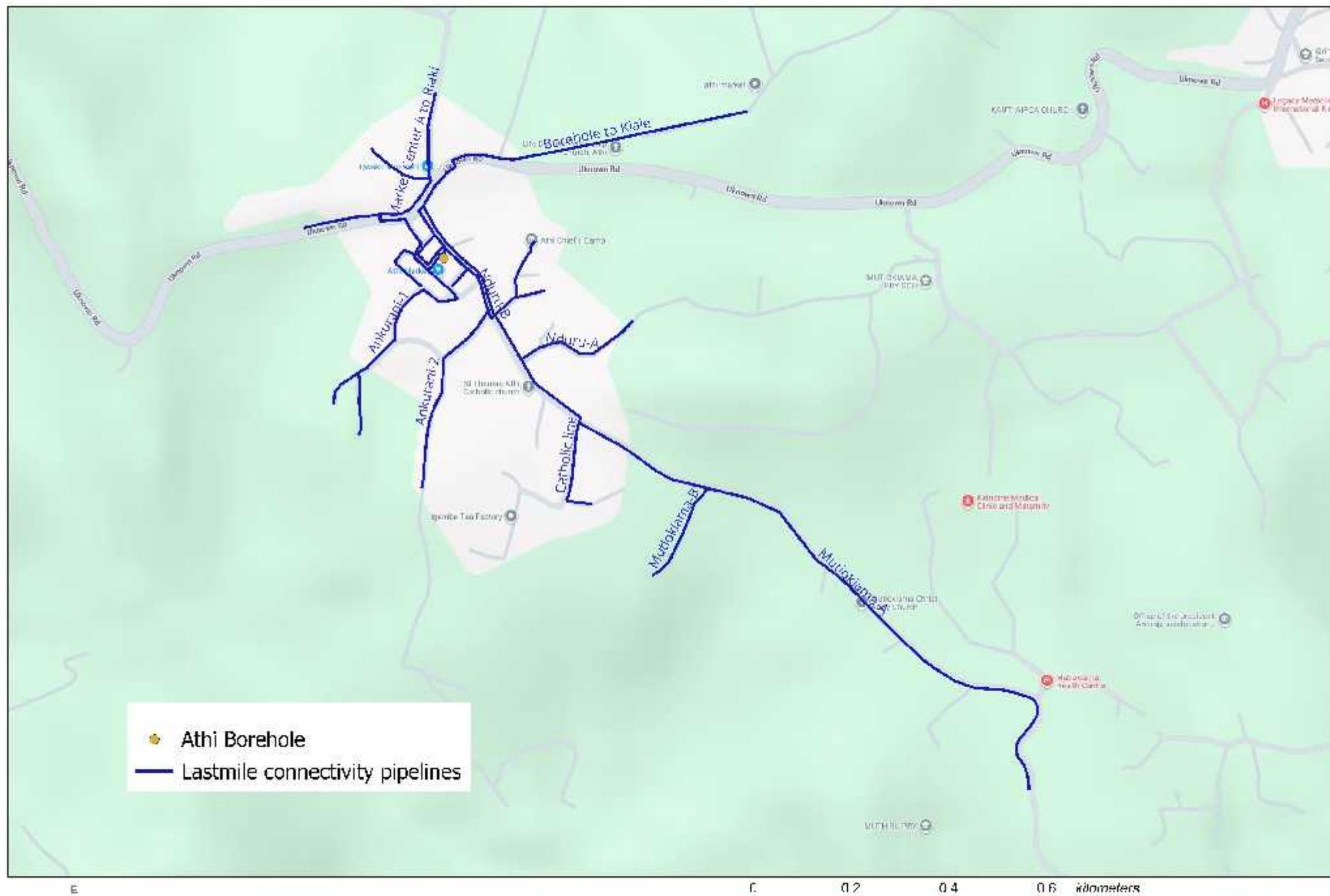


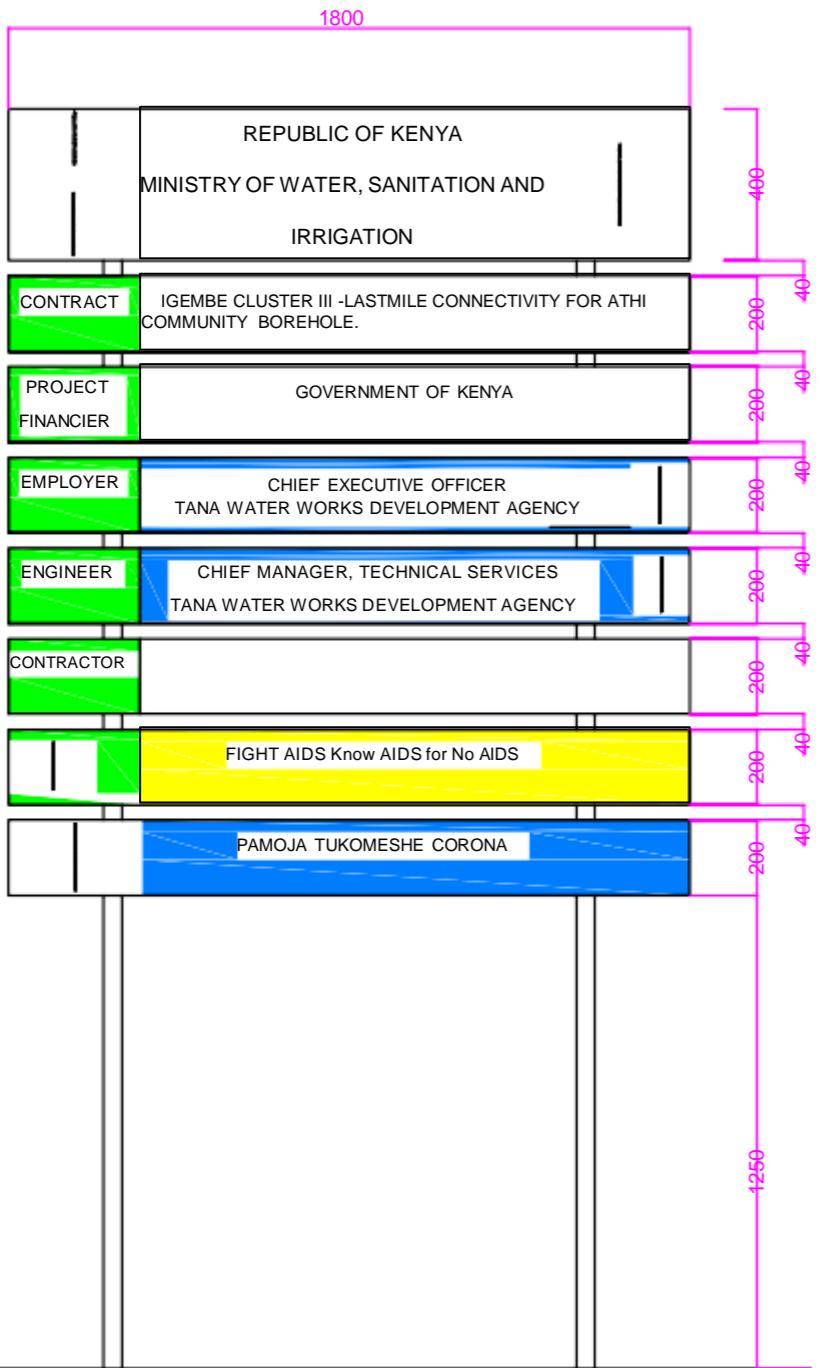


**IGEMBE CLUSTER WATER PROJECT- LOT III
ATHI COMMUNITY BOREHOLE LASTMILE
CONNECTIVITY**

Book of Drawings

ATHI COMMUNITY BOREHOLE LASTMILE CONNECTIVITY MAP





NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED
2. THE BOARD TO BE HIGH QUALITY BLOCKBOARD WITH HARDWOOD
LIPPING ALL ROUND

TANA WATER WORKS
DEVELOPMENT AGENCY

CHIEF EXECUTIVE OFFICER	CHIEF MANGER, TECHNICAL SERVICES
Date.....	Sign.....
Date.....	Sign.....

PROJECT
TWWDA STANDARD DRAWING -SIGNBOARD

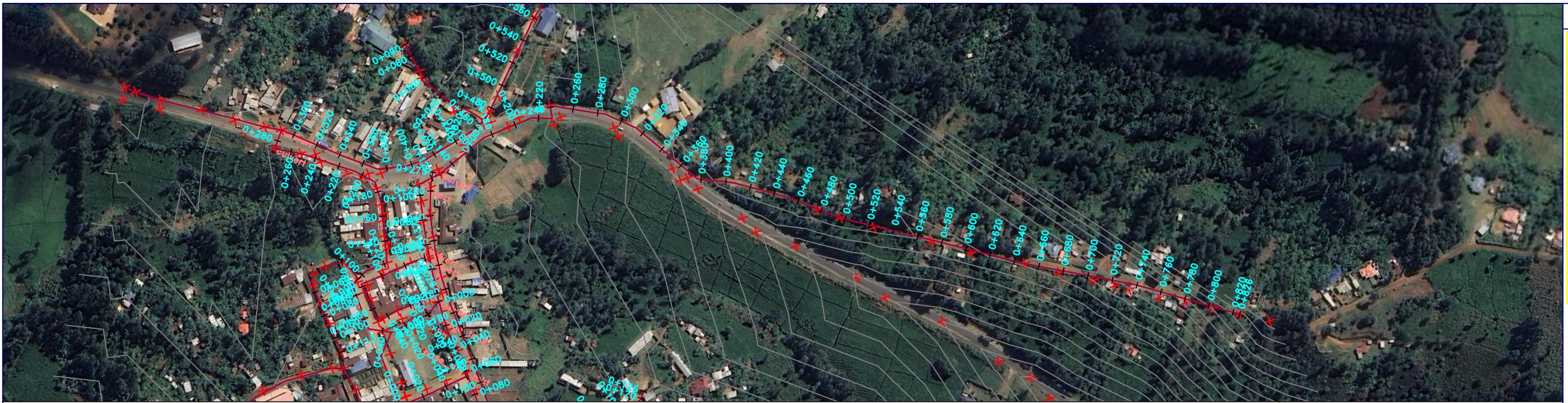
Drawing Title
PROJECT SIGN BOARD

Designed by: NWW	Drawn by:
Checked by: EWW	Approved:

Scale: As Shown

Date:

Drawing No.



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT:

- W01 — WASHOUT TYPE 1
- W02 — WASHOUT TYPE 2
- OD — NOMINAL DIAMETER
- PN — NOMINAL PRESSURE
- VB — VERTICAL BEND
- HB — HORIZONTAL BEND
- EXISTING STRUCTURE
- ER — EARTH ROAD
- GR — GRAVEL ROAD
- CUT — CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
	BY	CHECKED	
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY		CHECKED

CLIENT
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

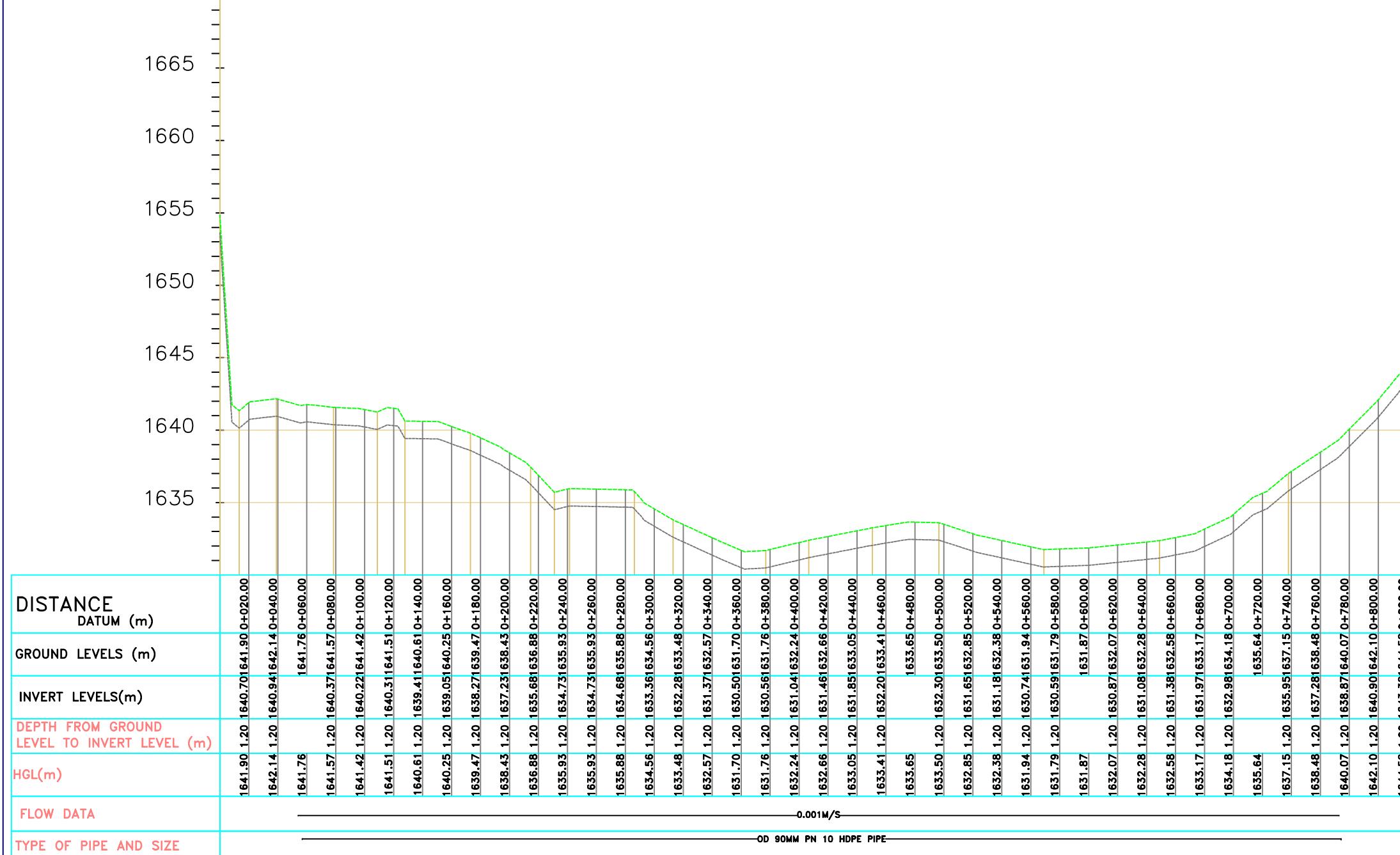
PROJECT
 DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

Civil/Structural Engineers
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

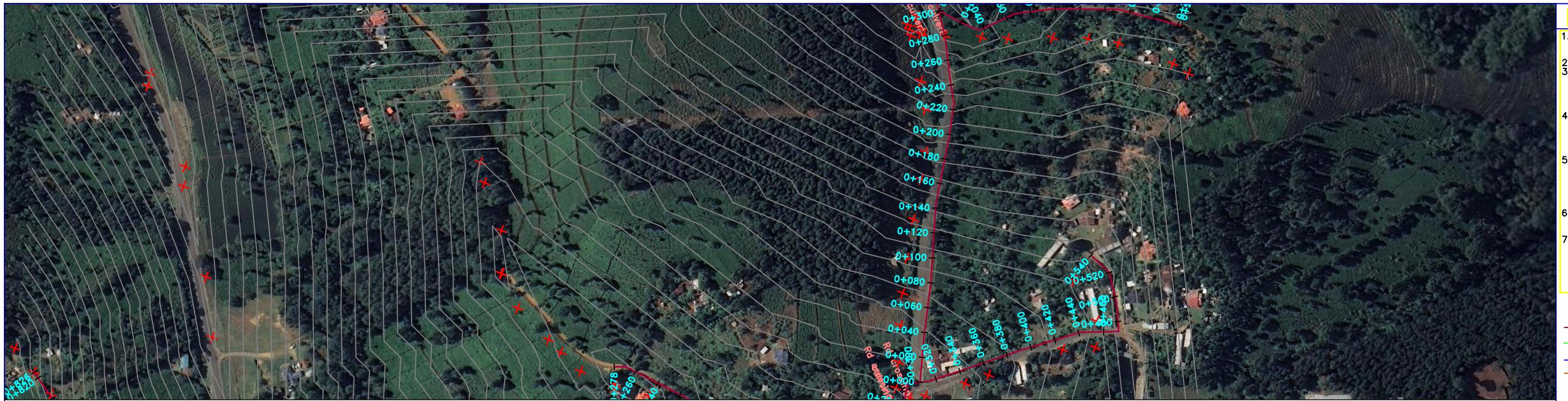
Drawing Title
 BOREHOLE TO KIALE

PLAN AND PROFILE (SHEET 5 OF 18)

Designed by NWW Drawn by NWW
 Checked by EWW Approved by DMN
 Scale AS SHOWN (A1) Date JAN2026
 Job No. 1 ACAD File:
 PD STATUS DRAWING No. TWWDA/KIWP/DL3-1



Borehole to Kiale
SCALE: HOR 1:2000 VERT 1:1000

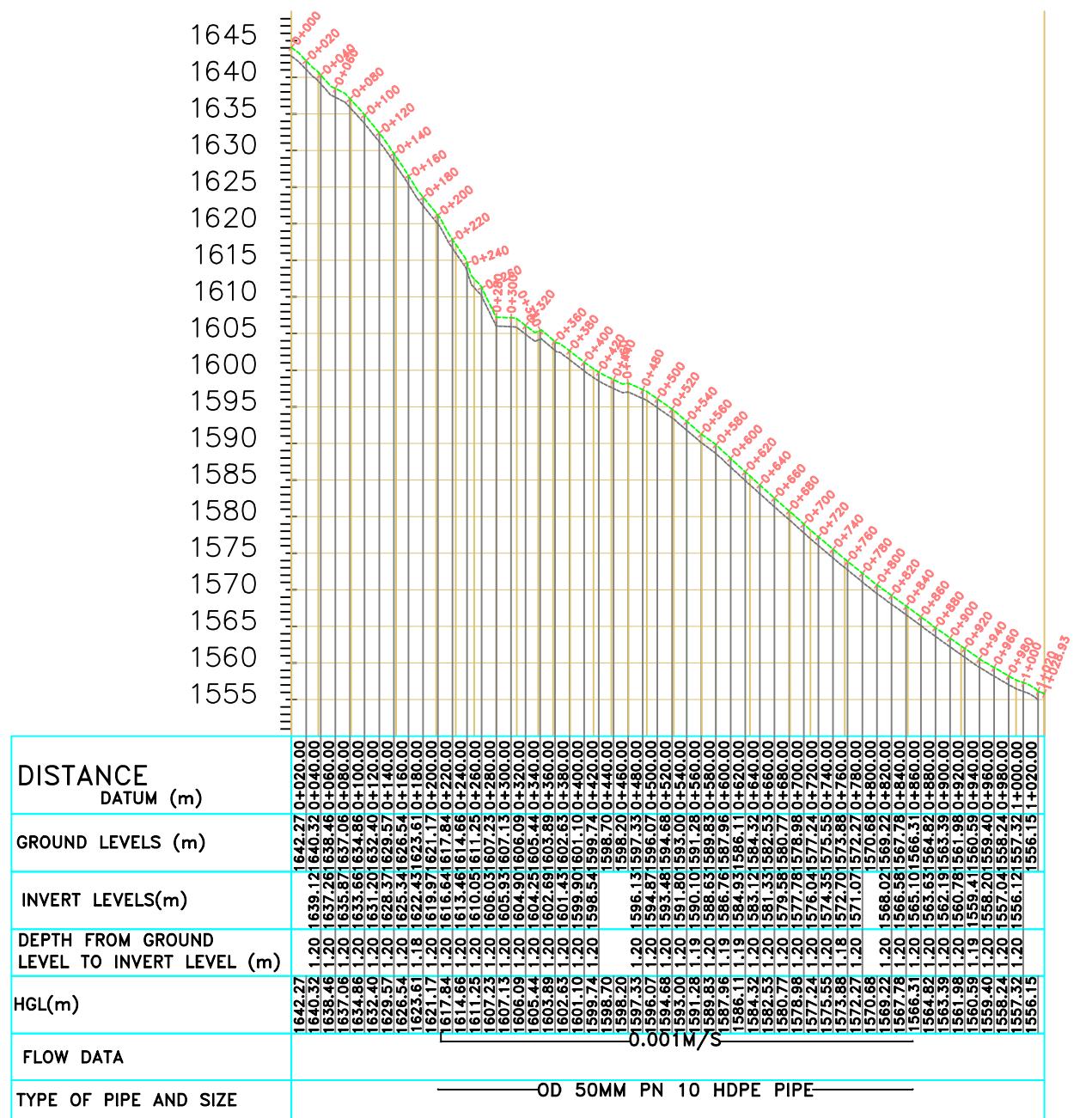


NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



Mutiokiamaa-A
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
	BY	CHECKED	
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY	CHECKED	
CLIENT	TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI		
PROJECT	DESIGN FOR IGEIBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE		
Civil/Structural Engineers	TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI		
Drawing Title	MUTOKIAMA A		
PLAN AND PROFILE (SHEET 13 OF 18)			
Designed by NWW	Drawn by NWW		
Checked by EWW	Approved by DMN		
Scale AS SHOWN (A1)	Date JAN2026		
Job No. 1	ACAD File:		
PD STATUS	DRAWING No. TWWDA/KIWP/DL3-1		



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT

W01	— WASHOUT TYPE 1
W02	— WASHOUT TYPE 2
OD	— NOMINAL DIAMETER
PN	— NOMINAL PRESSURE
VB	— VERTICAL BEND
HB	— HORIZONTAL BEND
---	— EXISTING STRUCTURE
ER	— EARTH ROAD
GR	— GRAVEL ROAD
CUT	— CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY		
	CHECKED		
	BY		
	CHECKED		
	BY		
	CHECKED		
CO	ISSUED FOR CONSTRUCTION BY		
	CHECKED		

CLIENT
 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100 NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

Civil/Structural Engineers
 **TANA WATER WORKS DEVELOPMENT AGENCY**
P. O. BOX 1292-10100 NYERI

Drawing Title
ANKURANI 1
PLAN AND PROFILE (SHEET 1 OF 18)

Designed by NWW Drawn by NWW
 Checked by EWW Approved by DMN
 Scale AS SHOWN (A1) Date JAN2026
 Job No. 1 ACAD File:
 PD STATUS DRAWING No. TWWDA/KIWP/DL3-1

DISTANCE	DATUM (m)	GROUND LEVELS (m)	INVERT LEVELS(m)	DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	HGL(m)	FLOW DATA	TYPE OF PIPE AND SIZE
1643.63	1.20	1642.43	1643.63	0+020.00			
1643.34	1.20	1642.14	1643.34	0+040.00			
1642.89	1.20	1641.69	1642.89	0+060.00			
1642.47	1.21	1641.26	1642.47	0+080.00			
1642.46	1.20	1641.26	1642.46	0+100.00			
1642.85	1.20	1641.65	1642.85	0+120.00			
1643.54	1.20	1642.34	1643.54	0+140.00			
1645.65	1.20	1642.45	1643.65	0+160.00			
1645.14	1.20	1641.94	1643.14	0+180.00			
1645.18	1.20	1641.98	1643.18	0+200.00			
1642.35		1642.35	0+220.00				
1641.29	1.20	1640.09	1641.29	0+240.00			
1640.07	1.18	1638.89	1640.07	0+260.00			
1638.88	1.20	1637.69	1638.88	0+280.00			
1636.61	1.20	1635.41	1636.61	0+300.00			
1636.30	1.20	1635.10	1636.30	0+320.00			
1635.64	1.20	1634.44	1635.64	0+340.00			
1634.46	1.21	1633.25	1634.46	0+360.00			
1633.24	1.21	1632.03	1633.24	0+380.00			
1632.50	1.20	1631.30	1632.50	0+400.00			
1630.96	1.20	1629.76	1630.96	0+420.00			
1630.09	1.20	1628.89	1630.09	0+440.00			
1628.98	1.20	1627.78	1628.98	0+460.00			
1627.09	1.20	1625.89	1627.09	0+480.00			
1627.14		1627.14	0+500.00				
1627.12	1.19	1625.93	1627.12	0+520.00			
1626.90	1.20	1627.70	1628.90	0+540.00			

Ankurani-1
SCALE: HOR 1:2000 VERT 1:1000

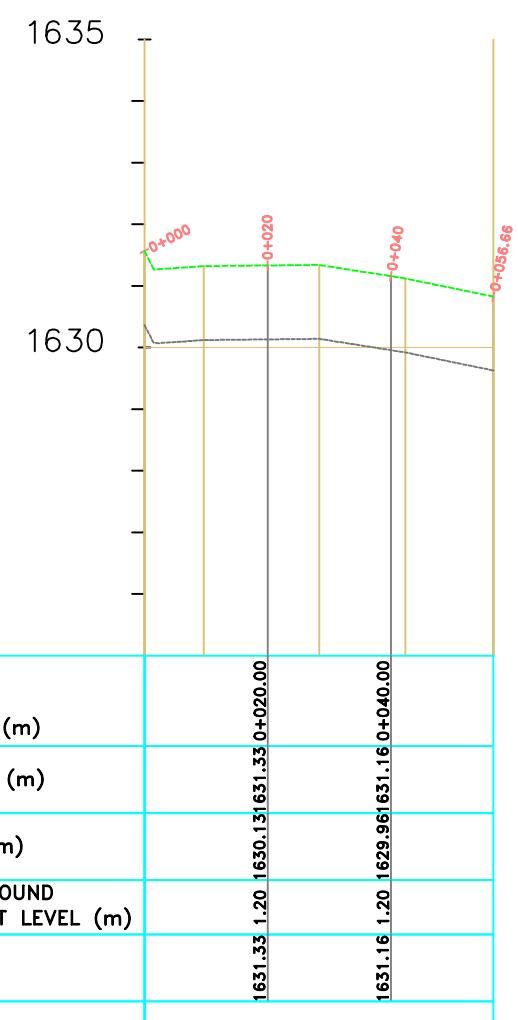


NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



DISTANCE DATUM (m)	1631.33 1.20 1630.131 631.33 0+020.00
GROUND LEVELS (m)	1631.16 1.20 1629.96 631.16 0+040.00
INVERT LEVELS(m)	
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	
HGL(m)	
FLOW DATA	0.001M/S
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE

Ankurani-1b
SCALE: HOR 1:2000 VERT 1:1000

LEGEND:

- WASHOUT
- WASHOUT TYPE 1
- WASHOUT TYPE 2
- NOMINAL DIAMETER
- NOMINAL PRESSURE
- VERTICAL BEND
- HORIZONTAL BEND
- EXISTING STRUCTURE
- EARTH ROAD
- GRAVEL ROAD
- CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
	BY	CHECKED	
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY		CHECKED

CLIENT
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title
ANKURANI 1 b
PLAN AND PROFILE (SHEET 2 OF 18)

Designed by NWW Drawn by NWW
Checked by EWW Approved by DMN
Scale AS SHOWN (A1) Date JAN2026
Job No. 1 ACAD File:
PD STATUS DRAWING No. TWWDA/KIWP/DL3-1



NOTES

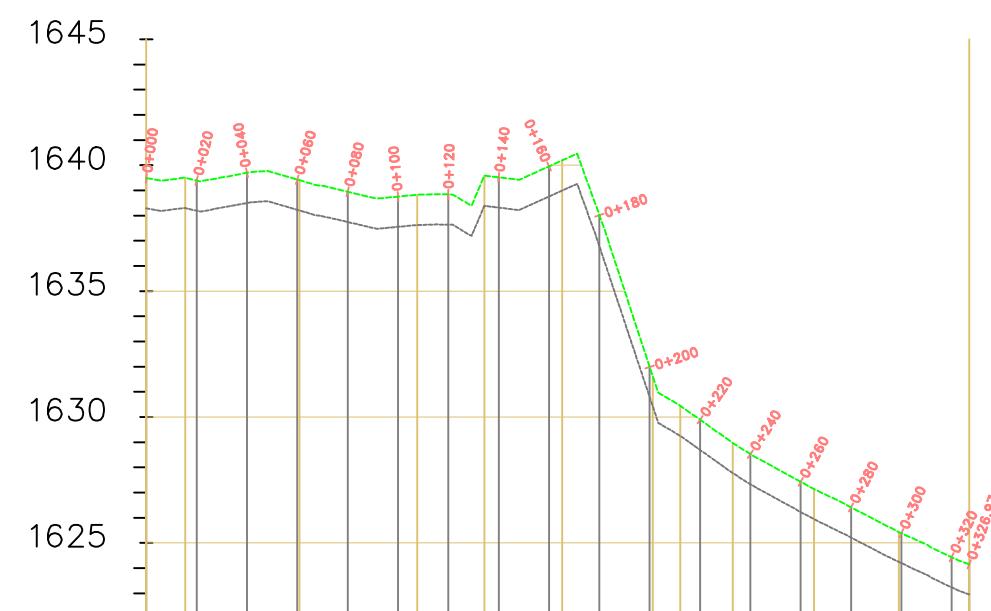
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
3. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
4. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
5. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
6. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

— WASHOUT

W01	— WASHOUT TYPE 1
W02	— WASHOUT TYPE 2
OD	— NOMINAL DIAMETER
PN	— NOMINAL PRESSURE
VB	— VERTICAL BEND
HB	— HORIZONTAL BEND
---	— EXISTING STRUCTURE
ER	— EARTH ROAD
GR	— GRAVEL ROAD
CUT	— CUT



DISTANCE DATUM (m)	
GROUND LEVELS (m)	0+020.00
INVERT LEVELS(m)	0+060.00
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	0+040.00
HGL(m)	0+140.00
FLOW DATA	0.001M/S
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE

Ankurani-2
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER
signed CMTS

REV	R E V I S I O N S	S I G N	D A T E	A P P R O V E D
	BY			
	CHEKED			
	BY			
	CHEKED			
	BY			
	CHEKED			
CO	I S S U E D F O R C O N S T R U C T I O N	B Y		
	CHEKED			

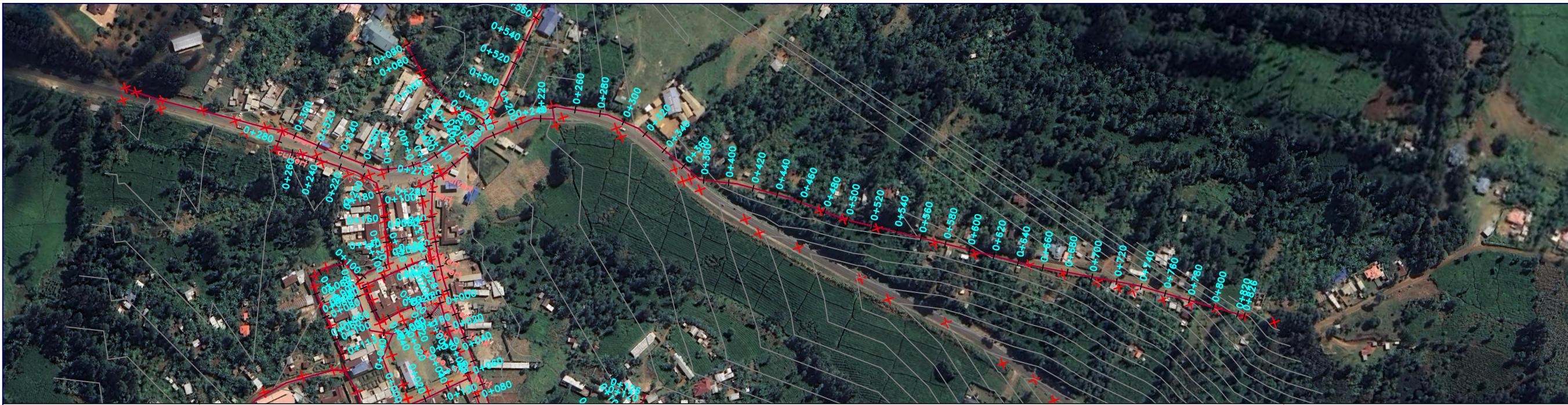
CLIENT
 TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers
 TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title
BODAA JUNCTION
PLAN AND PROFILE (SHEET 3 OF 18)

Designed by NWW Drawn by NWW
Checked by EWW Approved by DMN
Scale AS SHOWN (A1) Date JAN2026
Job No. 1 ACAD File:
PD STATUS DRAWING No. TWWDA/KIWP/DL3-1



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT:

- W01 — WASHOUT TYPE 1
- W02 — WASHOUT TYPE 2
- OD — NOMINAL DIAMETER
- PN — NOMINAL PRESSURE
- VB — VERTICAL BEND
- HB — HORIZONTAL BEND
- EXISTING STRUCTURE
- ER — EARTH ROAD
- GR — GRAVEL ROAD
- CUT — CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
	BY	CHECKED	
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY		CHECKED

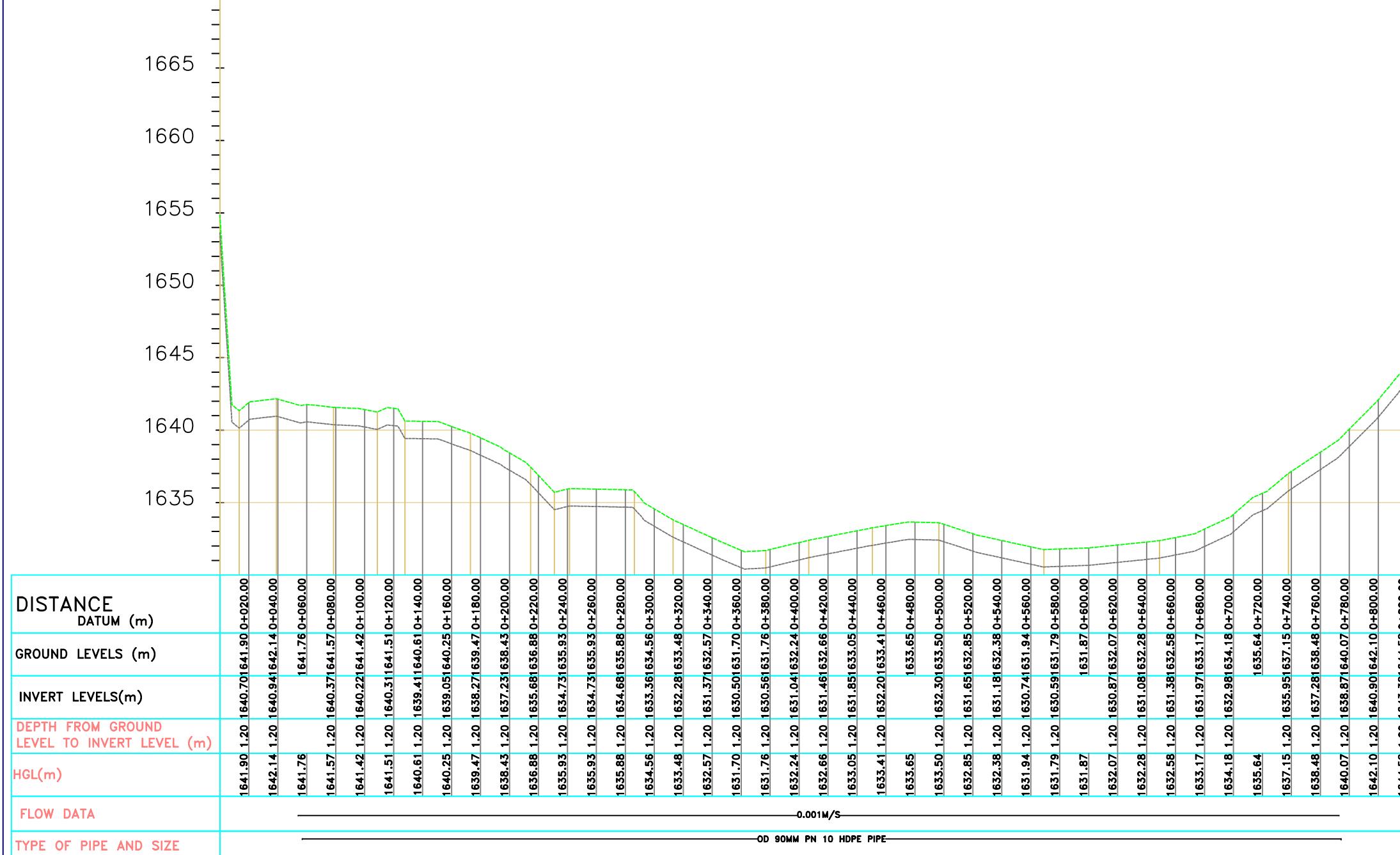
CLIENT
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

PROJECT
 DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

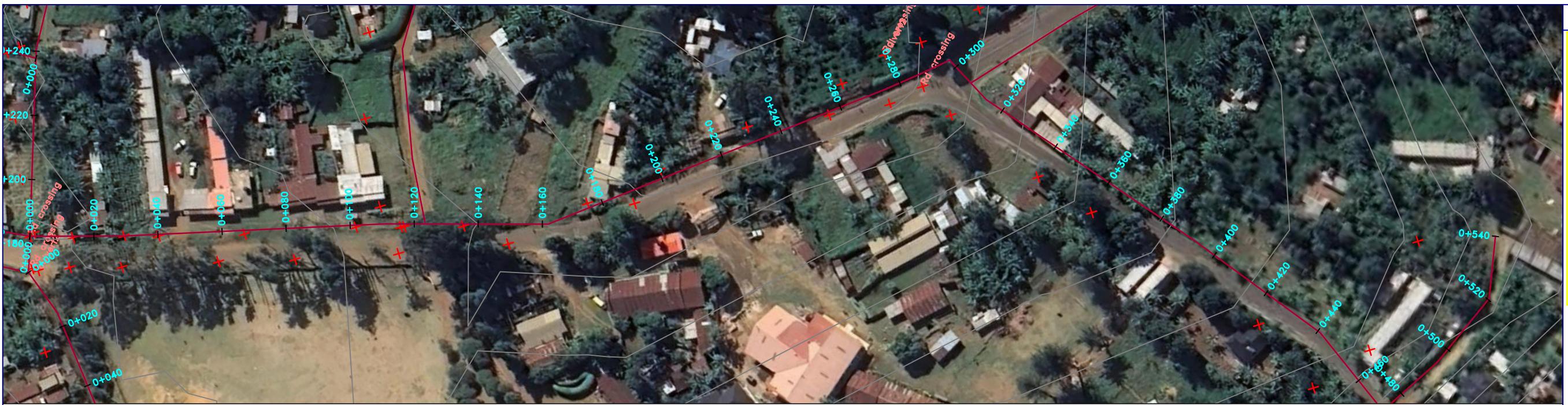
Civil/Structural Engineers
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

Drawing Title
 BOREHOLE TO KIALE
 PLAN AND PROFILE (SHEET 5 OF 18)

Designed by NWW Drawn by NWW
 Checked by EWW Approved by DMN
 Scale AS SHOWN (A1) Date JAN2026
 Job No. 1 ACAD File:
 PD STATUS DRAWING No. TWWDA/KIWP/DL3-1



Borehole to Kiale
 SCALE: HOR 1:2000 VERT 1:1000

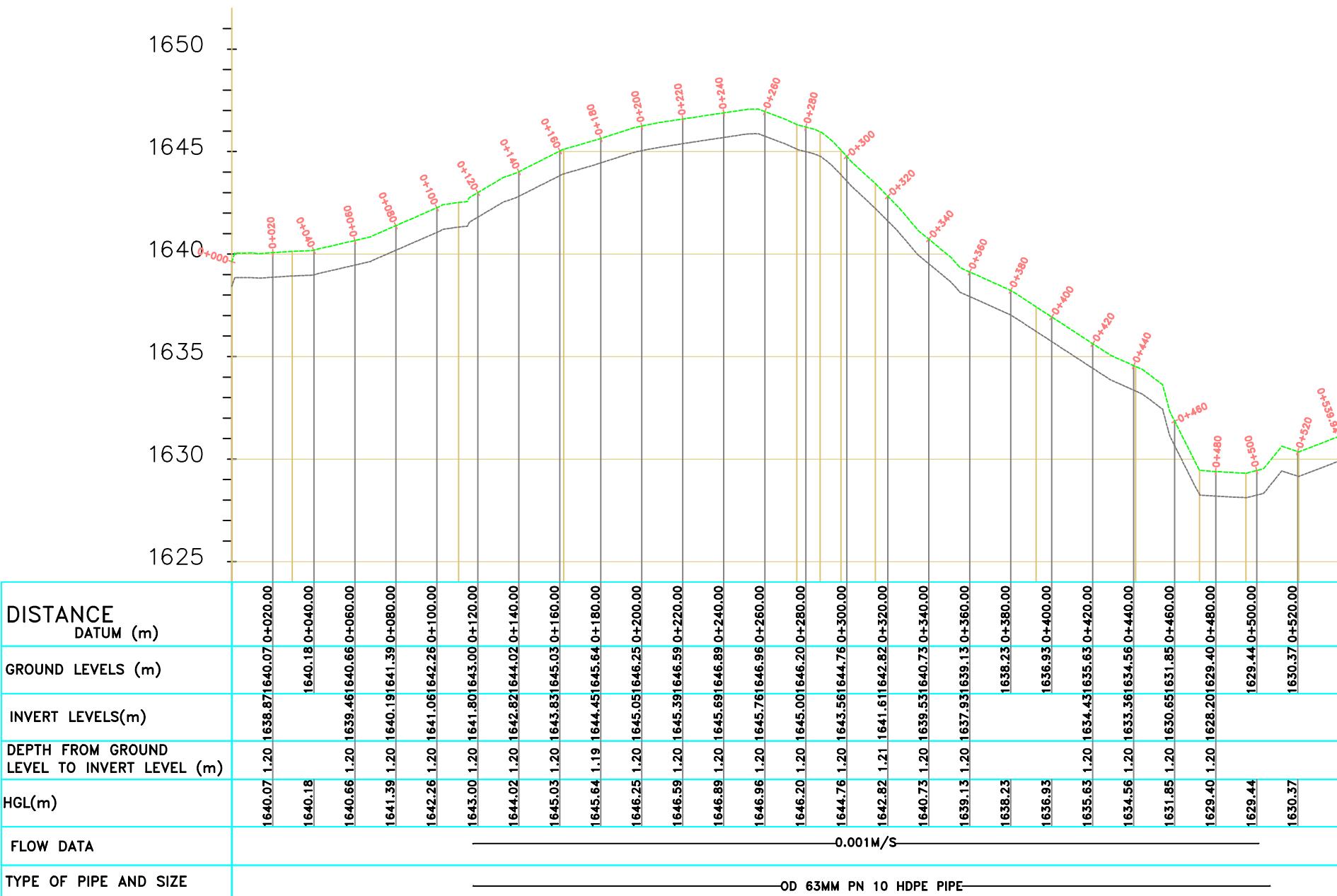


NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



Catholic line
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER			
signed CMTS			
REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	BY	
	BY	BY	
	BY	BY	
CO	ISSUED FOR CONSTRUCTION	BY	CHECKED
CLIENT			
 TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI			
PROJECT			
DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE			
Civil/Structural Engineers			
 TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI			
Drawing Title			
CATHOLIC LINE			
PLAN AND PROFILE (SHEET 6 OF 18)			
Designed by	NWW	Drawn by	NWW
Checked by	EWW	Approved by	DMN
Scale AS SHOWN (A1)		Date	JAN2026
Job No.	1	ACAD File:	
PD		STATUS	DRAWING No. TWWDA/KIWP/DL3-1



DISTANCE DATUM (m)	1639.73 0+020.00
GROUND LEVELS (m)	1639.73
INVERT LEVELS(m)	1639.05
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	0.68
HGL(m)	1639.73
FLOW DATA	0.001M/S
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE

Market Center B
SCALE: HOR 1:2000 VERT 1:1000

NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE IS TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 4.30.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

— WASHOUT

- WASHOUT TYPE 1
- WASHOUT TYPE 2
- NOMINAL DIAMETER
- NOMINAL PRESSURE
- VERTICAL BEND
- HORIZONTAL BEND
- EXISTING STRUCTURE
- EARTH ROAD
- GRAVEL ROAD
- CUT

TENDER

MTS

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
0	ISSUED FOR CONSTRUCTION	BY		

11. **ANSWER**



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

10 of 10

GN FOR IGEMBE CLUSTER III MILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

al Engineers



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

11

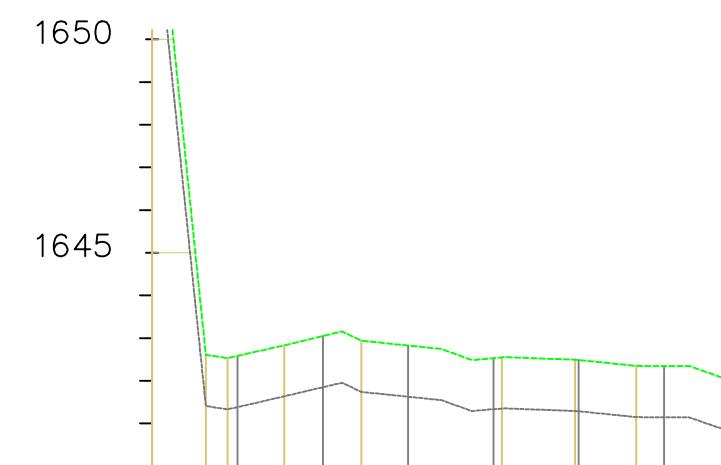
MARKET CENTRE B
ND PROFILE (SHEET 8 OF 18)

Designed by DWN	Drawn by EWN
Checked by JMM	Approved by DMN
Scale AS SHOWN (A1)	Date AUG 2022
Job No. 1	ACAD File:
PD	DRAWING No. TWWDA/KIWP/DL3-1



DISTANCE DATUM (m)	1642.58 1.20 1641.381642.58 0+020.00
GROUND LEVELS (m)	1643.05 1.20 1641.851643.05 0+040.00
INVERT LEVELS(m)	1642.83 1.20 1641.631642.83 0+060.00
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1642.53 1.20 1641.331642.53 0+080.00
HGL(m)	1642.49 1.20 1641.291642.49 0+100.00
FLOW DATA	0.001M/S
TYPE OF PIPE AND SIZE	OD 90MM PN 10 HDPE PIPE

Market Center C
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

- W01 - WASHOUT
- W02 - WASHOUT TYPE 1
- W02 - WASHOUT TYPE 2
- OD - NOMINAL DIAMETER
- PN - NOMINAL PRESSURE
- VB - VERTICAL BEND
- HB - HORIZONTAL BEND
- ER - EXISTING STRUCTURE
- GR - EARTH ROAD
- GR - GRAVEL ROAD
- CUT - CUT

FOR TENDER			
signed CMTS			
REV	R E V I S I O N S		SIGN
	BY		
	CHECKED		
	BY		
	CHECKED		
BY			
CHECKED			
ISSUED FOR CONSTRUCTION BY			

**TANA WATER WORKS
DEVELOPMENT AGENCY**
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

Civil/Structural Engineers

Drawing Title		MARKER CENTRE C	
PLAN AND PROFILE (SHEET 9 OF 18)			
Designed by	NWW	Drawn by	NWW
Checked by	EWW	Approved by	DMN
Scale	AS SHOWN (A1)	Date	JAN 2026
Job No.	1	ACAD File:	
PD	DRAWING No.	TWWDA/KIWP/DL3-1	
STATICS	CO		



DISTANCE DATUM (m)	1642.33 1.20 1641.121642.33 0+020.00
GROUND LEVELS (m)	
INVERT LEVELS(m)	
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	
HGL(m)	
FLOW DATA	-0.001M/S OD 40MM PN 10 HDPE PIPE
TYPE OF PIPE AND SIZE	

Market Center C-b
SCALE: HOR 1:2000 VERT 1:1000

NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



- WASHOUT
- WASHOUT TYPE 1
- WASHOUT TYPE 2
- NOMINAL DIAMETER
- NOMINAL PRESSURE
- VERTICAL BEND
- HORIZONTAL BEND
- EXISTING STRUCTURE
- EARTH ROAD
- GRAVEL ROAD
- CUT

FOR TENDER

REV	REVISIONS		SIGN	DATE	APPROVED
	BY				
	CHECKED				
	BY				
	CHECKED				
	BY				
	CHECKED				
0	ISSUED FOR CONSTRUCTION		BY		



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT

DESIGN FOR IGBEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title	
MARKET CENTRE C -b	
PLAN AND PROFILE (SHEET 10 OF 18)	
Designed by	NWW
Drawn by	NWW
Checked by	EWW
Approved by	DMN
Scale	AS SHOWN (A1)
Date	JAN2026
Job No.	1
ACAD File:	
PD STATUS	DRAWING No.
TWWDA/KIWP/DL3-1	
CON REV	

NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

- WASHOUT
- W01 — WASHOUT TYPE 1
- W02 — WASHOUT TYPE 2
- OD — NOMINAL DIAMETER
- PN — NOMINAL PRESSURE
- VB — VERTICAL BEND
- HB — HORIZONTAL BEND
- EXISTING STRUCTURE
- ER — EARTH ROAD
- GR — GRAVEL ROAD
- CUT

FOR TENDER
signed CMS

REV	REVISIONS	SIGN	DATE APPROVED
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY	CHECKED	

CLIENT
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers
TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title
MARKET CENTRE D
PLAN AND PROFILE (SHEET 11 OF 18)

Designed by NWW	Drawn by NWW
Checked by EWW	Approved by DMN
Scale AS SHOWN (A1)	Date JAN2026
Job No. 1	ACAD File:
PD	STATUS DRAWING No. TWWDA/KIWP/DL3-1

DISTANCE	DATUM (m)
GROUND LEVELS (m)	0+020
INVERT LEVELS(m)	0+040
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1.20
HGL(m)	1642.31
FLOW DATA	—0.001M/S—
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE

Market Center D
SCALE: HOR 1:2000 VERT 1:1000



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

— WASHOUT
 W01 — WASHOUT TYPE 1
 W02 — WASHOUT TYPE 2
 OD — NOMINAL DIAMETER
 PN — NOMINAL PRESSURE
 VB — VERTICAL BEND
 HB — HORIZONTAL BEND
 — EXISTING STRUCTURE
 ER — EARTH ROAD
 GR — GRAVEL ROAD
 — CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
	BY	CHECKED	
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY	CHECKED	

CLIENT
 TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI

PROJECT
 DESIGN FOR Igembe Cluster III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

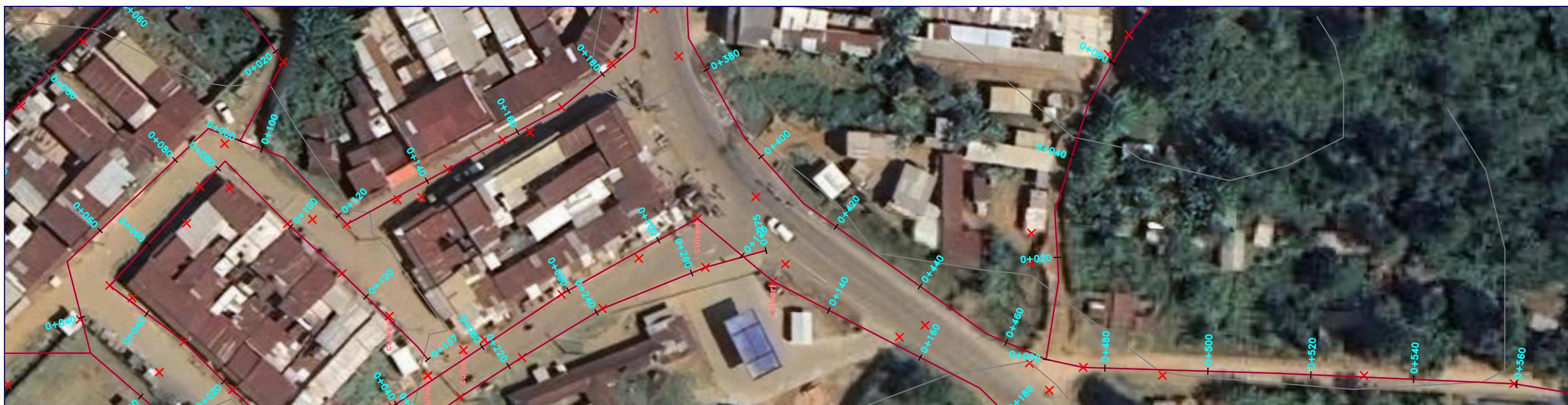
Civil/Structural Engineers
 TANA WATER WORKS DEVELOPMENT AGENCY P. O. BOX 1292-10100 NYERI

Drawing Title
 MARKET CENTRE E
 PLAN AND PROFILE (SHEET 12 OF 18)

Designed by NWW	Drawn by NWW
Checked by EWW	Approved by DMN
Scale AS SHOWN (A1)	Date JAN2026
Job No. 1	ACAD File:
PD STATUS	DRAWING No. TWWDA/KIWP/DL3-1

DISTANCE DATUM (m)	0+000	0+020	0+040	0+060	0+080	0+100	0+112.54	
GROUND LEVELS (m)	1640.71	1.20	1640.51	1641.72	0+020.00	1639.51	1640.71	0+040.00
INVERT LEVELS(m)								
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1641.47	1.19	1640.27	1641.47	0+060.00	1641.44	1642.64	0+080.00
HGL(m)	1642.64	1.20	1642.20	1643.40	0+100.00	1643.40	1.20	1642.20
FLOW DATA	0.001M/S							
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE							

Market Center E
SCALE: HOR 1:2000 VERT 1:1000



The figure displays a signal plotted against time. The vertical axis represents the signal value, with major ticks at 1635, 1640, 1645, 1650, 1655, 1660, 1665, and 1670. The horizontal axis represents time. The signal starts at a value of 1670, drops sharply to approximately 1641 within the first 10 time units. It then fluctuates around a noisy baseline between 1640 and 1644 for the next 100 time units. Following this, the signal rises to a peak of about 1643 at time 120, before gradually declining to approximately 1635 by time 200.

DISTANCE DATUM (m)	1642.88 1.20 1641.88 1642.88 0+020.00
GROUND LEVELS (m)	1643.30 0+040.00
INVERT LEVELS(m)	1642.94 0+080.00
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1642.31 1.20 1641.11 1642.31 0+100.00
HGL(m)	1642.12 1.20 1640.92 1642.12 0+120.00
FLOW DATA	0.001M ³
TYPE OF PIPE AND SIZE	OD 90MM PN 10 HDPE PIPE

Market Center A to Riaki
SCALE: HOR 1:2000 VERT 1:1000

NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT

- WASHOUT
- WASHOUT TYPE 1
- WASHOUT TYPE 2
- NOMINAL DIAMETER
- NOMINAL PRESSURE
- VERTICAL BEND
- HORIZONTAL BEND
- EXISTING STRUCTURE
- EARTH ROAD
- GRAVEL ROAD
- CUT

ENDER

rs

REV	REVISIONS	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
0	ISSUED FOR CONSTRUCTION	BY		

1000

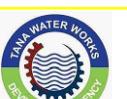


TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

10 of 10

WATER FOR IGEMBE CLUSTER: WIRELESS CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

Engineers



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

10 of 10

MARKET CENTRE A TO RIAKI
ID PROFILE (SHEET 7 OF 18)

Designed by NWW	Drawn by NWW
Checked by EWW	Approved by DMN
Scale AS SHOWN (A1)	Date JAN2026
Job No. 1	ACAD File:
PD STATUS	DRAWING No. TWWDA/KIWP/DL3-1
CO REV	



NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT

W01	— WASHOUT TYPE 1
W02	— WASHOUT TYPE 2
OD	— NOMINAL DIAMETER
PN	— NOMINAL PRESSURE
VB	— VERTICAL BEND
HB	— HORIZONTAL BEND
---	— EXISTING STRUCTURE
ER	— EARTH ROAD
GR	— GRAVEL ROAD
CUT	— CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	S I G N	D A T E	A P P R O V E D
	BY	CHEKED		
	BY	CHEKED		
	BY	CHEKED		
CO	ISSUED FOR CONSTRUCTION	BY	CHEKED	

CLIENT
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

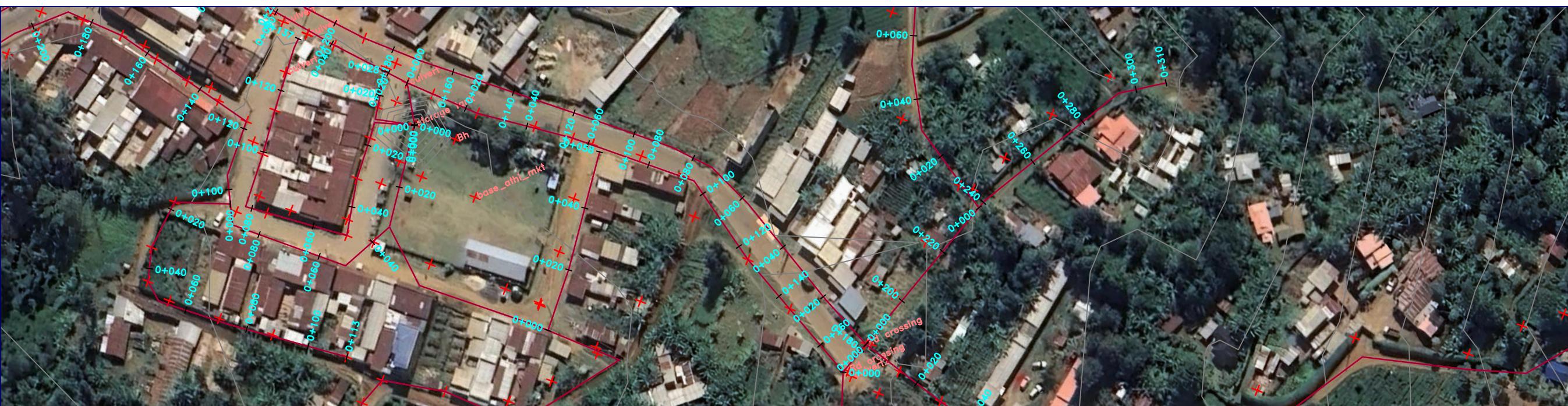
Civil/Structural Engineers
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

Drawing Title
MUTOKIAMA B
PLAN AND PROFILE (SHEET 14 OF 18)

Designed by NWW Drawn by NWW
Checked by EWW Approved by DMN
Scale AS SHOWN (A1) Date JAN2026
Job No. 1 ACAD File:
PD STATUS DRAWING No. TWWDA/KIWP/DL3-1

DISTANCE	DATUM (m)
GROUND LEVELS (m)	1606.62 1.20 1605.42 1606.62 0+020.00 1607.06 1.20 1605.86 1607.06 0+040.00 1608.37 1.20 1607.17 1608.37 0+060.00 1608.83 1.20 1607.63 1608.83 0+080.00 1609.53 1.20 1608.33 1609.53 0+100.00 1610.16 1.20 1608.96 1610.16 0+120.00 1610.52 1.20 1609.32 1610.52 0+140.00 1610.48 1.20 1609.28 1610.48 0+160.00 1610.63 1.20 1609.43 1610.63 0+180.00 1610.69 1.20 1609.49 1610.69 0+200.00
INVERT LEVELS(m)	
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	
HGL(m)	
FLOW DATA	0.001m/s OD 40MM PN 10 HDPE PIPE
TYPE OF PIPE AND SIZE	

Mutiokama-B
SCALE: HOR 1:2000 VERT 1:1000





NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M, WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT

W01	— WASHOUT TYPE 1
W02	— WASHOUT TYPE 2
OD	— NOMINAL DIAMETER
PN	— NOMINAL PRESSURE
VB	— VERTICAL BEND
HB	— HORIZONTAL BEND
---	— EXISTING STRUCTURE
ER	— EARTH ROAD
GR	— GRAVEL ROAD
W	— CUT

FOR TENDER
signed CMTS

REV	R E V I S I O N S	SIGN	DATE APPROVED
	BY	CHECKED	
CO	ISSUED FOR CONSTRUCTION BY	CHECKED	

CLIENT
 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

PROJECT
 DESIGN FOR IGEMBE CLUSTER III LASTMILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE

Civil/Structural Engineers

 TANA WATER WORKS DEVELOPMENT AGENCY
P. O. BOX 1292-10100 NYERI

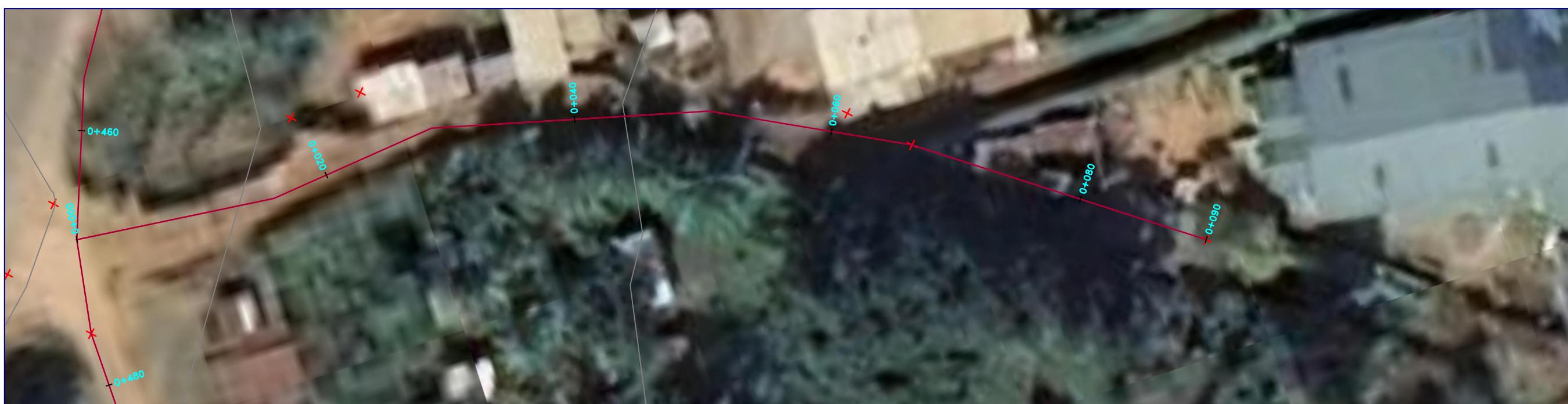
Drawing Title

POLICE POST
PLAN AND PROFILE (SHEET 17 OF 18)

Designed by NWW	Drawn by NWW
Checked by EWW	Approved by DMN
Scale AS SHOWN (A1)	Date JAN2026
Job No. 1	ACAD File:
PD STATUS	DRAWING No. TWWDA/KIWP/DL3-1

DISTANCE DATUM (m)	1639.63	1638.43	1639.63	0+020.00
GROUND LEVELS (m)	1639.20	1.20	1638.00	1639.20 0+040.00
INVERT LEVELS(m)	1638.99	1.20	1637.79	1638.99 0+060.00
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	1638.36	1.20	1637.16	1638.36 0+080.00
HGL(m)	1637.86	1.20	1636.66	1637.86 0+100.00
FLOW DATA	0.001M/S			
TYPE OF PIPE AND SIZE	—OD 50MM PN 10 HDPE PIPE—			

Police Post
SCALE: HOR 1:2000 VERT 1:1000

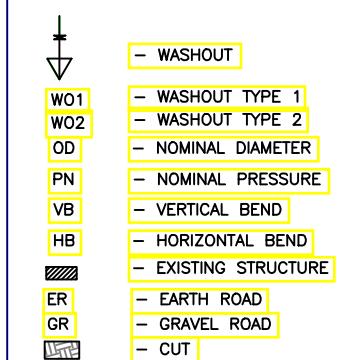


NOTES

1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON UTM.
3. LOCATION OF WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
4. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
5. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
6. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
7. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD



FOR TENDER

signed CMTS

REV	R E V I S I O N S	SIGN	DATE	APPROVED
	BY			
	CHECKED			
	BY			
	CHECKED			
	BY			
	CHECKED			
CO	ISSUED FOR CONSTRUCTION	BY		



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

200408

GN FOR IGEMBE CLUSTER III MILE CONNECTIVITY FOR ATHI COMMUNITY BOREHOLE



TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

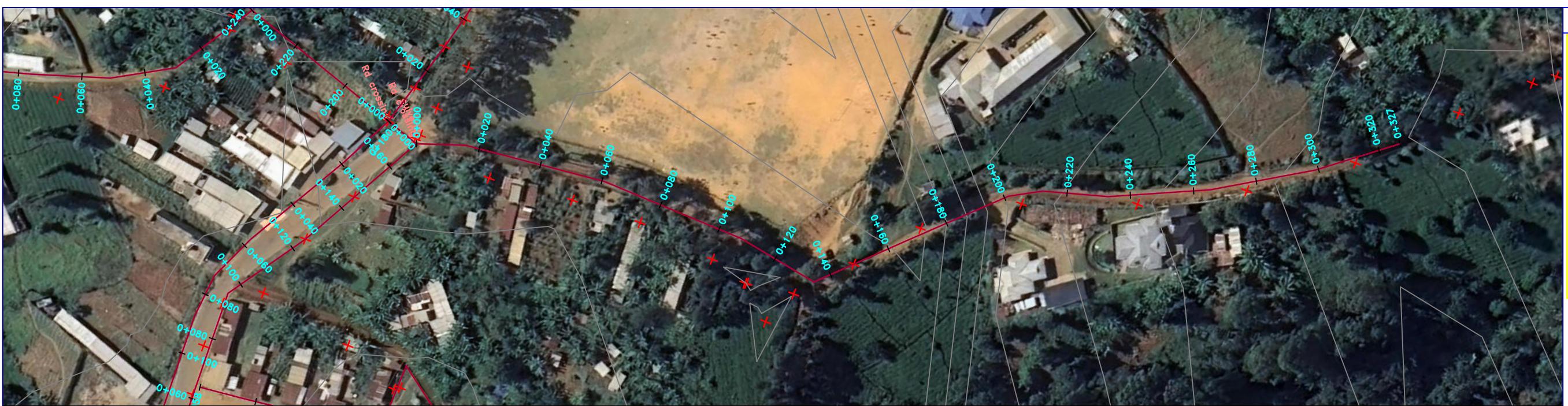
Drawing Title

RIAKI A
ND PROFILE (SHEET 18 OF 18)

DISTANCE DATUM (m)	GROUND LEVELS (m)	INVERT LEVELS(m)	DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	HGL(m)	FLOW DATA	TYPE OF PIPE AND SIZE
1.20	1641.65	1642.85	1.20	1644.78	0.001M/S	OD 40MM PN 10 HDPE PIPE
1.40	1642.62	1643.81	1.16	1644.98		
1.60	1643.61	1644.78	1.16	1645.18		
1.80	1644.60	1645.78	1.08	1645.38		
2.00	1645.00	1646.00	1.00	1645.58		

Riaki-A
SCALE: HOR 1:2000 VERT 1:1000

Designed by NWW	Drawn by NWW
Checked by EWW	Approved by DMN
Scale AS SHOWN (A1)	Date JAN2026
Job No. 1	ACAD File:
PD STATUS	DRAWING No. TWWD/KIWP/DL3-1



NOTES

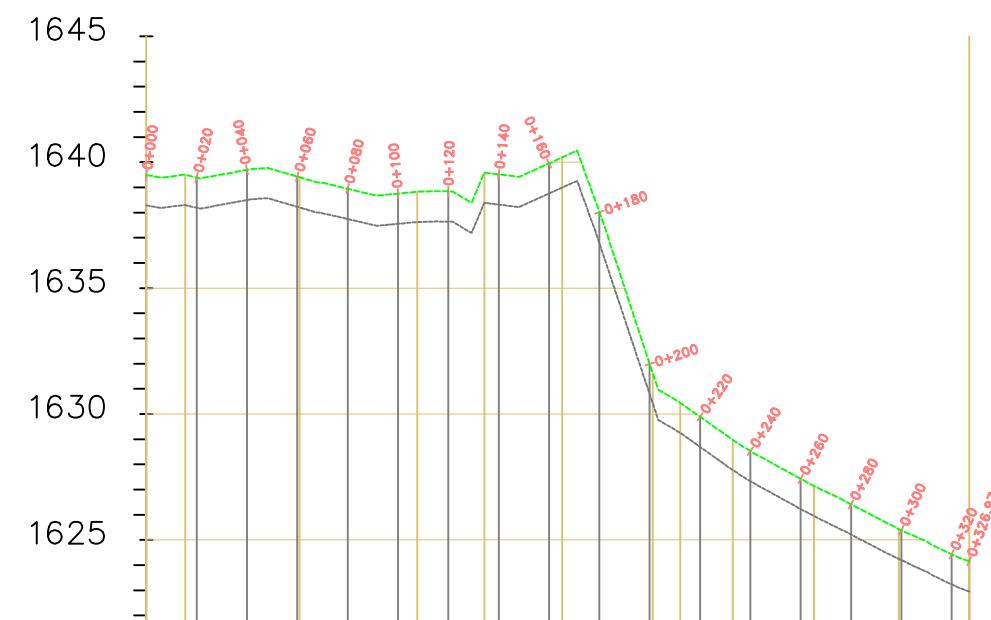
1. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
2. COORDINATES ARE BASED ON LOCATION OF AIR VALVES, WASHOUTS, BENDS AND OTHER FITTINGS AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
3. GROUND AND INVERT LEVEL SHOWN ARE AS SHOWN ON DRAWING UNLESS OTHERWISE INDICATED ON SITE BY THE ENGINEER.
4. PIPES ARE TO BE LAID TO EVEN GRADIENTS WITH A MINIMUM COVER OF 1.0M. WHERE COVER IS LESS THAN THIS, PIPE TO BE SURROUNDED WITH CONCRETE.
5. ALL BENDS ARE HORIZONTAL UNLESS OTHERWISE STATED.
6. IN WATER LOGGED AREAS, PIPES TO BE BEDDED WITH SINGLE SIZED OR GRADED AGGREGATES AS PER CLAUSE 430.1 AND 216 OF TECHNICAL SPECIFICATIONS AND/OR ANCHOR BLOCKS AS MAY BE DIRECTED ON SITE BY THE ENGINEER.

LEGEND:

- PROPOSED PIPELINE
- - EXISTING GROUND PROFILE
- PIPE INVERT PROFILE
- EXISTING ROAD

WASHOUT

W01	— WASHOUT TYPE 1
W02	— WASHOUT TYPE 2
OD	— NOMINAL DIAMETER
PN	— NOMINAL PRESSURE
VB	— VERTICAL BEND
HB	— HORIZONTAL BEND
---	— EXISTING STRUCTURE
ER	— EARTH ROAD
GR	— GRAVEL ROAD
CUT	— CUT



DISTANCE DATUM (m)	
GROUND LEVELS (m)	0+020.00
INVERT LEVELS(m)	0+060.00
DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m)	0+040.00
HGL(m)	0+140.00
FLOW DATA	0.001M/S
TYPE OF PIPE AND SIZE	OD 63MM PN 10 HDPE PIPE

Ankurani-2
SCALE: HOR 1:2000 VERT 1:1000

FOR TENDER
signed CMTS

REV	R E V I S I O N S	S I G N	D A T E	A P P R O V E D
	BY			
	CHEKED			
	BY			
	CHEKED			
	BY			
	CHEKED			
CO	I S S U E D F O R C O N S T R U C T I O N	B Y		
	CHEKED			

CLIENT
 TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

PROJECT
DESIGN FOR IGEMBE CLUSTER III
LASTMILE CONNECTIVITY FOR ATHI
COMMUNITY BOREHOLE

Civil/Structural Engineers
 TANA WATER WORKS
DEVELOPMENT AGENCY
P. O. BOX 1292-10100
NYERI

Drawing Title
ANKURANI 2
PLAN AND PROFILE (SHEET 3 OF 18)

Designed by NWW Drawn by NWW
Checked by EWW Approved by DMN
Scale AS SHOWN (A1) Date JAN2026
Job No. 1 ACAD File:
PD STATUS DRAWING No. TWWDA/KIWP/DL3-1