
0+810.54			
0+820	1709.61 / 1709.605	1708.61	1.00
		1708.66	0.98
0+840	1709.68 / 1709.681	1708.70	0.98
0+860	1709.78 / 1709.779	1708.80	0.98
0+880	1709.89 / 1709.893	1708.90	1.00
0+900	1710.01 / 1710.007	1708.99	1.01
0+911.72		1709.05	1.00
0+920	1710.25 / 1710.254	1709.25	1.00
0+940	1710.75 / 1710.749	1709.74	1.01
0+960	1711.24 / 1711.243	1710.23 / 1710.31	1.01 / 1.02
0+980	1711.58 / 1711.584	1710.72 / 1710.74	0.87 / 0.86
1+000	1712.13 / 1712.129	1711.21	0.92
1+020	1712.68 / 1712.685	1711.70	0.99
1+040 / 1+040.04	1713.24 / 1713.240	1712.18	1.06
1+060	1713.76 / 1713.756	1712.67	1.08
1+080	1714.27 / 1714.272	1713.16	1.11
1+100	1714.79 / 1714.788	1713.65	1.14
1+120	1715.30 / 1715.305	1714.14	1.16
1+140	1715.82 / 1715.821	1714.63	1.19
1+160	1716.34 / 1716.337	1715.12	1.22
1+168.69			
1+180	1716.77 / 1716.775	1715.61	1.17
1+200	1717.15 / 1717.153	1716.10	1.06
		1716.35	1.00

VERTICAL ALIGNMENT: 1.10% | 1.10% | 4.29% | 4.25% | 0.50% | −0.21% | 0.15% | −0.30% | 0.36% | 0.77% | −0.33% | 0.73% | 0.43% | 0.38% | 0.15% | 0.15% | 0.67% | 2.00% | −0.63% | 3.87% | 3.78% | 4.13% | 3.44% | −0.05% | 0.37% | 0.34% | 0.05% | 0.81% | 0.46% | 0.30% | 0.33% | 0.49% | 0.68% | 0.47% | 0.45% | 0.09% | 2.47% | 1.54% | 2.78% | 2.58% | 1.89%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/028

NOTES:-

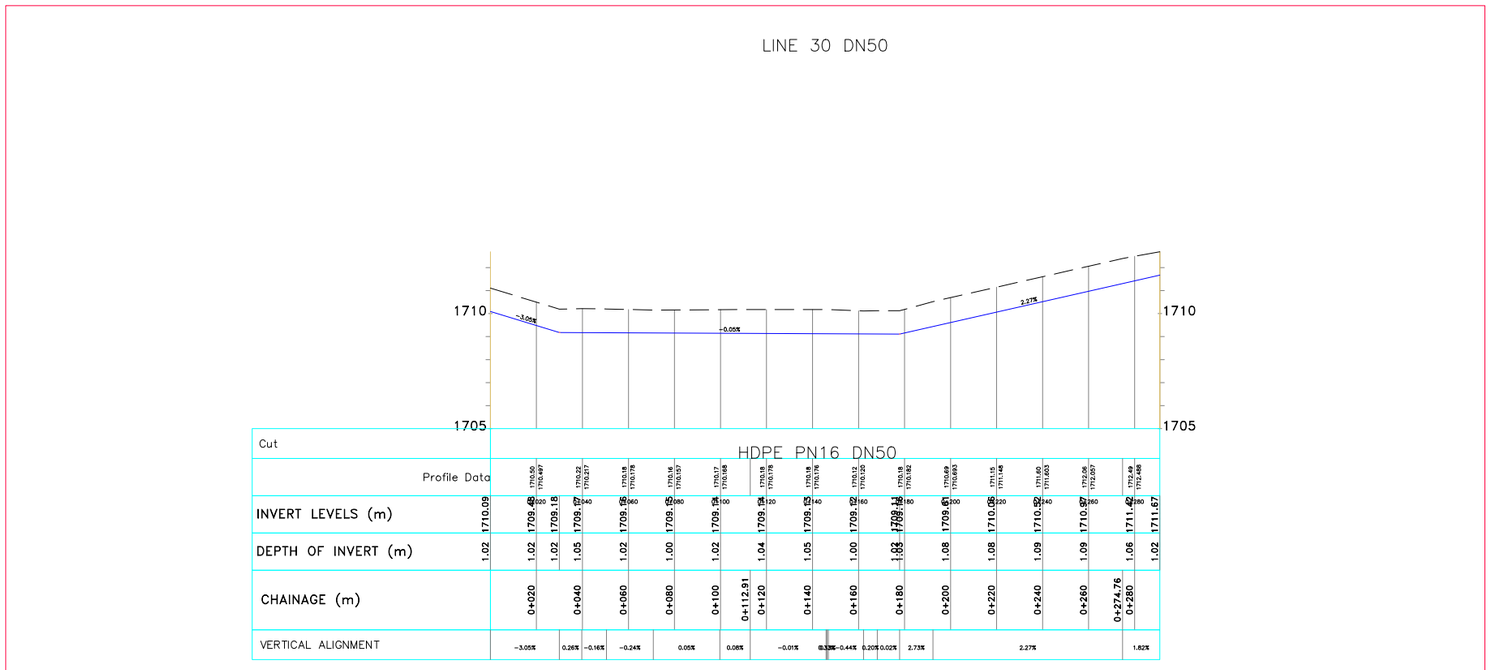
1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER



PLAN



LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

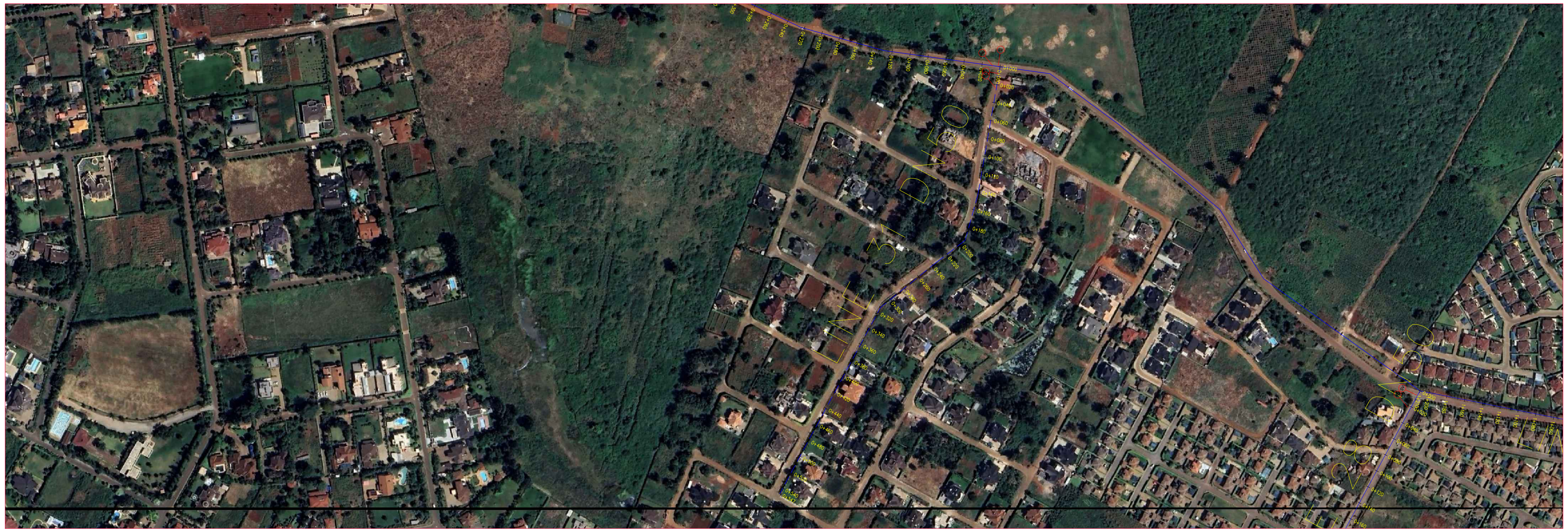
DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

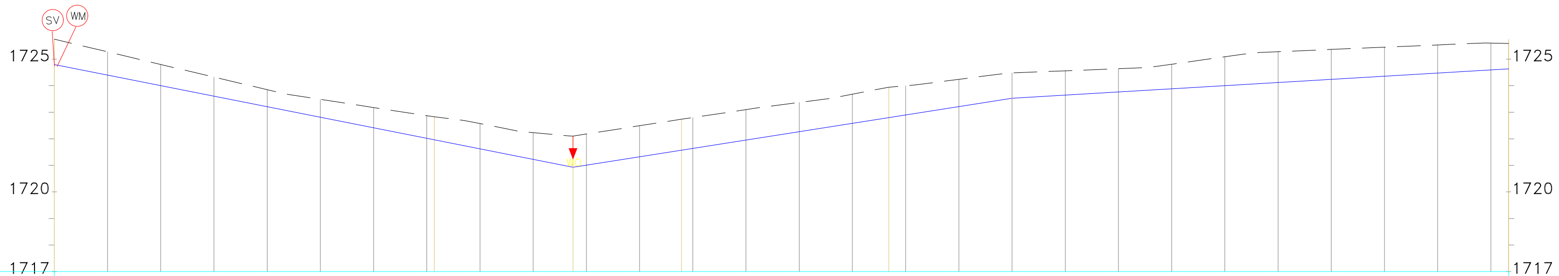
Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/029**



PLAN

LINE 31 DN50



HDPE PN16 DN50

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1724.80	0.96
0+020	1725.28 / 1725.276	1724.40	0.88
0+040	1724.80 / 1724.801	1724.00	0.80
0+060	1724.33 / 1724.325	1723.61	0.72
0+080	1723.85 / 1723.850	1723.21	0.64
0+100	1723.49 / 1723.486	1722.81	0.67
0+120	1723.18 / 1723.179	1722.42	0.76
0+140	1722.87 / 1722.871	1722.02	0.85
0+142.84		1721.96	0.86
0+160	1722.57 / 1722.573	1721.62	0.95
0+180	1722.23 / 1722.230	1721.23	1.00
		1720.93	1.17
0+200	1722.18 / 1722.183	1721.01	1.17
0+220	1722.49 / 1722.493	1721.33	1.17
		1721.57	1.17
0+240	1722.80 / 1722.801	1721.64	1.16
0+260	1723.10 / 1723.099	1721.95	1.14
0+265.91			
0+280	1723.37 / 1723.370	1722.27	1.10
0+300	1723.68 / 1723.681	1722.58	1.10
		1722.80	1.15
0+320	1724.00 / 1723.998	1722.90	1.10
0+340	1724.24 / 1724.239	1723.21	1.03
0+360	1724.48 / 1724.482	1723.53	0.96
0+380	1724.56 / 1724.561	1723.65	0.91
0+400	1724.64 / 1724.639	1723.76	0.87
0+411.37			
0+420	1724.81 / 1724.806	1723.88	0.92
0+440	1725.09 / 1725.089	1724.00	1.09
0+460	1725.28 / 1725.281	1724.12	1.16
0+480	1725.37 / 1725.366	1724.24	1.13
0+500	1725.45 / 1725.451	1724.36	1.09
0+520	1725.54 / 1725.536	1724.48	1.06
0+537.70		1724.60	1.01
0+540	1725.61 / 1725.606	1724.64	0.96

Cut

VERTICAL ALIGNMENT: −2.38% | −2.38% | −1.54% | −1.24% | −1.96% | −0.89% | −0.32% | 1.55% | 1.49% | 1.30% | 1.92% | 0.85% | 1.29% | 0.39% | 1.41% | 0.43% | 0.43% | −0.21%

LONGITUDINAL SECTION

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WO – WASHOUT
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM

SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE

Date: DEC 2025

Drg. No. NWSP/NCTLASTMILE/LOT2/THINDIGUA/030



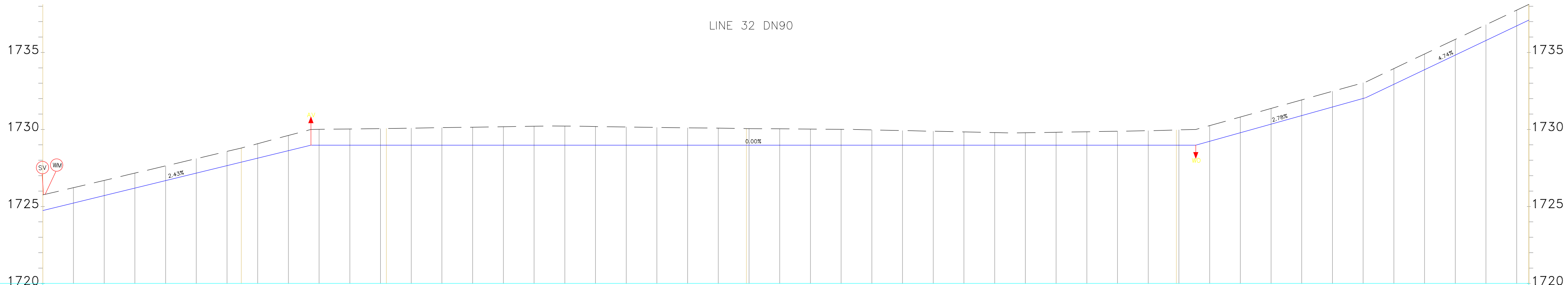
PLAN

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV – AIR VALVE
- WASHOUT – WO
- NODE
- HB 45° – HORIZONTAL BEND
- SV – SLUICE VALVE
- WM – WATER METER



Cut: HDPE PN16 DN90

CHAINAGE (m)	Profile Data	INVERT LEVELS (m)	DEPTH OF INVERT (m)
		1724.73	1.02
0+020	1726.22 / 1726.222	1725.22	1.00
0+040	1726.69 / 1726.692	1725.71	0.99
0+060	1727.16 / 1727.163	1726.19	0.97
0+080	1727.63 / 1727.634	1726.68	0.95
0+100	1728.10 / 1728.104	1727.17	0.94
0+120	1728.57 / 1728.575	1727.65	0.92
0+129.30		1727.88	0.92
0+140	1729.08 / 1729.078	1728.14	0.94
0+160	1729.61 / 1729.610	1728.63	0.98
		1728.98	1.02
0+180	1730.01 / 1730.007	1728.98	1.02
0+200	1730.03 / 1730.033	1728.98	1.05
0+220	1730.06 / 1730.058	1728.98 / 1728.98	1.08 / 1.08
0+240	1730.09 / 1730.087	1728.98	1.10
0+260	1730.12 / 1730.116	1728.98	1.13
0+278.78 / 0+280	1730.14 / 1730.145	1728.98	1.16
0+300	1730.18 / 1730.176	1728.98	1.19
0+320	1730.21 / 1730.208	1728.98	1.23
0+340	1730.22 / 1730.218	1728.98	1.24
0+360	1730.19 / 1730.191	1728.98	1.21
0+380	1730.16 / 1730.160	1728.98	1.18
0+400 / 0+406.32	1730.13 / 1730.130	1728.98	1.15
0+420	1730.11 / 1730.107	1728.98	1.12
0+440	1730.08 / 1730.084	1728.98	1.10
0+460	1730.06 / 1730.056	1728.98 / 1728.98	1.08 / 1.07
0+480	1730.04 / 1730.040	1728.98	1.06
0+500	1730.02 / 1730.024	1728.98	1.04
0+520 / 0+521.32	1730.01 / 1730.007	1728.98	1.03
0+540	1729.97 / 1729.974	1728.98	0.99
0+560	1729.93 / 1729.928	1728.98	0.95
0+580	1729.88 / 1729.885	1728.98	0.90
0+600	1729.84 / 1729.842	1728.98	0.86
0+620	1729.80 / 1729.799	1728.98	0.82
0+632.47 / 0+640	1729.78 / 1729.785	1728.98	0.80
0+660	1729.82 / 1729.818	1728.98	0.84
0+680	1729.85 / 1729.851	1728.98	0.87
0+700	1729.88 / 1729.884	1728.98	0.90
0+720	1729.92 / 1729.918	1728.98	0.94
0+738.35 / 0+740	1729.97 / 1729.974	1728.98 / 1728.98	0.99 / 0.99
		1728.98	1.02
0+760	1730.25 / 1730.251	1729.23	1.02
0+780	1730.81 / 1730.807	1729.79	1.02
0+800	1731.36 / 1731.363	1730.35	1.02
0+820	1731.92 / 1731.920	1730.90	1.02
0+840	1732.48 / 1732.476	1731.46	1.02
0+860 / 0+867.57	1733.03 / 1733.032	1732.01 / 1732.06	1.02 / 1.02
0+880	1733.95 / 1733.951	1732.93	1.02
0+900	1734.90 / 1734.899	1733.88	1.02
0+920	1735.85 / 1735.848	1734.83	1.02
0+940	1736.80 / 1736.797	1735.78	1.02
0+960	1737.75 / 1737.746	1736.73	1.02
0+967.90		1737.10	1.02

VERTICAL ALIGNMENT: 2.35% | 2.35% | 2.66% | 3.00% | 0.13% | 0.14% | 0.16% | −0.09% | −0.14% | −0.15% | −0.10% | −0.14% | −0.08% | −0.08% | −0.23% | −0.21% | 0.17% | 0.29% | 0.33% | 0.20% | 2.78% | 4.74%

LONGITUDINAL SECTION

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:		
REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA PLAN AND PROFILE**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/031**



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AIR VALVE
- WASHOUT
- NODE
- HORIZONTAL BEND
- SLUICE VALVE
- WATER METER

Client/Employer: ATHI WATER WORKS, MAKAMBEL

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

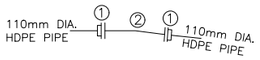
Project:
NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title:
NCT LAST MILE WORKS LOT 2 - THINDIGUA
GENERAL LAYOUT

Date: DEC 2025

Drg. No.
NWSP/NCTLASTMILE/LOT2/THINDIGUA/032

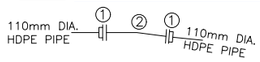
DETAIL — **CH. 0+022.53, 0+214.37, 0+298.47, 0+331.17, 0+394.78, 0+479.07, 0+510.92, 0+575.21 & 0+643.24**
LINE SC19 - 11.25° H.BEND



DESCRIPTION
9 Nos. REQUIRED

1. 2 Nos. 110mm DIA. P.E FLANGE ADAPTER(STUB END) COMPLETE WITH METAL BACK UP RING
2. 1 No. 100mm DIA. ALL FLANGED FERROUS 11.25° BEND

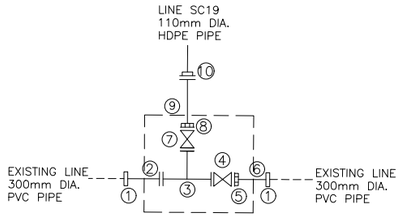
DETAIL — **CH. 0+106.94**
LINE SC19 - 22.5° H.BEND



DESCRIPTION
1 No. REQUIRED

1. 2 Nos. 110mm DIA. P.E FLANGE ADAPTER(STUB END) COMPLETE WITH METAL BACK UP RING
2. 1 No. 100mm DIA. ALL FLANGED FERROUS 22.5° BEND

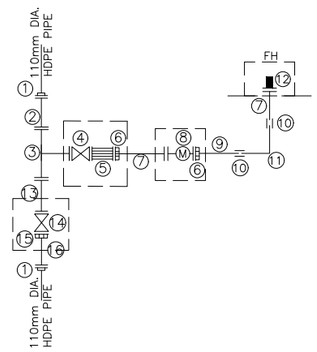
DETAIL — **CH. 0+000.00**
SC19 - INTERCONNECTION



DESCRIPTION
1 No. REQUIRED

1. 2 Nos. 300mm DIA. V.J STEPPED COUPLING
2. 1 No. 300mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
3. 1 No. 300x100mm DIA. ALL FLANGED FERROUS TEE
4. 1 No. 300mm DIA. ALL FLANGED GATE VALVE
5. 1 No. 300mm DIA. V.J. FLANGE ADAPTOR
6. 1 No. 300mm DIA. PLAIN ENDED PIPE 1200mm LONG
7. 1 No. 100mm DIA. ALL FLANGED GATE VALVE
8. 1 No. 100mm DIA. V.J. FLANGE ADAPTOR
9. 1 No. 100mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
10. 1 No. 110mm DIA. P.E FLANGE ADAPTOR COMPLETE WITH METAL BACK UP RING

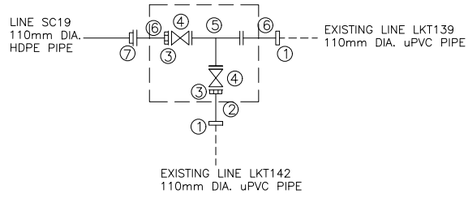
DETAIL — **CH. 0+540.00**
SC19 - GV, WM & FH - 01



DESCRIPTION
1 No. REQUIRED

1. 2 Nos. 110mm DIA. P.E FLANGE ADAPTOR COMPLETE WITH METAL BACK UP RING
2. 1 No. 100mm DIA. ALL FLANGED FERROUS PIPE 1.2m LONG
3. 1 No. 100x80mm DIA. ALL FLANGED FERROUS TEE
4. 1 No. 80mm DIA. ALL FLANGED GATE VALVE
5. 1 No. 80mm DIA. ALL FLANGED STRAINER
6. 2 Nos. 80mm DIA. V.J. FLANGE ADAPTOR
7. 2 Nos. 80mm DIA. FLANGED SPIGOT FERROUS PIPE 1.2m LONG
8. 1 No. 80mm DIA. ALL FLANGED WATER METER
9. 1 No. 80mm DIA. PLAIN ENDED FERROUS PIPE 1.2m LONG
10. 2 Nos. 80mm DIA. V.J. COUPLING
11. 1 No. 80mm DIA. PLAIN ENDED FERROUS 90° BEND
12. 1 No. 80mm DIA. FIRE HYDRANT
13. 1 No. 100mm DIA. ALL FLANGED FERROUS PIPE 2.0m LONG
14. 1 No. 100mm DIA. ALL FLANGED GATE VALVE
15. 1 No. 100mm DIA. V.J FLANGE ADAPTOR
16. 1 No. 100mm DIA. FLANGED SPIGOT FERROUS PIPE 1.2m LONG

DETAIL — **CH. 0+655.80**
SC19 - INTERCONNECTION



DESCRIPTION
1 No. REQUIRED

1. 2 Nos. 100mm DIA. V.J STEPPED COUPLING
2. 1 No. 100mm DIA. PLAIN ENDED FERROUS PIPE 1200mm LONG
3. 2 Nos. 100mm DIA. V.J. FLANGE ADAPTOR
4. 2 Nos. 100mm DIA. ALL FLANGED GATE VALVE
5. 1 No. 100x100mm DIA. ALL FLANGED FERROUS TEE
6. 2 Nos. 100mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
7. 1 No. 110mm DIA. PE FLANGE ADAPTOR (STUB END) COMPLETE WITH METAL BACK UP RING

NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- EXISTING GROUND PROFILE
- PIPE INVERT
- EXISTING NMS LINE
- AV — AIR VALVE
- WASHOUT
- WO — NODE
- HB 45° — HORIZONTAL BEND
- SV — SLUICE VALVE
- WM — WATER METER

Client/Employer: ATHI WATER WORKS

Financier: AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Consultants: egis, Losai

Contractor:

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED BY: TPK
DRAWN BY: TPK
CHECKED BY: INT
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Project: NORTHEN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Drawing Title: **NCT LAST MILE WORKS LOT 2 - THINDIGUA FITTING SPECIFICATIONS**

Date: DEC 2025

Drg. No. **NWSP/NCTLASTMILE/LOT2/THINDIGUA/033**

FOURWAY SEWER



NOTES:-

1. ALL LEVELS ARE IN METERS ABOVE ORDINARY DATUM.

LEGEND:

- STEEL (DN800 TO DN400)
- HDPE (OD315 TO OD63)

Client/Employer: ATHI WATER WORKS

Financier: GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION); AFD AGENCE FRANÇAISE DE DEVELOPPEMENT

Consultants: egis; Losai Management Limited

Revisions:

REV.	DATE	REMARKS

Notes:

SURVEYED BY: PGM
DRAWN BY: KCK
CHECKED BY: INT
APPROVED BY: PNM

SCALE: AS SHOWN (AT A3)
1:2,500

Project:
CONSTRUCTION WORKS FOR THE NORTHEN COLLECTOR TUNNEL (NCT) LAST MILE PROJECT - LOT 2

Drawing Title:
FOURWAY SEWER GENERAL LAYOUT

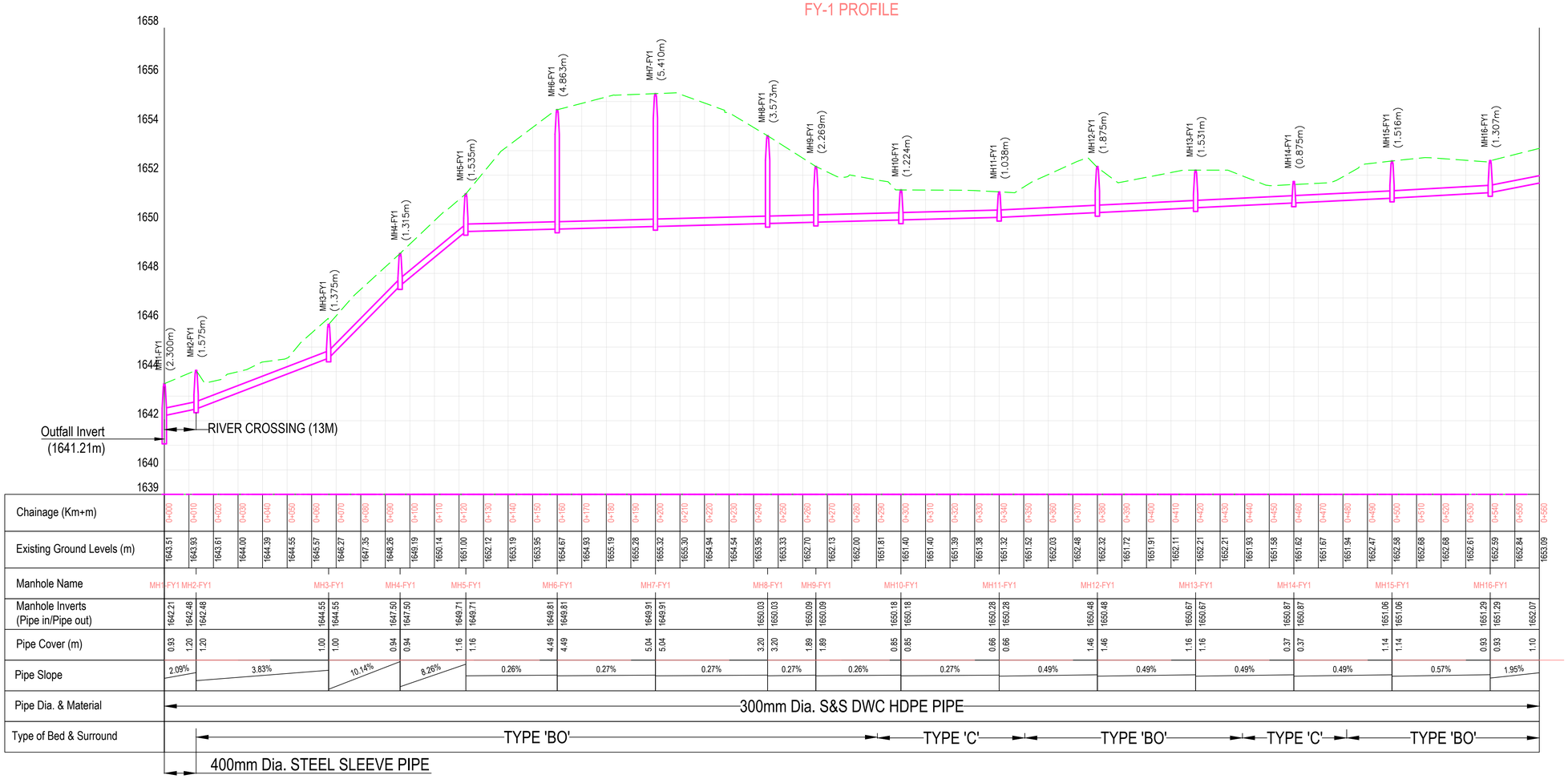
SHEET 1 OF 1

Date: DEC 2025

Drg. No.
NWSP/NCTLastMile/LOT2/Fourway/GL-01



FY-1 PROFILE



Chainage (Km+m)	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140	0+150	0+160	0+170	0+180	0+190	0+200	0+210	0+220	0+230	0+240	0+250	0+260	0+270	0+280	0+290	0+300	0+310	0+320	0+330	0+340	0+350	0+360	0+370	0+380	0+390	0+400	0+410	0+420	0+430	0+440	0+450	0+460	0+470	0+480	0+490	0+500	0+510	0+520	0+530	0+540	0+550	0+560
Existing Ground Levels (m)	1643.51	1643.93	1643.61	1644.00	1644.39	1644.55	1645.57	1646.27	1647.35	1648.26	1649.19	1650.14	1651.00	1652.12	1653.19	1653.95	1654.67	1654.93	1655.19	1655.28	1655.32	1655.30	1654.94	1654.54	1653.95	1653.33	1652.70	1652.13	1652.00	1651.81	1651.40	1651.40	1651.39	1651.38	1651.32	1651.52	1652.03	1652.48	1652.32	1651.72	1651.91	1652.11	1652.21	1652.21	1651.93	1651.58	1651.62	1651.67	1651.94	1652.47	1652.58	1652.68	1652.68	1652.61	1652.59	1652.84	1653.09
Manhole Name	MH1-FY1	MH2-FY1						MH3-FY1			MH4-FY1		MH5-FY1				MH6-FY1				MH7-FY1				MH8-FY1		MH9-FY1				MH10-FY1				MH11-FY1			MH12-FY1				MH13-FY1				MH14-FY1				MH15-FY1				MH16-FY1			
Manhole Inverts (Pipe in/Pipe out)	1642.21	1642.48	1642.48					1644.55	1644.55	1647.50	1647.50	1649.71	1649.71				1649.81	1649.81			1649.91	1649.91			1650.03	1650.03	1650.09	1650.09			1650.18	1650.18			1650.28	1650.28		1650.46	1650.46			1650.67	1650.67			1650.87	1650.87			1651.06	1651.06			1651.29	1651.29		
Pipe Cover (m)	0.93	1.20	1.20					1.00	1.00	0.94	0.94	1.16	1.16				4.49	4.49			5.04	5.04			3.20	3.20	1.89	1.89			0.85	0.85			0.66	0.66		1.46	1.46			1.16	1.16			0.37	0.37			1.14	1.14			0.93	0.93		1.10
Pipe Slope	2.09%		3.83%					10.14%		8.26%		0.26%					0.27%				0.27%				0.27%		0.26%				0.27%				0.49%			0.49%				0.49%				0.49%				0.57%				1.95%			
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																																																											
Type of Bed & Surround	TYPE 'BO'																																																										
	400mm Dia. STEEL SLEEVE PIPE																																																									

NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

In Joint Venture with

Losai Management Limited — 15 Westlands Road, Office No.9
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1
PLAN & PROFILE DRAWING
SHEET 1 OF 6

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1-01		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

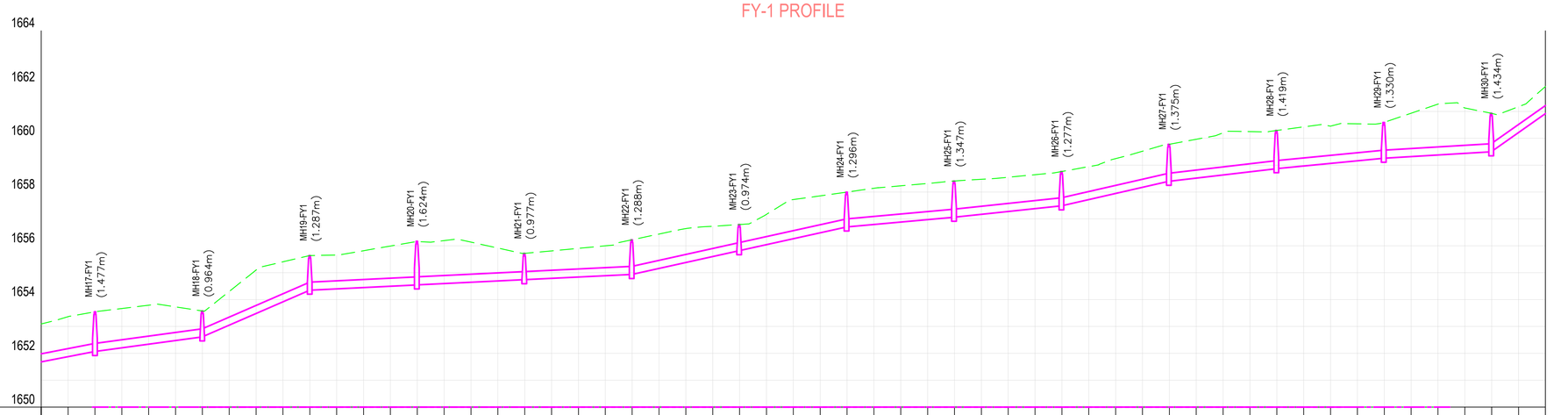
- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

FY-1 PROFILE



Chainage (Km+m)	0+560	0+570	0+580	0+590	0+600	0+610	0+620	0+630	0+640	0+650	0+660	0+670	0+680	0+690	0+700	0+710	0+720	0+730	0+740	0+750	0+760	0+770	0+780	0+790	0+800	0+810	0+820	0+830	0+840	0+850	0+860	0+870	0+880	0+890	0+900	0+910	0+920	0+930	0+940	0+950	0+960	0+970	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180
Existing Ground Levels (m)	1653.09	1653.36	1653.55	1653.67	1653.79	1653.73	1653.57	1654.30	1655.10	1655.40	1655.64	1655.66	1655.82	1655.99	1656.16	1656.19	1656.14	1655.92	1655.72	1655.81	1655.91	1656.00	1656.23	1656.44	1656.64	1656.72	1656.79	1657.17	1657.72	1657.86	1658.00	1658.14	1658.23	1658.32	1658.41	1658.47	1658.55	1658.65	1658.77	1658.95	1659.25	1659.52	1659.78	1659.96	1660.20	1660.25	1660.29	1660.42	1660.45	1660.54	1660.59	1660.93	1661.27	1661.13	1660.93	1661.18	1661.93
Manhole Name			MH17-FY1				MH18-FY1				MH19-FY1				MH20-FY1				MH21-FY1				MH22-FY1				MH23-FY1				MH24-FY1				MH25-FY1				MH26-FY1				MH27-FY1				MH28-FY1				MH29-FY1				MH30-FY1			
Manhole Inverts (Pipe in/Pipe out)	1651.29	1652.07	1652.07			1652.61	1652.61			1654.35	1654.35			1654.54	1654.54			1654.74	1654.74			1654.93	1654.93			1655.82	1655.82			1656.70	1656.70			1657.06	1657.06			1657.49	1657.49			1658.40	1658.40			1658.87	1658.87			1659.26	1659.26			1659.50	1659.50	1662.31
Pipe Cover (m)	0.93	1.10	1.10			0.59	0.59			0.91	0.91			1.25	1.25			0.60	0.60			0.91	0.91			0.60	0.60			0.92	0.92			0.97	0.97			0.90	0.90			1.00	1.00			1.04	1.04			0.95	0.95			1.06	1.06	1.00
Pipe Slope	1.95%		1.36%			4.35%				0.49%				0.49%				0.49%				2.21%				2.21%				0.91%				1.06%				2.29%				1.17%				0.97%				0.60%				7.04%	
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																																																							
Type of Bed & Surround	TYPE 'BO'			TYPE 'C'				TYPE 'BO'										TYPE 'C'																								TYPE 'BO'																

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

In Joint Venture with

Losai Management Limited — 15 Westlands Road, Office No.9
P.O Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1
PLAN & PROFILE DRAWING
SHEET 2 OF 6

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1-02		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

FY-1 PROFILE



Chainage (Km+m)	Existing Ground Levels (m)	Manhole Name	Manhole Inverts (Pipe in/Pipe out)	Pipe Cover (m)
1+120	1661.93		1659.50	1.06
1+130	1662.82			
1+140	1663.70	MH31-FY1	1662.31 / 1662.31	1.00 / 1.00
1+150	1664.24			
1+160	1664.65			
1+170	1665.05			
1+180	1665.46	MH32-FY1	1663.80 / 1663.80	1.28 / 1.28
1+190	1665.93			
1+200	1666.67			
1+210	1667.42			
1+220	1668.16	MH33-FY1	1666.76 / 1666.76	1.01 / 1.01
1+230	1668.83			
1+240	1669.50			
1+250	1670.18			
1+260	1670.83	MH34-FY1	1669.45 / 1669.45	1.00 / 1.00
1+270	1671.34			
1+280	1671.85			
1+290	1672.34			
1+300	1672.77	MH35-FY1	1671.19 / 1671.19	1.21 / 1.21
1+310	1672.71			
1+320	1672.66			
1+330	1672.61			
1+340	1672.55	MH36-FY1	1671.46 / 1671.46	0.71 / 0.71
1+350	1672.52			
1+360	1672.72			
1+370	1672.96			
1+380	1673.19	MH37-FY1	1671.81 / 1671.81	1.00 / 1.00
1+390	1673.43			
1+400	1673.67			
1+410	1673.93			
1+420	1674.20	MH38-FY1	1672.99 / 1672.99	0.83 / 0.83
1+430	1674.53			
1+440	1675.18			
1+450	1675.84			
1+460	1676.28	MH39-FY1	1674.79 / 1674.79	1.10 / 1.10
1+470	1676.72			
1+480	1677.15			
1+490	1677.59			
1+500	1677.99	MH40-FY1	1676.80 / 1676.80	0.81 / 0.81
1+510	1678.34			
1+520	1678.87			
1+530	1679.60			
1+540	1680.06	MH41-FY1	1678.65 / 1678.65	1.02 / 1.02
1+550	1680.52			
1+560	1680.99			
1+570	1681.33			
1+580	1681.81	MH42-FY1	1680.46 / 1680.46	0.96 / 0.96
1+590	1682.37			
1+600	1682.60			
1+610	1682.68			
1+620	1682.88	MH43-FY1	1681.35 / 1681.35	1.15 / 1.15
1+630	1683.28			
1+640	1683.65			
1+650	1684.20			
1+660	1684.75	MH44-FY1	1681.45 / 1681.45	2.92 / 2.92
1+670	1684.52			
1+680	1684.49		1681.58	3.46

Pipe Slope (segment)	Pipe Slope
1+120 – MH31-FY1	7.04%
MH31-FY1 – MH32-FY1	3.71%
MH32-FY1 – MH33-FY1	7.41%
MH33-FY1 – MH34-FY1	6.72%
MH34-FY1 – MH35-FY1	4.34%
MH35-FY1 – MH36-FY1	0.68%
MH36-FY1 – MH37-FY1	0.89%
MH37-FY1 – MH38-FY1	2.94%
MH38-FY1 – MH39-FY1	4.51%
MH39-FY1 – MH40-FY1	5.01%
MH40-FY1 – MH41-FY1	4.64%
MH41-FY1 – MH42-FY1	4.53%
MH42-FY1 – MH43-FY1	2.22%
MH43-FY1 – MH44-FY1	0.25%
MH44-FY1 – 1+680	0.26%

Pipe Dia. & Material: 300mm Dia. S&S DWC HDPE PIPE

Type of Bed & Surround: TYPE 'BO' — TYPE 'C' — TYPE 'BO'

LEGEND:

- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader ....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya **Agence Française de Développement**

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis **Priory Hse, 5th Flr, Argwings Kodhek Rd**
P.O.Box: 76672-00508 Yaya Towers

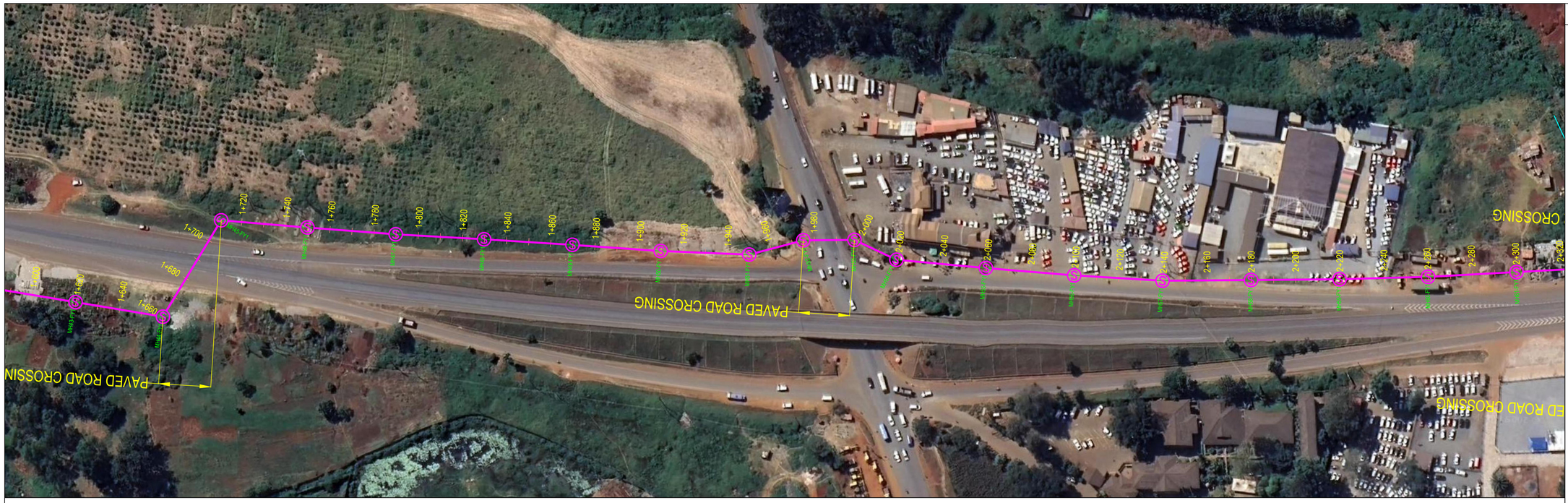
In Joint Venture with

Losai Management Limited **15 Westlands Road, Office No.9**
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY–1
PLAN & PROFILE DRAWING
SHEET 3 OF 6

Designed by KCK		Drawn by KCK	
Checked by INT		Approved by PNM	
Scale 1:1000		Date NOV 2025	
Job No.	NCT/ 2025	ACAD File: NCT/ 2025	
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1–03		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

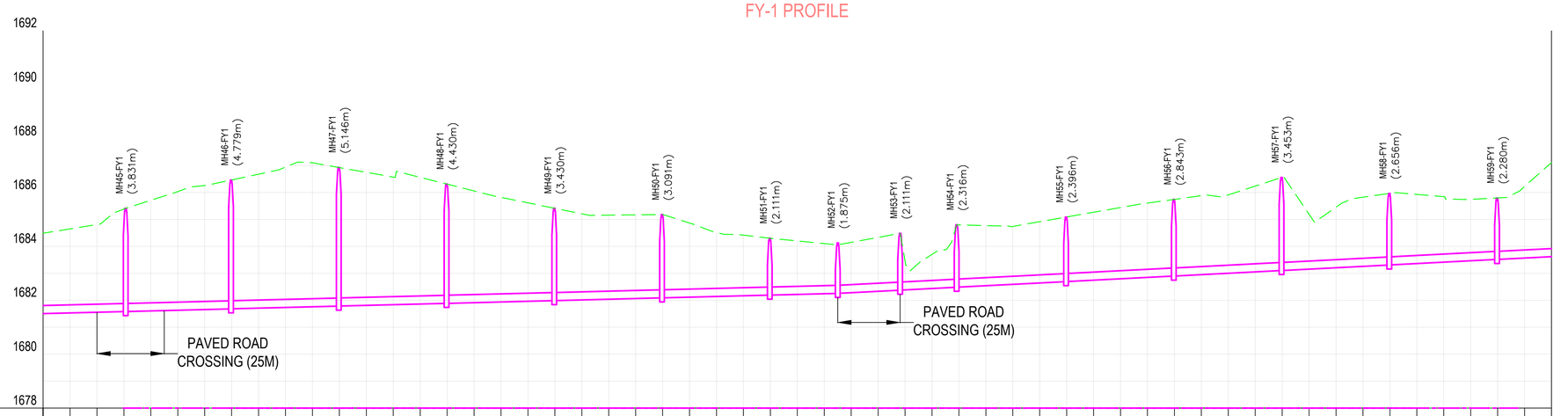
- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

FY-1 PROFILE



Chainage (Km+m)	1+680	1+690	1+700	1+710	1+720	1+730	1+740	1+750	1+760	1+770	1+780	1+790	1+800	1+810	1+820	1+830	1+840	1+850	1+860	1+870	1+880	1+890	1+900	1+910	1+920	1+930	1+940	1+950	1+960	1+970	1+980	1+990	2+000	2+010	2+020	2+030	2+040	2+050	2+060	2+070	2+080	2+090	2+100	2+110	2+120	2+130	2+140	2+150	2+160	2+170	2+180	2+190	2+200	2+210	2+220	2+230	2+240
Existing Ground Levels (m)	1684.49	1684.65	1684.81	1685.39	1685.71	1686.03	1686.26	1686.47	1686.68	1686.95	1687.10	1686.93	1686.75	1686.57	1686.56	1686.31	1686.06	1685.82	1685.62	1685.41	1685.21	1685.16	1685.17	1685.18	1684.87	1684.51	1684.42	1684.30	1684.20	1684.11	1684.15	1684.33	1683.47	1683.70	1684.80	1684.77	1684.74	1684.92	1685.09	1685.27	1685.44	1685.61	1685.74	1685.88	1685.91	1686.24	1686.56	1685.19	1685.46	1685.82	1685.97	1685.93	1685.85	1685.74	1685.80	1686.23	1687.11
Manhole Name				MH45-FY1				MH46-FY1				MH47-FY1				MH48-FY1				MH49-FY1				MH50-FY1				MH51-FY1				MH52-FY1		MH53-FY1		MH54-FY1				MH55-FY1				MH56-FY1				MH57-FY1				MH58-FY1				MH59-FY1								
Manhole Inverts (Pipe in/Pipe out)	1681.45		1681.58	1681.58			1681.68	1681.68			1681.78	1681.78			1681.89	1681.89			1681.99	1681.99			1682.09	1682.09			1682.19	1682.19		1682.26	1682.26	1682.38	1682.38	1682.48	1682.48			1682.69	1682.69			1682.90	1682.90			1683.10	1683.10			1683.31	1683.31			1683.52	1683.52			1683.72
Pipe Cover (m)	2.92		3.46	3.46			4.40	4.40			4.77	4.77			4.05	4.05			3.05	3.05			2.72	2.72			1.74	1.74		1.43	1.43	1.74	1.74	1.94	1.94			2.02	2.02			2.47	2.47			3.08	3.08			2.28	2.28			1.91	1.91			3.14
Pipe Slope	0.26%			0.25%				0.25%				0.25%				0.25%				0.25%				0.25%				0.25%				0.25%		0.52%		0.51%				0.51%				0.51%				0.51%				0.51%				0.51%				
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																																																														
Type of Bed & Surround	TYPE 'BO'																																																												

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

In Joint Venture with

Losai Management Limited — 15 Westlands Road, Office No.9
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1
PLAN & PROFILE DRAWING
SHEET 4 OF 6

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1-04		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
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3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

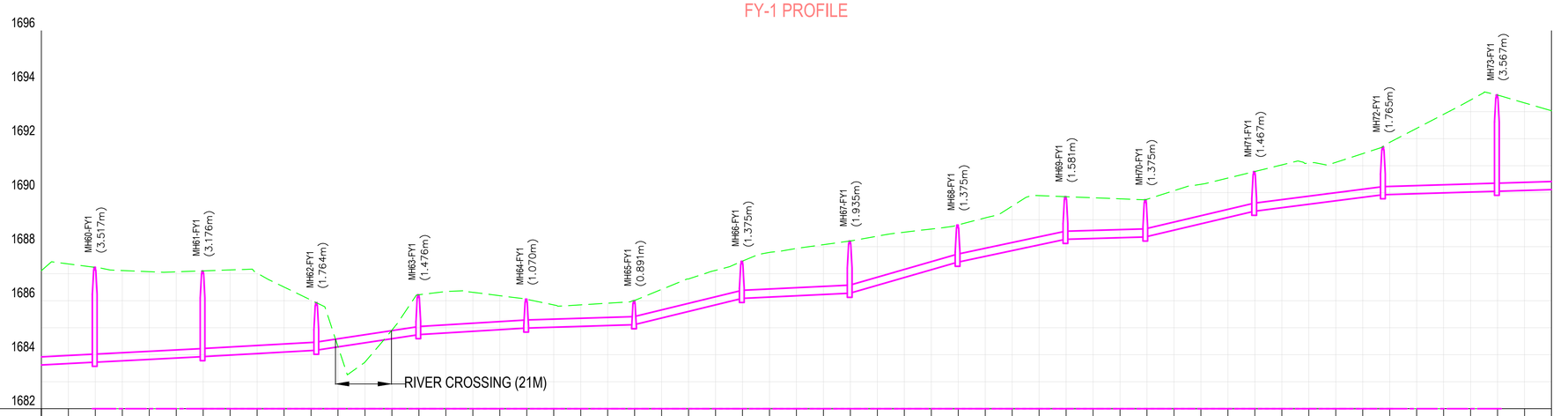
- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

FY-1 PROFILE



Chainage (Km+m)	2+240	2+250	2+260	2+270	2+280	2+290	2+300	2+310	2+320	2+330	2+340	2+350	2+360	2+370	2+380	2+390	2+400	2+410	2+420	2+430	2+440	2+450	2+460	2+470	2+480	2+490	2+500	2+510	2+520	2+530	2+540	2+550	2+560	2+570	2+580	2+590	2+600	2+610	2+620	2+630	2+640	2+650	2+660	2+670	2+680	2+690	2+700	2+710	2+720	2+730	2+740	2+750	2+760	2+770	2+780	2+790	2+800
Existing Ground Levels (m)	1687.11	1687.36	1687.24	1687.12	1687.08	1687.07	1687.10	1687.14	1687.02	1686.50	1686.02	1684.30	1683.73	1684.91	1686.22	1686.34	1686.31	1686.19	1686.05	1685.85	1685.85	1685.91	1686.01	1686.42	1686.81	1687.12	1687.47	1687.79	1687.93	1688.08	1688.21	1688.39	1688.54	1688.65	1688.81	1689.07	1689.50	1689.89	1689.85	1689.81	1689.77	1689.76	1690.07	1690.31	1690.54	1690.79	1691.03	1691.10	1691.12	1691.45	1691.86	1692.38	1692.90	1693.43	1693.61	1693.33	1693.03
Manhole Name			MH60-FY1				MH61-FY1				MH62-FY1				MH63-FY1				MH64-FY1				MH65-FY1				MH66-FY1				MH67-FY1				MH68-FY1				MH69-FY1				MH70-FY1				MH71-FY1				MH72-FY1				MH73-FY1			
Manhole Inverts (Pipe in/Pipe out)	1683.52	1683.72	1683.72			1683.93	1683.93				1684.16	1684.17			1684.74	1684.74			1684.99	1684.99			1685.11	1685.11			1686.08	1686.08			1686.28	1686.28			1687.43	1687.43			1688.27	1688.27			1688.36	1688.36			1689.31	1689.31			1689.93	1689.93			1690.05	1690.05		1690.17
Pipe Cover (m)	1.91	3.14	3.14			2.80	2.80				1.39	1.39			1.10	1.10			0.69	0.69			0.52	0.52			1.00	1.00			1.56	1.56			1.00	1.00			1.21	1.21			1.00	1.00			1.09	1.09			1.39	1.39			3.19	3.19		2.05
Pipe Slope	0.51%		0.51%				0.56%				1.52%				0.61%				0.31%				2.44%				0.48%				2.88%				2.11%				0.30%				2.36%				1.29%				0.30%				0.30%			
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																																																											
Type of Bed & Surround	TYPE 'BO'																																																										

400mm Dia. STEEL SLEEVE PIPE

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

In Joint Venture with

Losai Management Limited — 15 Westlands Road, Office No.9
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1
PLAN & PROFILE DRAWING
SHEET 5 OF 6

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1-05		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

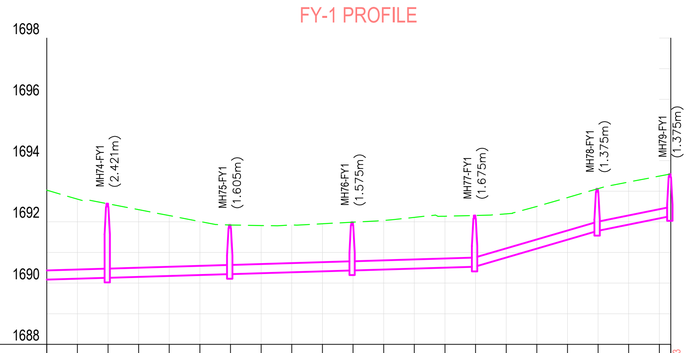
- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

FY-1 PROFILE



Chainage (Km+m)	2+600	2+610	2+620	2+630	2+640	2+650	2+660	2+670	2+680	2+690	2+900	2+910	2+920	2+930	2+940	2+950	2+960	2+970	2+980	2+990	3+000	3+003.73
Existing Ground Levels (m)	1693.03	1692.74	1692.59	1692.40	1692.20	1692.01	1691.90	1691.88	1691.90	1691.94	1691.99	1692.05	1692.15	1692.18	1692.21	1692.26	1692.50	1692.79	1693.08	1693.30	1693.49	
Manhole Name		MH74-FY1				MH75-FY1				MH76-FY1					MH77-FY1				MH78-FY1		MH79-FY1	
Manhole Inverts (Pipe in/Pipe out)	1690.05	1690.17	1690.17			1690.29	1690.29			1690.41	1690.41				1690.53	1690.53			1691.70	1691.70	1692.18	
Pipe Cover (m)	3.19	2.05	2.05			1.23	1.23			1.20	1.20				1.30	1.30			1.00	1.00	1.00	
Pipe Slope	0.30%		0.30%			0.30%				0.30%					0.30%				2.92%		2.03%	
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																					
Type of Bed & Surround	TYPE 'BO'																					

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

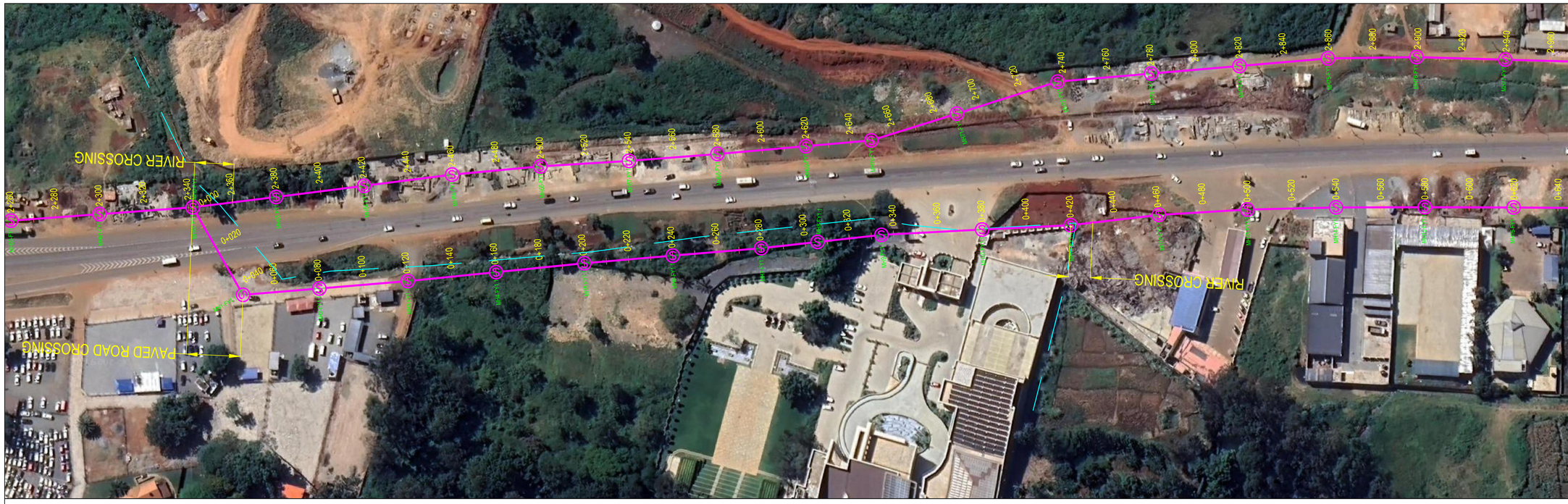
In Joint Venture with

Losai Management Limited — 15 Westlands Road, Office No.9
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1
PLAN & PROFILE DRAWING
SHEET 6 OF 6

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1-06		REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

LEGEND:

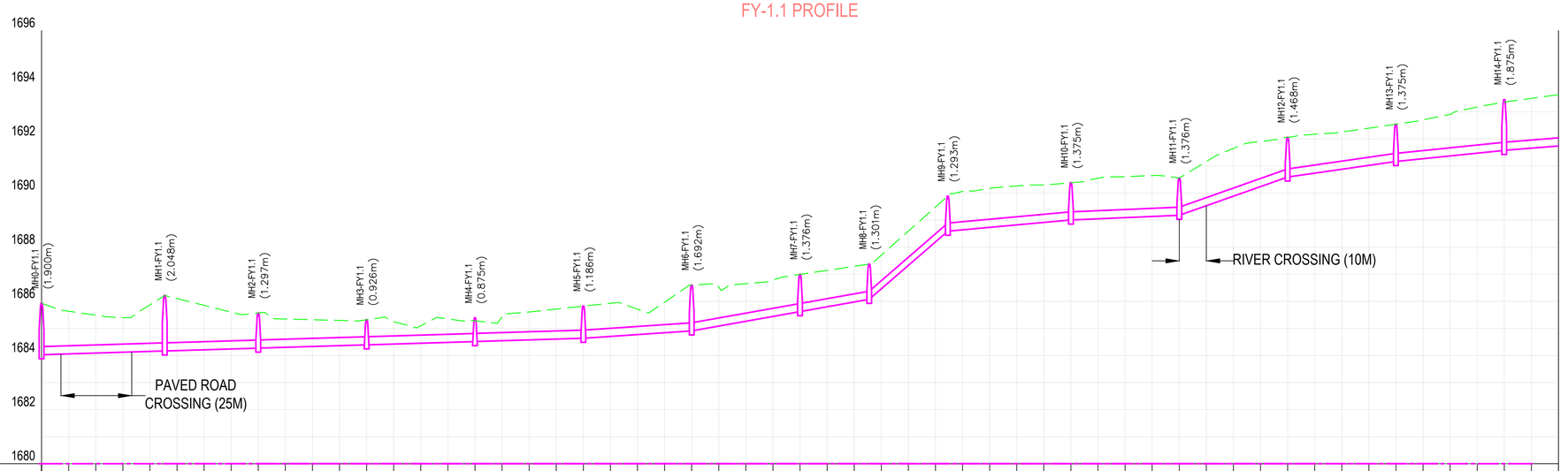
- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

FY-1.1 PROFILE



Chainage (Km+m)	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140	0+150	0+160	0+170	0+180	0+190	0+200	0+210	0+220	0+230	0+240	0+250	0+260	0+270	0+280	0+290	0+300	0+310	0+320	0+330	0+340	0+350	0+360	0+370	0+380	0+390	0+400	0+410	0+420	0+430	0+440	0+450	0+460	0+470	0+480	0+490	0+500	0+510	0+520	0+530	0+540	0+550	0+560
Existing Ground Levels (m)	1685.93	1685.63	1685.49	1685.40	1685.87	1686.10	1685.85	1685.60	1685.57	1685.35	1685.32	1685.29	1685.32	1685.25	1685.10	1685.35	1685.28	1685.43	1685.61	1685.71	1685.82	1685.93	1685.71	1685.97	1686.60	1686.52	1686.65	1686.79	1686.99	1687.14	1687.29	1687.70	1688.60	1689.48	1690.06	1690.17	1690.26	1690.30	1690.38	1690.55	1690.60	1690.65	1690.55	1691.16	1691.65	1691.91	1692.06	1692.17	1692.25	1692.40	1692.54	1692.70	1692.91	1693.18	1693.36	1693.50	1693.63
Manhole Name	MH0-FY1.1				MH1-FY1.1			MH2-FY1.1			MH3-FY1.1				MH4-FY1.1				MH5-FY1.1				MH6-FY1.1				MH7-FY1.1			MH8-FY1.1		MH9-FY1.1			MH10-FY1.1				MH11-FY1.1				MH12-FY1.1				MH13-FY1.1				MH14-FY1.1							
Manhole Inverts (Pipe in/Pipe out)	1684.03				1684.17 / 1684.17			1684.27 / 1684.27			1684.39 / 1684.39				1684.51 / 1684.51				1684.63 / 1684.63				1684.91 / 1684.91				1685.62 / 1685.62			1686.07 / 1686.07		1688.59 / 1688.59			1689.00 / 1689.00				1689.18 / 1689.18				1690.59 / 1690.59				1691.17 / 1691.17				1691.58 / 1691.58							1691.90
Pipe Cover (m)	1.53				1.67 / 1.67			0.92 / 0.92			0.55 / 0.55				0.39 / 0.39				0.81 / 0.81				1.32 / 1.32				1.00 / 1.00			0.93 / 0.93		0.92 / 0.92			1.00 / 1.00				1.00 / 1.00				1.09 / 1.09				1.00 / 1.00				1.41 / 1.41							1.54
Pipe Slope	0.30%				0.30%			0.30%			0.30%				0.30%				0.68%				1.78%				1.78%			8.67%		0.91%			0.44%				3.53%				1.44%				1.02%				0.81%							
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE																																																												
Type of Bed & Surround	TYPE 'BO'								TYPE 'C'																																																								
	TYPE 'BO'																																																												
	400mm Dia. STEEL SLEEVE PIPE																																																												

Client	ATHI WATER WORKS DEVELOPMENT AGENCY ATHI WATER PLAZA, ALONG KIAMBU ROAD P.O BOX 45283-00100 NRB Kenya Phone: +254/20-2724295
Financier	Government of Kenya — Agence Française de Développement
Project	NORTHERN COLLECTOR TUNNEL (NCT) LAST MILE WORKS - LOT 2
Design Consultant.	egis — Priory Hse, 5th Flr, Argwings Kodhek Rd P.O.Box: 76672-00508 Yaya Towers In Joint Venture with Losai Management Limited — 15 Westlands Road, Office No.9 P.O. Box 30337-00100 Nairobi, Kenya
Drawing Title	FOURWAY SEWERS – LINE FY-1.1 PLAN & PROFILE DRAWING SHEET 1 OF 2
Designed by KCK	Drawn by KCK
Checked by INT	Approved by PNM
Scale 1:1000	Date NOV 2025
Job No. NCT/ 2025	ACAD File: NCT/ 2025
STATUS	DRAWING No. NWSP/NCTLastMile/Lot 2/Fourway/FY1.1-01 REV



NOTES

1. ALL DIMENSIONS/LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0m AND 1.2m FOR TRAFFICKED AREAS. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELATED DRAWINGS. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
4. PRECISE LOCATIONS OF MANHOLES TO BE DETERMINED ON SITE.

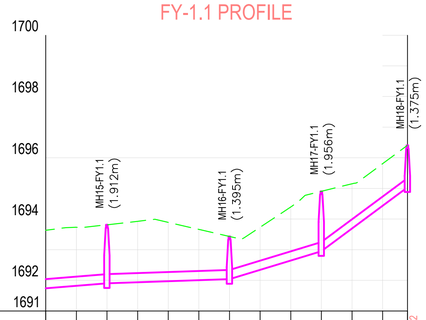
LEGEND:

- EXISTING GROUND PROFILE
- TRUNK SEWER
- RIVER/STREAM
- MANHOLE
- EXISTING SEWER
- EXISTING MANHOLE

PRELIMINARY ISSUE

Signed: Team Leader .....

FY-1.1 PROFILE



Chainage (Km+m)	0+560	0+570	0+580	0+590	0+600	0+610	0+620	0+630	0+640	0+650	0+660	0+670	0+678.12
Existing Ground Levels (m)	1693.63	1693.73	1693.81	1693.92	1693.89	1693.66	1693.43	1693.73	1694.39	1694.90	1695.15	1695.81	
Manhole Name			MH15-FY1.1				MH16-FY1.1			MH17-FY1.1		MH18-FY1.1	
Manhole Inverts (Pipe in/Pipe out)	1691.58	1691.90	1691.90				1692.04	1692.04		1692.95	1692.95	1695.03	
Pipe Cover (m)	1.41	1.54	1.54				1.02	1.02		1.58	1.58	1.00	
Pipe Slope	0.81%		0.34%				3.03%			7.42%			
Pipe Dia. & Material	300mm Dia. S&S DWC HDPE PIPE												
Type of Bed & Surround	TYPE 'BO'												

REV	REVISIONS		SIGN	DATE	APPROVED
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			
		BY			
		CHECKED			

Client

ATHI WATER WORKS DEVELOPMENT AGENCY
ATHI WATER PLAZA, ALONG KIAMBU ROAD
P.O BOX 45283-00100 NRB
Kenya
Phone: +254/20-2724295

Financier

Government of Kenya — Agence Française de Développement

Project

NORTHERN COLLECTOR TUNNEL (NCT)
LAST MILE WORKS - LOT 2

Design Consultant.

egis — Priory Hse, 5th Flr, Argwings Kodhek Rd
P.O.Box: 76672-00508 Yaya Towers

In Joint Venture with

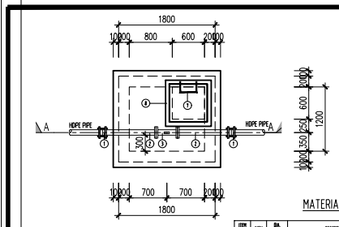
Losai Management Limited — 15 Westlands Road, Office No.9
P.O. Box 30337-00100 Nairobi, Kenya

Drawing Title

FOURWAY SEWERS – LINE FY-1.1
PLAN & PROFILE DRAWING
SHEET 2 OF 2

Designed by	KCK	Drawn by	KCK
Checked by	INT	Approved by	PNM
Scale	1:1000	Date	NOV 2025
Job No.	NCT/ 2025	ACAD File:	NCT/ 2025
STATUS	DRAWING No. NWSP/NCT/LastMile/Lot 2/Fourway/FY1.1-02		REV

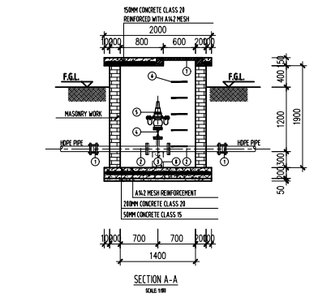
STANDARD DRAWINGS



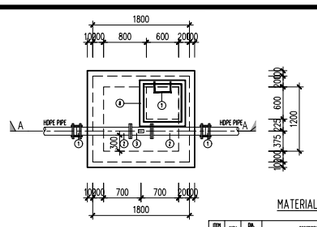
HDPE OD110MM PIPE
AIR VALVE CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	100	V.J. FLEXIBLE COUPLING	420Wx420Hmm
2	2	100	SINGLE FLANGED PIPE	L=500
3	1	100x50	ALL FLANGED TEE	L=500
4	1	50	ALL FLANGED GATE VALVE	BS 5163, PN16 L=200mm
5	1	50	DOUBLE ORIFICE AIR VALVE	PN16
6	6		P.P. MANHOLE LADDER STEPS	280x200x20mm
7	1		HDPE MANHOLE COVER WITH FRAME	700x700x45mm
8	1		CONCRETE SUPPORT CLASS 10	300x200x100mm



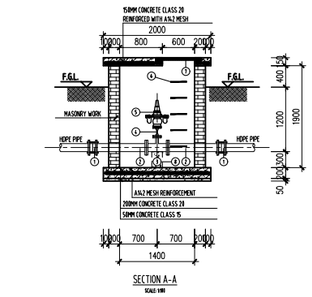
SECTION A-A
SCALE: 1:100



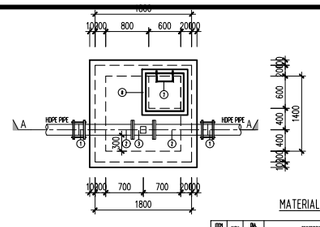
HDPE OD160MM PIPE
AIR VALVE CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	150	V.J. FLEXIBLE COUPLING	470Wx470Hmm
2	2	150	SINGLE FLANGED PIPE	L=500
3	1	150x50	ALL FLANGED TEE	L=500
4	1	50	ALL FLANGED GATE VALVE	BS 5163, PN16 L=200mm
5	1	50	DOUBLE ORIFICE AIR VALVE	PN16
6	6		P.P. MANHOLE LADDER STEPS	280x200x20mm
7	1		HDPE MANHOLE COVER WITH FRAME	700x700x45mm
8	1		CONCRETE SUPPORT CLASS 10	300x200x100mm



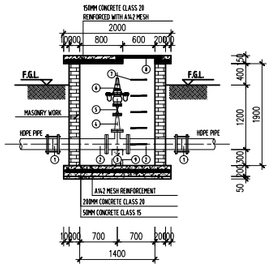
SECTION A-A
SCALE: 1:100



HDPE OD200MM PIPE
AIR VALVE CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	200	V.J. STEPPED COUPLING	620Wx620Hmm
2	2	200	SINGLE FLANGED PIPE	L=500
3	1	200x100	ALL FLANGED TEE	L=500
4	1	100x50	ALL FLANGED CONCENTRIC TAPER	L=300mm
5	1	50	ALL FLANGED GATE VALVE	BS 5163, PN16 L=200mm
6	1	50	DOUBLE ORIFICE AIR VALVE	PN16
7	6		P.P. MANHOLE LADDER STEPS	280x200x20mm
8	1		HDPE MANHOLE COVER WITH FRAME	700x700x45mm
9	1		CONCRETE SUPPORT CLASS 10	300x200x100mm



SECTION A-A
SCALE: 1:100

Project:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer:
ATHI WATER WORKS
GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION)

Consultants:
egis
Losai Management Limited

Revisions:

REV.	DATE	REMARKS

Notes:

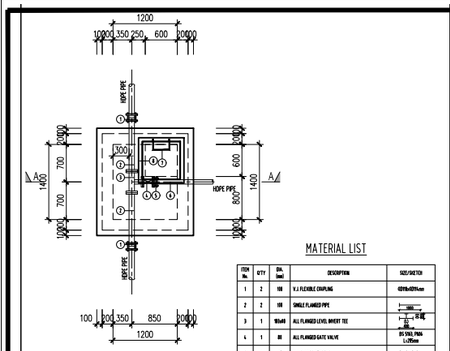
DESIGNED	BY: INT
DRAWN	BY: JGG
CHECKED	BY: PKN
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

Drawing Title:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
AIR VALVE CHAMBER - DETAILS
PLAN AND SECTION
SHEET 1 OF 1

Date: DECEMBER 2025

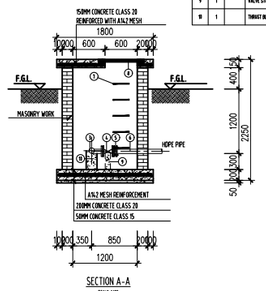
Drg. No.
NWSP/NWSP/NCTLastMile/LOT-2/AIR VALVE CHAMBERS/01



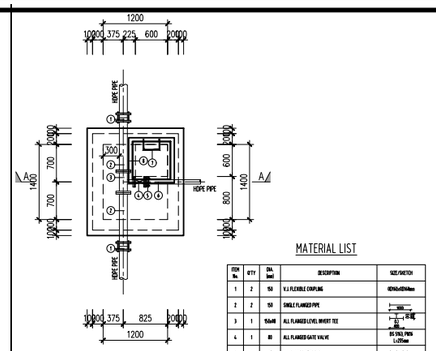
HDPE OD110MM PIPE
WASHOUT CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	110	V.J. FLEXIBLE COUPLING	420×0×420mm
2	2	110	SINGLE FLANGED PIPE	1000
3	1	90x40	ALL FLANGED LEVEL INVERT TEE	90 40 90
4	1	80	ALL FLANGED GATE VALVE	BS 5163, PN16 L=215mm
5	1	80	V.J. FLANGE ADAPTOR	DN80×0219mm
6	1	90	HDPE PIPE CLASS 80	
7	4		P.P. MANHOLE LADDER STEPS	240x300x25mm
8	1		HDPE MANHOLE COVER WITH FRAME	750x750x45mm
9	1		VALVE STAND, CLASS 150	300×100×100mm
10	1		THRUST BLOCKS CLASS 150	



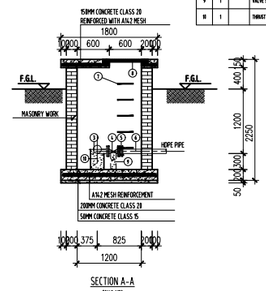
SECTION A-A
SCALE: 1:100



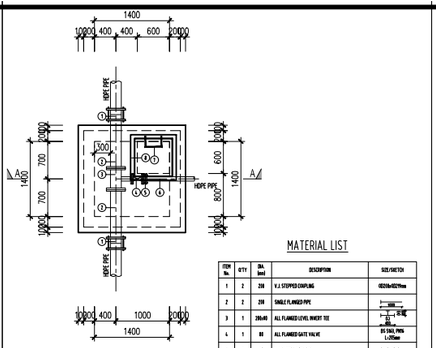
HDPE OD160MM PIPE
WASHOUT CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	160	V.J. FLEXIBLE COUPLING	420×0×420mm
2	2	160	SINGLE FLANGED PIPE	1000
3	1	160x40	ALL FLANGED LEVEL INVERT TEE	160 40 160
4	1	80	ALL FLANGED GATE VALVE	BS 5163, PN16 L=215mm
5	1	80	V.J. FLANGE ADAPTOR	DN80×0219mm
6	1	90	HDPE PIPE CLASS 80	
7	4		P.P. MANHOLE LADDER STEPS	240x300x25mm
8	1		HDPE MANHOLE COVER WITH FRAME	750x750x45mm
9	1		VALVE STAND, CLASS 150	300×100×100mm
10	1		THRUST BLOCKS CLASS 150	



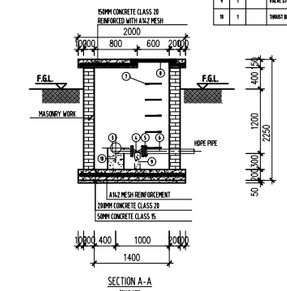
SECTION A-A
SCALE: 1:100



HDPE OD200MM PIPE
WASHOUT CHAMBER
SCALE: 1:100

MATERIAL LIST

ITEM No.	QTY	DIA. (mm)	DESCRIPTION	SIZE/SKETCH
1	2	200	V.J. STEPPED COUPLING	420×0×420mm
2	2	200	SINGLE FLANGED PIPE	1000
3	1	200x40	ALL FLANGED LEVEL INVERT TEE	200 40 200
4	1	80	ALL FLANGED GATE VALVE	BS 5163, PN16 L=215mm
5	1	80	V.J. FLANGE ADAPTOR	DN80×0219mm
6	1	90	HDPE PIPE CLASS 80	
7	4		P.P. MANHOLE LADDER STEPS	240x310x70mm
8	1		HDPE MANHOLE COVER WITH FRAME	750x750x45mm
9	1		VALVE STAND, CLASS 150	300×100×100mm
10	1		THRUST BLOCKS CLASS 150	



SECTION A-A
SCALE: 1:100

Project:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer:

ATHI WATER WORKS

GOVERNMENT OF KENYA
(MINISTRY OF WATER AND IRRIGATION)

Consultants:

egis

Losai Management Limited

Revisions:

REV.	DATE	REMARKS

Notes:

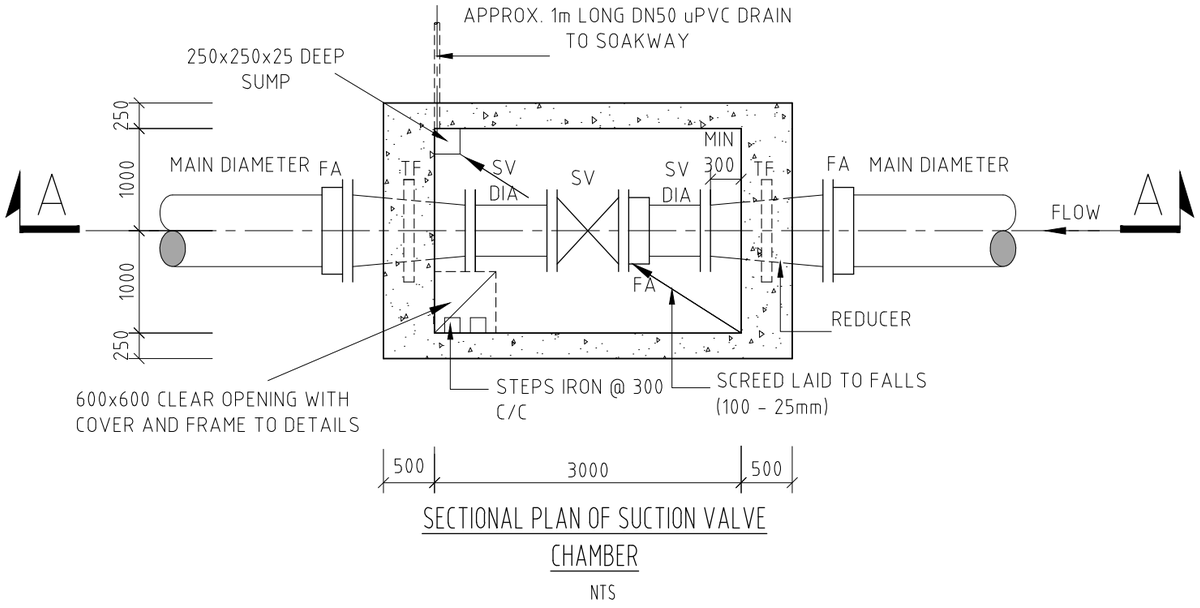
DESIGNED	BY: INT
DRAWN	BY: JGG
CHECKED	BY: PKN
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

Drawing Title:
NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
WASHOUT VALVE CHAMBER - DETAILS
PLAN AND SECTION
SHEET 1 OF 1

Date: DECEMBER 2025

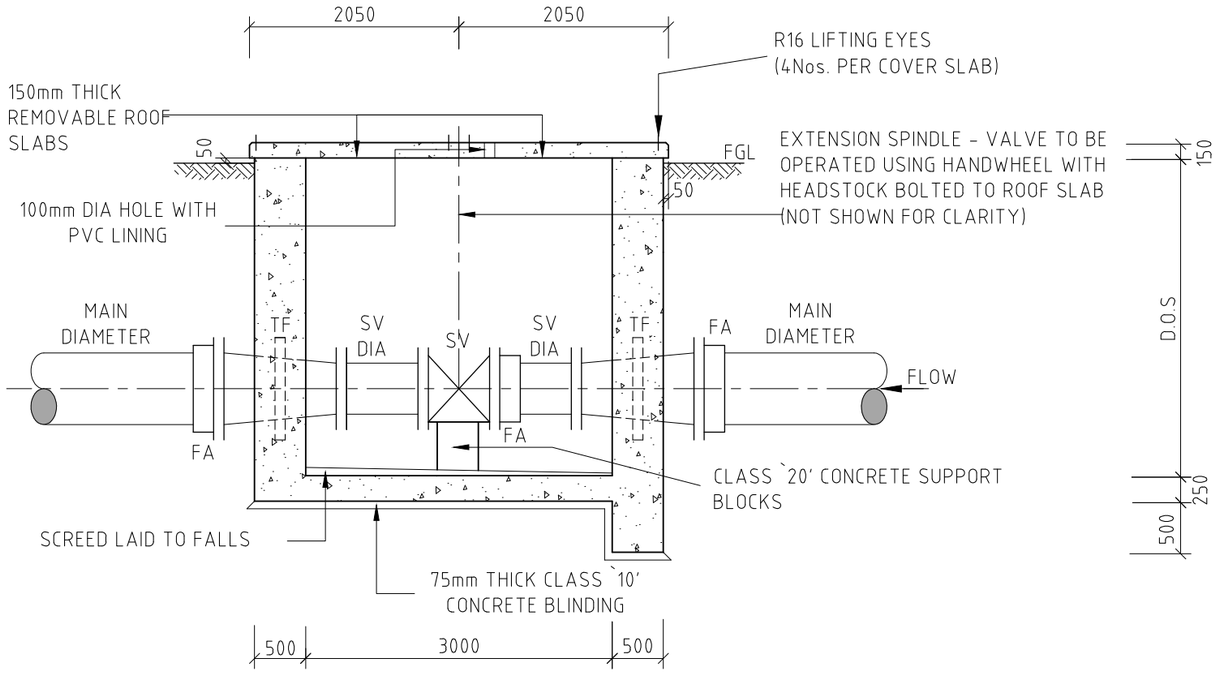
Drg. No.
NWSP/NWSP/NCTLastMile/LOT-2/WASHOUT VALVE CHAMBERS/01



SECTIONAL PLAN OF SUCTION VALVE CHAMBER

NTS

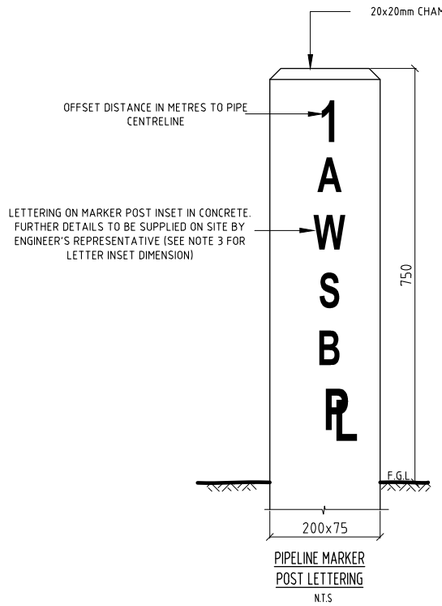
1. ALL DIMENSION ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL CONCRETE TO BE CLASS `25' UNLESS OTHERWISE STATED.
3. ALL EXPOSED CONCRETE TO BE WROUGHT FINISHED.
4. ALL EXPOSED CONCRETE MEMBERS TO HAVE A CHAMFER OF 25mm UNLESS STATED OTHERWISE.
5. ALL STEEL MANHOLE COVERS TO BE PAINTED AFTER FABRICATION WITH TWO COATS OF ZINC BASED PRIMER.
6. STEP IRON ARE ONLY REQUIRED WHERE CHAMBER IS GREATER THAN 1000mm. DEEP.
7. MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm.
8. ADDITIONAL RISER PIECES TO BE USED AS DIRECTED BY THE ENGINEER'S REPRESENTATIVES



SECTION A-A

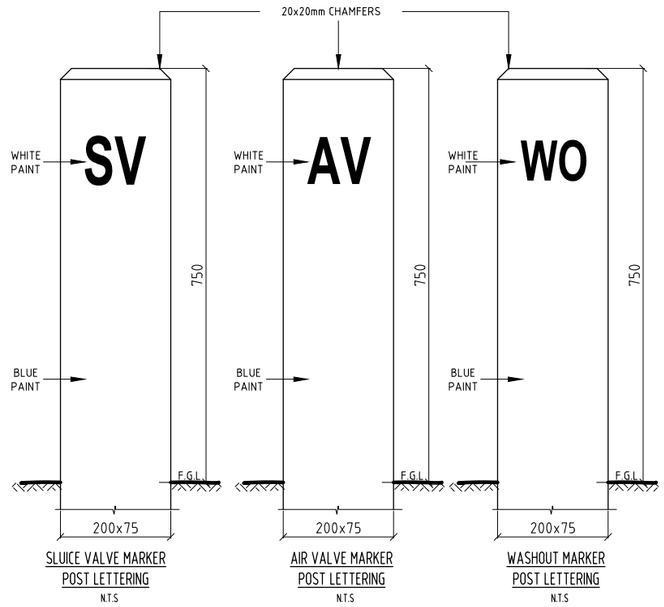
NTS

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2	Client/Employer: ATHI WATER WORKS; GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION)	Consultants: egis; Losai Management Limited	Revisions: REV. / DATE / REMARKS
Notes:	DESIGNED BY: INT; DRAWN BY: JGG; CHECKED BY: PKN; APPROVED BY: LWM; SCALE: AS SHOWN (AT A1)	Drawing Title: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2 SUCTION VALVE CHAMBER - DETAILS PLAN AND SECTION SHEET 1 OF 1	Date: DECEMBER 2025; Drg. No. NWSP/NWSP/NCTLastMile/LOT-2/SUCTION VALVE CHAMBERS/01



PIPELINE MARKER POST LETTERING

N.T.S



SLUICE VALVE MARKER POST LETTERING

N.T.S

AIR VALVE MARKER POST LETTERING

N.T.S

WASHOUT MARKER POST LETTERING

N.T.S

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

2. ALL CORNERS OF PRECAST UNITS TO HAVE A CHAMFER OF 20mm

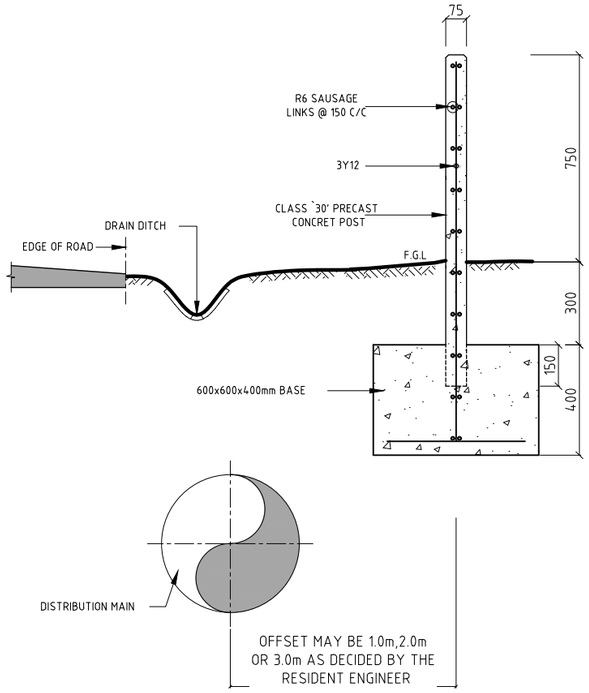
3. LETTERING ON MARKER POSTS TO BE ENGRAVED ABOUT 8mm IN CONCRETE

4. MARKER POSTS TO BE POSITIONED IN SAFE LOCATIONS WHERE POSSIBLE AGAINST BOUNDARY OF ROAD RESERVE

5. QUARRY DUST SHALL NOT HAVE ANY GRAINS OF DIAMETER GREATER THAN 5mm AND FINES OF DIAMETER LESS THAN 0.05mm SHALL NOT EXCEED 15%

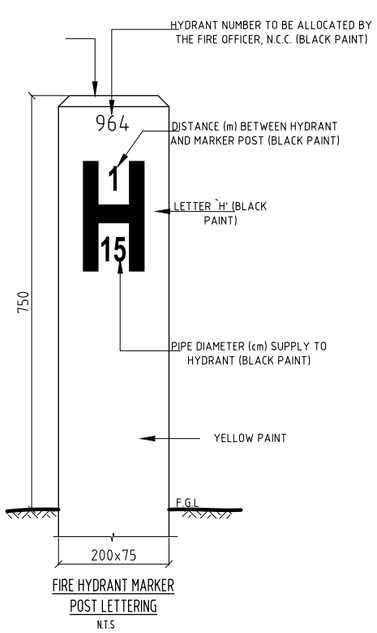
MARKER POST ELEVATIONS

(SECTION SIMILAR TO MARKER POST FOR PIPELINE)



MARKER POST (FOR PIPELINE) TYPICAL SECTION

N.T.S



FIRE HYDRANT MARKER POST LETTERING

N.T.S

LEGEND:

F.G.L	-FINISHED GROUND LEVEL
DN	-NOMINAL DIAMETER

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer: ATHI WATER WORKS; GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION)

Consultants: egis; Losai Management Limited

Revisions:

REV.	DATE	REMARKS

Notes:

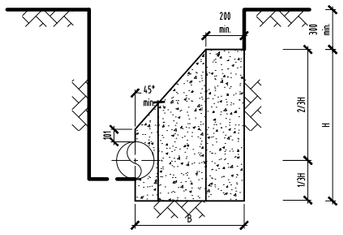
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DRAWN	BY: JGG
CHECKED	BY: PKN
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

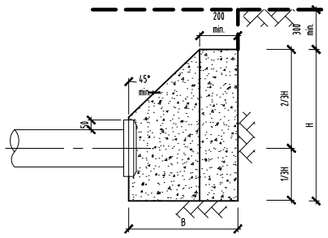
Drawing Title: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
MARKER POSTS - DETAILS
PLAN AND SECTION
SHEET 1 OF 1

Date: DECEMBER 2025

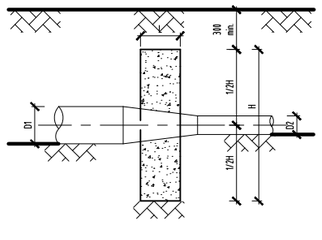
Drg. No. NWSP/NWSP/NCTLastMile/LOT-2/MARKER POSTS/01



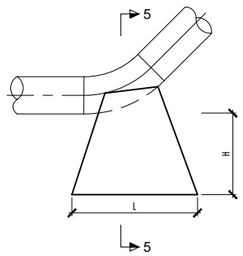
SECTION 1 - 1



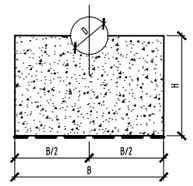
SECTION 3 - 3



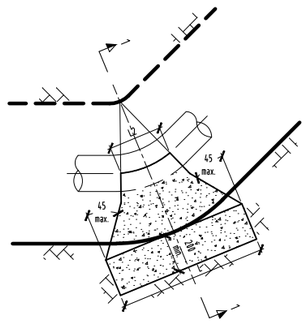
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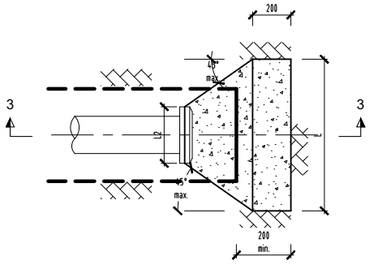
ELEVATION



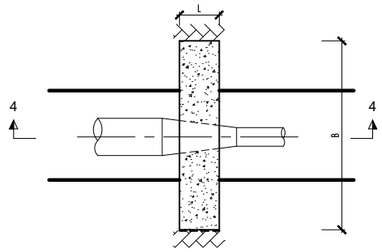
SECTION 5 - 5



PLAN



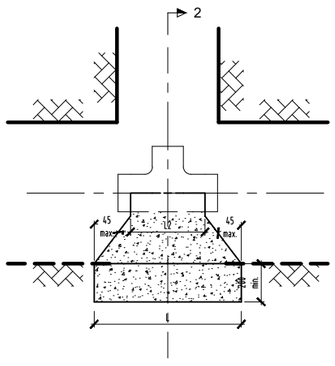
PLAN



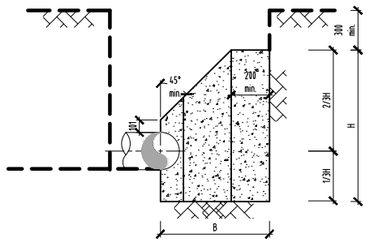
PLAN

NOTE.

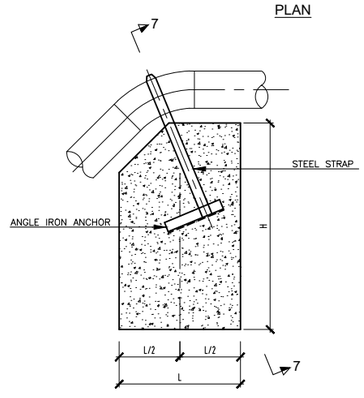
1. ANCHOR BLOCKS CONSTRUCTED FROM UNREINFORED CONCRETE CLASS 20
2. CONCRETE CAST AGAINST UNDISTURBED GROUND. WHERE DISTURBED, THE SOIL AROUND ANCHOR BLOCK WAS REMOVED AND FILLED WITH CONCRETE BEFORE THE PIPE WAS PRESSURE TESTED OR COMPACTED TO NOT LESS THAN 95% MAX. DRY DENSITY BEFORE THE MAIN WAS PRESSURE TESTED.
3. BENDS LESS THAN 6° TAKEN UP BY THE FLEXIBLE PIPE JOINTS WHERE PRACTICABLE.
4. 11¼° BENDS WERE USED FOR BENDS GREATER THAN OR EQUAL TO 6° AND LESS THAN OR EQUAL TO 16°.
5. ALL ANCHOR BLOCKS CAST LEAVING ALL PIPE JOINTS FREE.
6. DIAMETERS GIVEN ON THE TABLES ARE PIPE NOMINAL BORE SIZES.
7. REFER TO DRAWING No..... FOR TABLES OF DIMENSIONS FOR ANCHOR BLOCKS TYPES HB, RD, TV, CV AND DV.
8. ALL DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
9. ALL BENDS/TAPERS TEES WRAPPED WITH POLYTHENE SHEET GAUGE 500



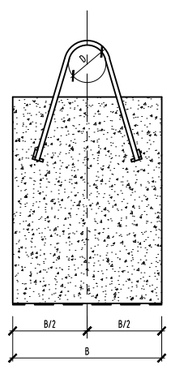
PLAN



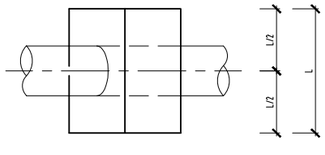
SECTION 2 - 2



ELEVATION



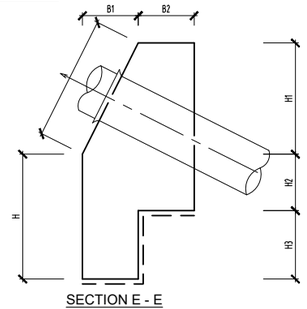
SECTION 7- 7



PLAN

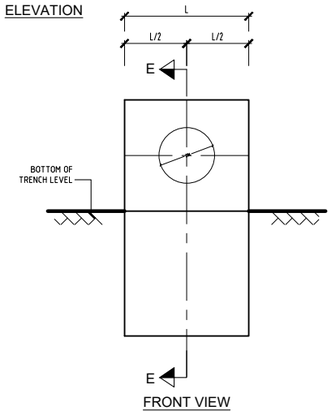
NOTE

1. ANCHOR BLOCK TO BE POSITIONED BEHIND COLLAR AS SHOWN



SECTION E - E

ANCHOR BLOCKS ON GRADIENTS (TYPE GD)



FRONT VIEW

GRADIENT	SPACING OF ANCHOR BLOCKS (m)
1 IN 2	5.5
1 IN 3	11.0
1 IN 4	11.0
1 IN 5	16.5
1 IN 6	22.0
1 IN 7 – 10	27.5

PIPE DIAMETER DN (mm)	DIMENSIONS (m)							
	A	L	H	H1	H2	H3	B1	B2
200	0.8	0.8	0.8	0.7	0.35	0.45	0.35	0.35
300	0.9	1.0	1.0	0.8	0.4	0.6	0.4	0.4
400	1.0	1.0	1.0	0.9	0.45	0.55	0.45	0.45
500	1.1	1.2	1.2	1.0	0.5	0.7	0.5	0.5
600	1.2	1.2	1.2	1.1	0.55	0.65	0.55	0.55
800	1.4	1.4	1.4	1.3	0.65	0.75	0.65	0.65

Project:

NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer:

ATHI WATER WORKS

GOVERNMENT OF KENYA
MINISTRY OF WATER AND IRRIGATION

Consultants:

egis

Losai Management Limited

Revisions:

REV.	DATE	REMARKS

Notes:

DESIGNED	BY: INT
DRAWN	BY: JGG
CHECKED	BY: PKN
APPROVED	BY: LWM

SCALE: AS SHOWN (AT A1)

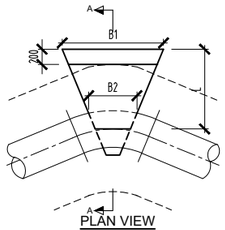
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NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
ANCHOR AND THRUST BLOCK - DETAILS
PLAN AND SECTION
SHEET 1 OF 2

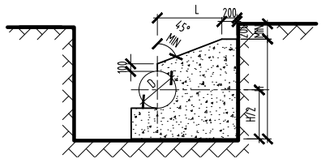
Date: DECEMBER 2025

Drg. No.
NWSP/NWSP/NCTLastMile/LOT-2/ANCHOR & THRUST BLOCKS/01

ANCHOR BLOCKS FOR BURIED SERVICES

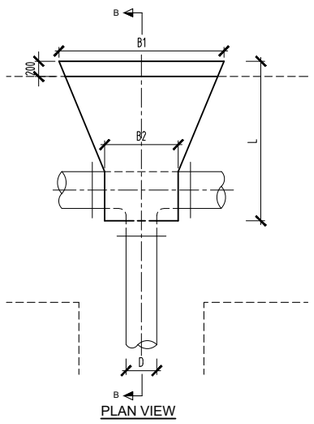


PLAN VIEW

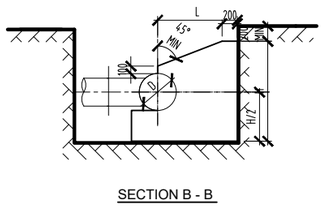


SECTION A - A

ANCHOR BLOCKS AT HORIZONTAL BENDS (TYPE HB)

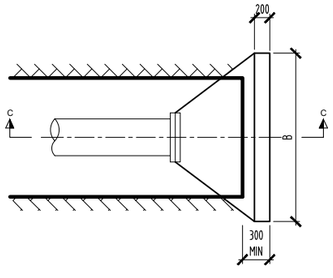


PLAN VIEW

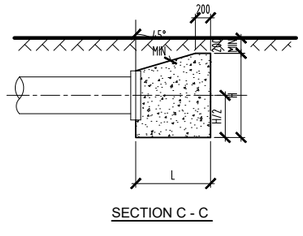


SECTION B - B

ANCHOR BLOCKS AT TEES (TYPE TY)



PLAN VIEW



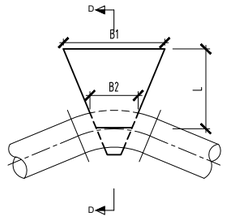
SECTION C - C

ANCHOR BLOCKS AT END CAPS (TYPE EC)

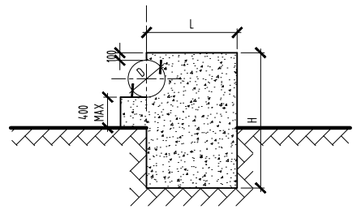
DIMENSIONS OF ANCHOR BLOCKS FOR BURIED SERVICES						
PIPE DIAMETRE (mm)	OPERATING PRESSURE (BAR)	TEST PRESSURE (BAR)	H (m)	B1 (m)	B2 (m)	L (m)
BENDS (TYPE HB) - 90°						
350	16	24	1.6	3.5	0.6	1.8
	25	37.5	2.0	4.0	0.6	1.8
BENDS (TYPE HB) - 60°						
350	16	24	1.5	2.8	0.45	1.6
	25	37.5	1.8	3.4	0.45	1.8
BENDS (TYPE HB) - 45°						
350	16	24	1.3	2.6	0.45	1.4
	25	37.5	1.7	3.0	0.45	1.7
BENDS (TYPE HB) - 22.5°						
350	16	24	1.2	1.5	0.2	1.2
	25	37.5	1.4	2.0	0.2	1.4
BENDS TYPE HB - 11.25°						
350	16	24	0.9	1.0	0.2	1.2
	25	37.5	1.2	1.2	0.2	1.2
TEE (TYPE TY)						
350	16	24	1.5	2.8	0.45	1.6
	25	37.5	1.8	3.4	0.45	1.8
END CAPS (TYPE EC)						
350	16	24	1.5	2.8	-	1.6
	25	37.5	1.8	3.4	-	1.8

DIMENSIONS OF ANCHOR BLOCKS FOR ABOVE GROUND SERVICES						
PIPE DIAMETRE (mm)	OPERATING PRESSURE (BAR)	TEST PRESSURE (BAR)	H (m)	B1 (m)	B2 (m)	L (m)
BENDS (TYPE AHB) - 90°						
350	16	24	3.0	3.0	0.6	3.5
	25	37.5	3.5	3.5	0.6	4.0
BENDS (TYPE AHB) - 60°						
350	16	24	3.0	2.5	0.45	3.0
	25	37.5	3.0	3.5	0.45	3.5
BENDS (TYPE AHB) - 45°						
350	16	24	2.5	2.5	0.45	3.0
	25	37.5	3.0	3.0	0.45	3.0
BENDS (TYPE AHB) - 22.5°						
350	16	24	2.0	2.0	0.2	2.5
	25	37.5	2.5	2.5	0.2	2.5
TEES (TYPE ATY)						
350	16	24	3.0	2.5	0.45	3.0
	25	37.5	3.0	3.5	0.45	3.5

ANCHOR BLOCKS FOR ABOVE GROUND SERVICES

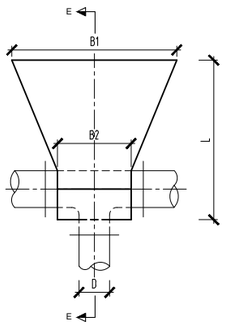


PLAN VIEW

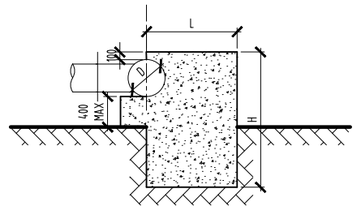


SECTION D - D

ANCHOR BLOCKS AT HORIZONTAL BENDS (TYPE AHB)



PLAN VIEW



SECTION E - E

ANCHOR BLOCKS AT TEES (TYPE ATY)

NOTES

1. ANCHOR BLOCKS TO BE CONSTRUCTED FROM CONCRETE CLASS 15
2. CONCRETE TO BE CAST AGAINST UNDISTURBED GROUND. WHERE DISTURBED THE SOIL AROUND ANCHOR BLOCK IS TO BE REMOVED AND FILLED WITH CONCRETE BEFORE THE PIPE IS PRESSURE TESTED.
3. WHERE ACCURATE SOIL INFORMATION IS AVAILABLE ANCHOR BLOCKS MAY BE INDIVIDUALLY DESIGNED.
4. SHUTTERED SURFACES TO BE CLASS F1
5. POLYTHENE SHALL BE USED TO PREVENT INGRESS OF FOREIGN MATTER INTO THE CONCRETE.
6. ANCHOR BLOCKS SHALL BE CAST TO LEAVE ALL PIPE JOINTS FREE.

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer: ATHI WATER WORKS; GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION)

Consultants: egis; Losai Management Limited

Revisions:

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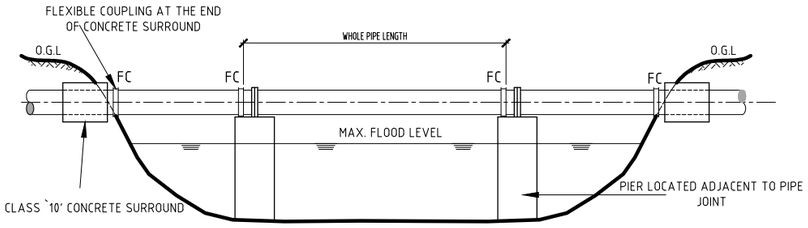
Notes:

DESIGNED BY: INT
DRAWN BY: JGG
CHECKED BY: PKN
APPROVED BY: LWM
SCALE: AS SHOWN (AT A1)

Drawing Title: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS-LOT 2
ANCHOR AND THRUST BLOCK - DETAILS
PLAN AND SECTION
SHEET 2 OF 2

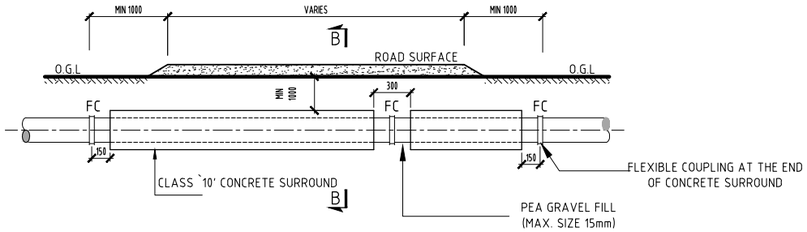
Date: DECEMBER 2025

Drg. No. NWSP/NWSP/NCTLastMile/LOT-2/ANCHOR & THRUST BLOCKS/02



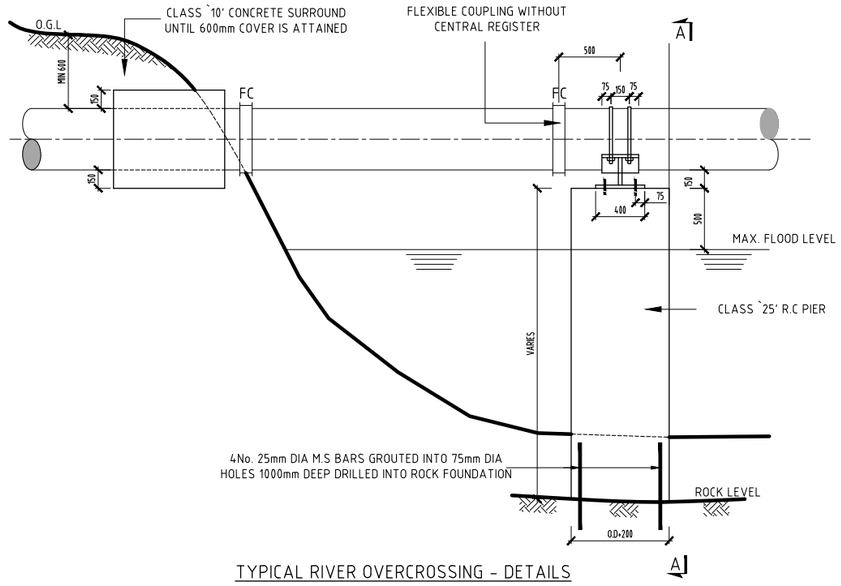
TYPICAL RIVER OVERCROSSING

N.T.S



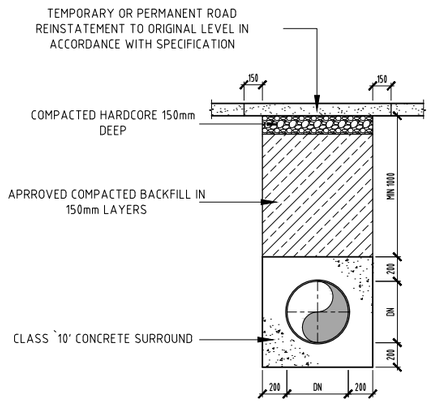
TYPICAL ROAD CROSSING

N.T.S



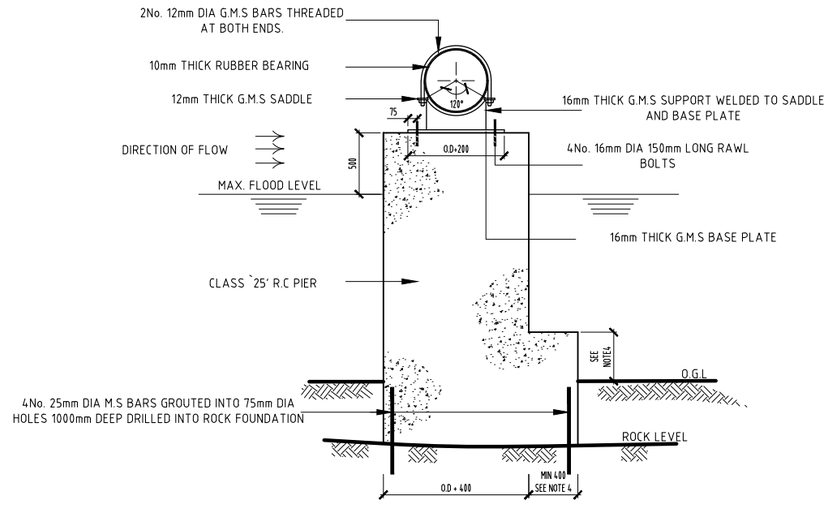
TYPICAL RIVER OVERCROSSING - DETAILS

N.T.S



SECTION B-B

N.T.S



SECTION N A-A

N.T.S

Project: NORTHERN COLLECTOR TUNNEL LAST MILE WORKS - LOT 2

Client/Employer: ATHI WATER WORKS; GOVERNMENT OF KENYA (MINISTRY OF WATER AND IRRIGATION)

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CROSSINGS - DETAILS
PLAN AND SECTION
SHEET 1 OF 2

Date: DECEMBER 2025

Drg. No. NWSP/NWSP/NCTLastMile/LOT-2/CROSSINGS/01