

- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

CLIENT:

THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

ENGINEER:

THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

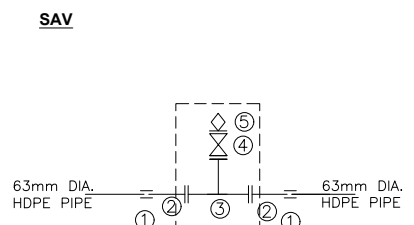
DRAWING TITLE:

KWA NG'ANG'A LINE

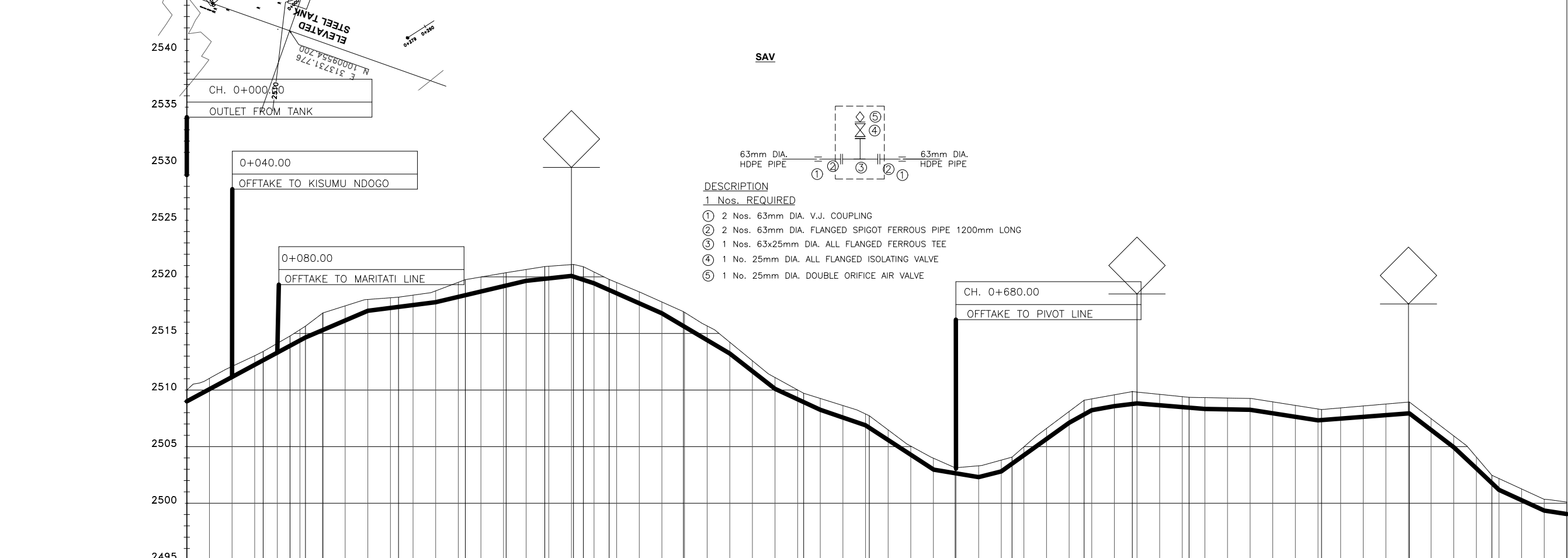
CH. 0+000.00 - 1+200.00

SHEET 1 OF 3

Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H: 1:4000, V: 1:400 Date: SEP 2023
 DRG No. **MARK/NDL/01**



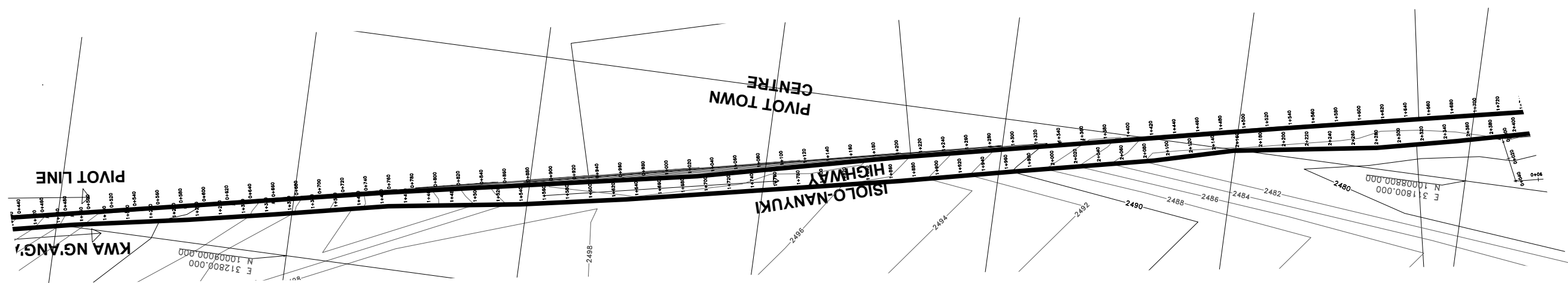
- DESCRIPTION**
- 1 Nos. REQUIRED**
- 1 2 Nos. 63mm DIA. V.J. COUPLING
 - 1 2 Nos. 63mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - 1 1 No. 63x25mm DIA. ALL FLANGED FERROUS TEE
 - 1 1 No. 25mm DIA. ALL FLANGED ISOLATING VALVE
 - 1 1 No. 25mm DIA. DOUBLE ORIFICE AIR VALVE



CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)
0+020.00	2511.03	2509.00	1.00	90mm PN 10 HDPE PIPE		1:18.57
0+040.00	2512.09	2510.00	0.94			1:28.39
0+060.00	2513.03	2511.00	0.80			1:78.90
0+080.00	2514.13	2512.00	0.77			1:42.38
0+100.00	2515.63	2513.00	0.86			1:92.19
0+120.00	2516.79	2514.00	0.85			1:30.64
0+140.00	2517.44	2515.00	1.50			1:22.62
0+160.00	2518.00	2516.00	1.28			1:16.88
0+180.00	2518.15	2517.00	1.00			1:12.83
0+200.00	2518.39	2518.00	0.88			1:21.62
0+220.00	2518.61	2519.00	1.00			1:29.17
0+240.00	2519.52	2520.00	1.28			1:15.38
0+260.00	2519.99	2521.00	1.37			1:60.24
0+280.00	2520.33	2522.00	1.28			1:39.76
0+300.00	2520.65	2523.00	1.14			1:18.96
0+320.00	2520.91	2524.00	1.08			1:17.98
0+340.00	2521.09	2525.00	1.09			58.76:82.63
0+360.00	2520.43	2526.00	1.16			1:122.44
0+380.00	2519.50	2527.00	1.00			1:537.02
0+400.00	2518.67	2528.00	0.85			1:64.50
0+420.00	2517.78	2529.00	1.01			1:130.73
0+440.00	2516.83	2530.00	1.27			1:13.11
0+460.00	2515.66	2531.00	1.25			1:10.70
0+480.00	2514.23	2532.00	1.00			1:10.70
0+500.00	2512.59	2533.00	0.82			1:10.70
0+520.00	2511.11	2534.00	1.00			1:10.70
0+540.00	2510.01	2535.00	0.83			1:10.70
0+560.00	2509.26	2536.00	0.78			1:10.70
0+580.00	2508.63	2537.00	1.00			1:10.70
0+600.00	2507.89	2538.00	1.00			1:10.70
0+620.00	2506.48	2539.00	0.89			1:10.70
0+640.00	2505.05	2540.00	0.76			1:10.70
0+660.00	2503.92	2541.00	0.88			1:10.70
0+680.00	2503.14	2542.00	0.45			1:10.70
0+700.00	2503.31	2543.00	1.00			1:10.70
0+720.00	2503.81	2544.00	1.00			1:10.70
0+740.00	2504.98	2545.00	0.58			1:10.70
0+760.00	2506.61	2546.00	0.74			1:10.70
0+780.00	2508.11	2547.00	0.83			1:10.70
0+800.00	2509.10	2548.00	1.00			1:10.70
0+820.00	2509.22	2549.00	1.00			1:10.70
0+840.00	2509.62	2550.00	1.08			1:10.70
0+860.00	2509.42	2551.00	0.86			1:10.70
0+880.00	2509.33	2552.00	0.82			1:10.70
0+900.00	2509.29	2553.00	1.00			1:10.70
0+920.00	2509.29	2554.00	1.00			1:10.70
0+940.00	2509.26	2555.00	1.00			1:10.70
0+960.00	2508.96	2556.00	1.01			1:10.70
0+980.00	2508.64	2557.00	1.01			1:10.70
1+000.00	2508.33	2558.00	0.90			1:10.70
1+020.00	2508.42	2559.00	0.84			1:10.70
1+040.00	2508.59	2560.00	0.86			1:10.70
1+060.00	2508.76	2561.00	0.88			1:10.70
1+080.00	2508.84	2562.00	1.00			1:10.70
1+100.00	2507.47	2563.00	1.00			1:10.70
1+120.00	2505.95	2564.00	1.00			1:10.70
1+140.00	2504.08	2565.00	1.00			1:10.70
1+160.00	2501.77	2566.00	0.69			1:10.70
1+180.00	2501.18	2567.00	1.00			1:10.70
1+200.00	2501.26	2568.00	0.89			1:10.70
1+220.00	2500.35	2569.00	1.00			1:10.70
1+240.00	2499.35	2570.00	1.00			1:10.70
1+260.00	2499.05	2571.00	1.05			1:10.70

LONGITUDINAL SECTION





- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

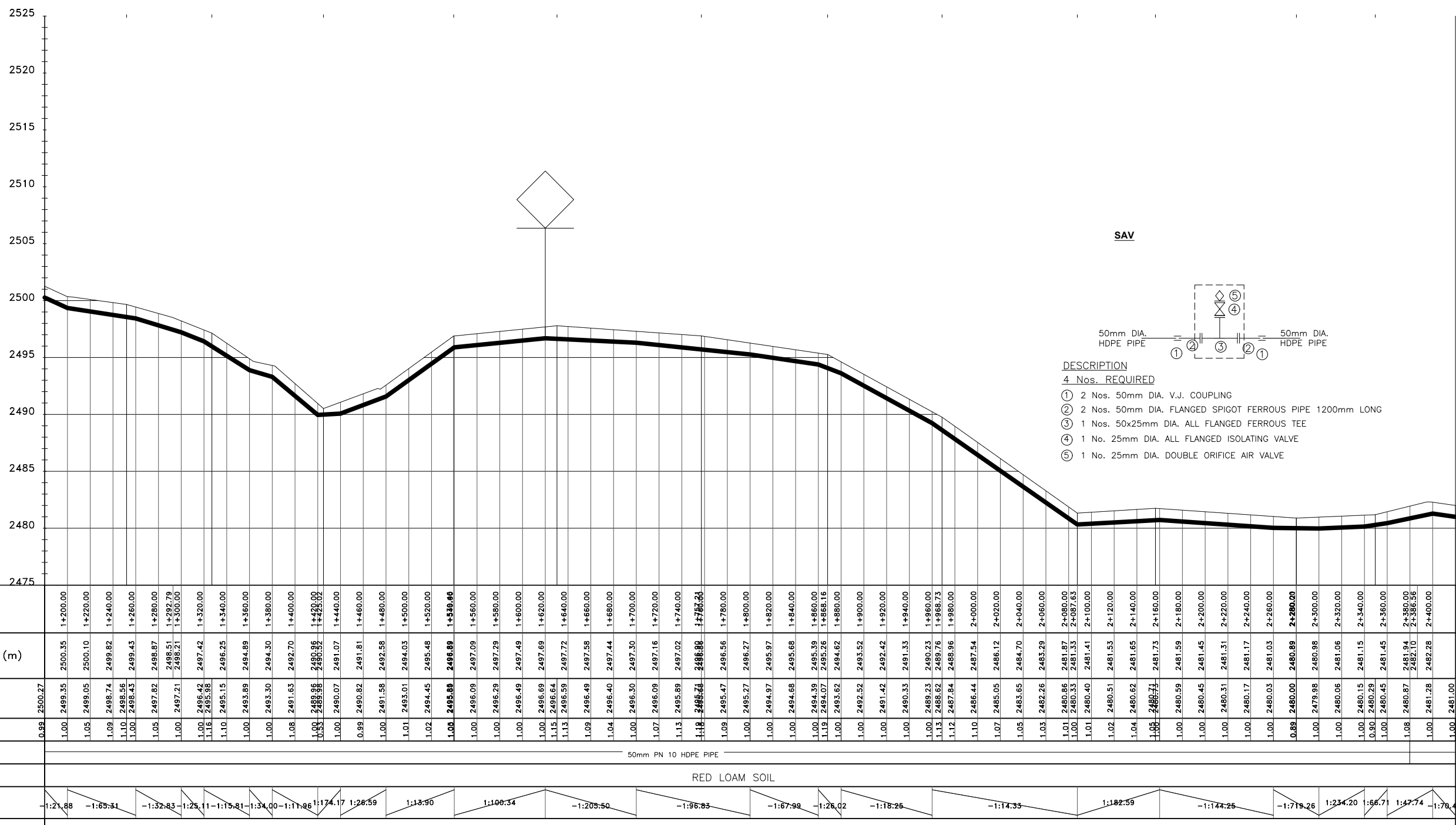
CLIENT:
 THE CHIEF EXECUTIVE OFFICER
 TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

ENGINEER:
 THE CHIEF MANAGER TECHNICAL SERVICES
 TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

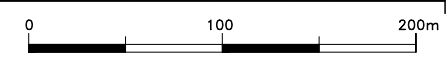
PROJECT TITLE:
 LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

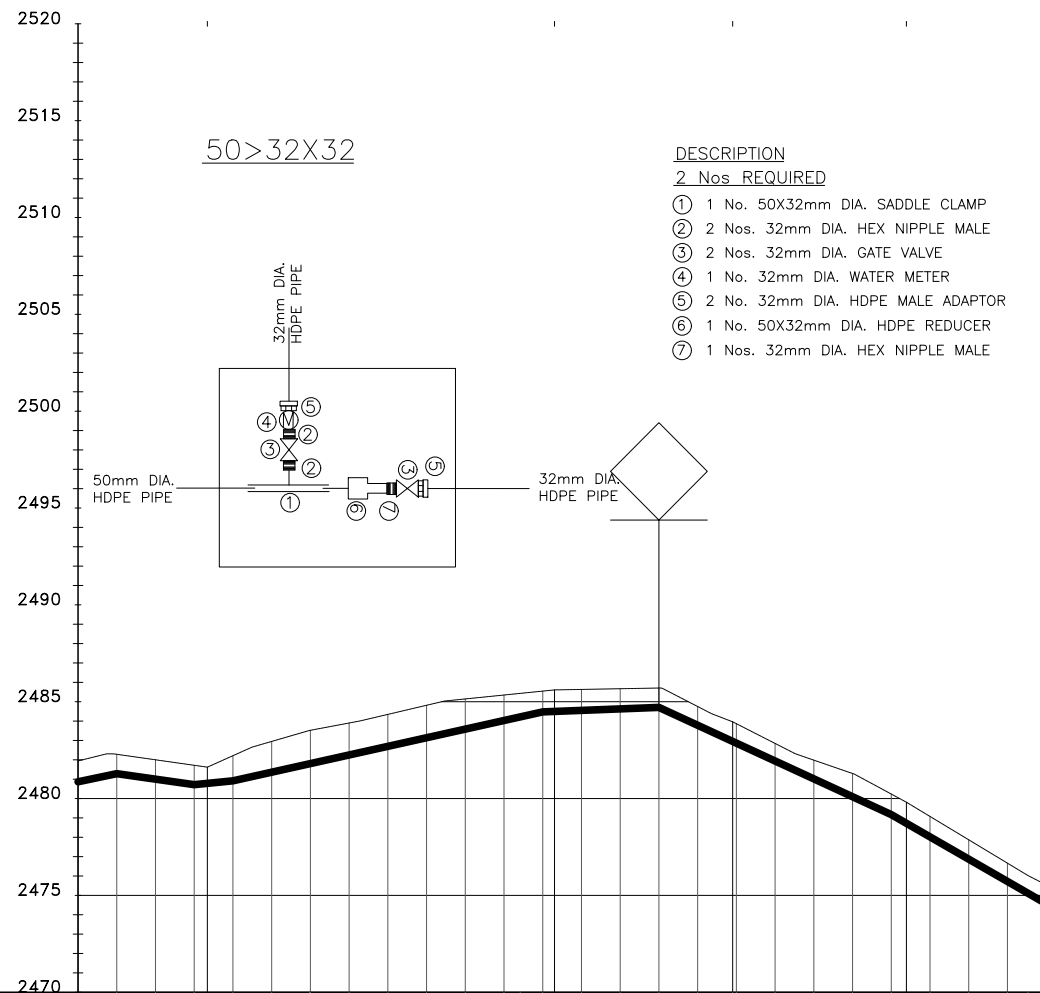
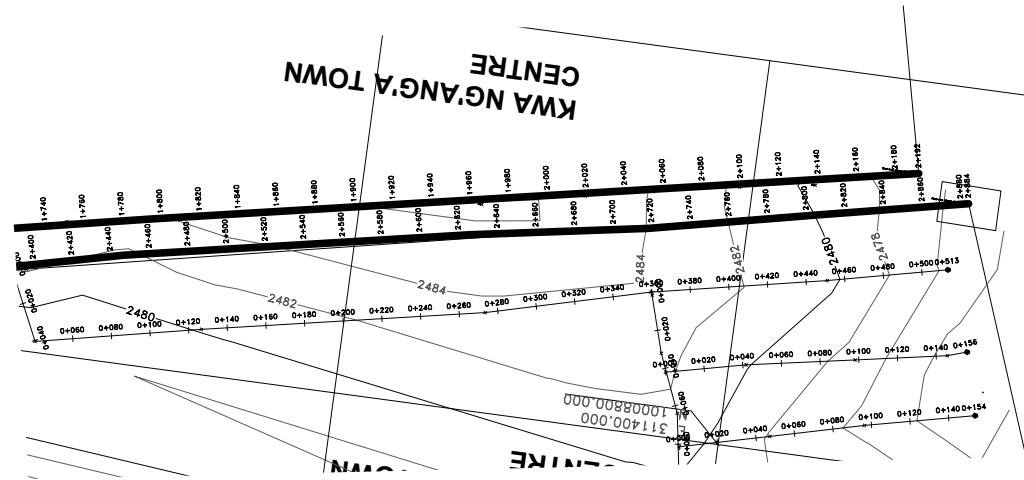
DRAWING TITLE:
 KWA NG'ANG'A LINE
 CH. 1+200.00 - 2+400.00
 SHEET 2 OF 3

Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H: 1:4000, V: 1:400 Date: SEP 2023
 DRG No. **MARKNDL/02**



LONGITUDINAL SECTION





CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
2+400.00	2480.87	2480.87	1.08	32mm PN 10 HDPE PIPE	RED LOAM SOIL	1:47.74	
2+420.00	2481.28	2481.28	1.00			1:70.49	
2+440.00	2481.72	2481.72	1.00			1:101.34	
2+460.00	2482.21	2482.21	1.30			1:44.95	
2+480.00	2482.95	2482.95	1.59			1:144.95	
2+500.00	2483.52	2483.52	1.72			1:144.95	
2+520.00	2483.90	2483.90	1.65			1:258.01	
2+540.00	2484.55	2484.55	1.65			1:258.01	
2+560.00	2484.82	2484.82	1.68			1:258.01	
2+580.00	2485.14	2485.14	1.56			1:258.01	
2+600.00	2485.35	2485.35	1.32			1:258.01	
2+620.00	2485.45	2485.45	1.07			1:258.01	
2+640.00	2485.55	2485.55	1.11			1:258.01	
2+660.00	2485.63	2485.63	1.08			1:258.01	
2+680.00	2485.67	2485.67	1.04			1:258.01	
2+700.00	2485.71	2485.71	1.00			1:258.01	
2+720.00	2485.75	2485.75	0.97	1:258.01			
2+740.00	2485.86	2485.86	1.00	1:258.01			
2+760.00	2485.85	2485.85	0.91	1:258.01			
2+780.00	2485.98	2485.98	0.97	1:258.01			
2+800.00	2486.23	2486.23	1.09	1:258.01			
2+820.00	2486.08	2486.08	1.05	1:258.01			
2+840.00	2486.87	2486.87	1.00	1:258.01			
2+860.00	2486.66	2486.66	0.94	1:258.01			
2+870.61	2486.02	2486.02	0.94	1:258.01			
2+884.10	2485.54	2485.54	0.97	1:258.01			

LONGITUDINAL SECTION

DESCRIPTION

2 Nos. REQUIRED

- ① 1 No. 50X32mm DIA. SADDLE CLAMP
- ② 2 Nos. 32mm DIA. HEX NIPPLE MALE
- ③ 2 Nos. 32mm DIA. GATE VALVE
- ④ 1 No. 32mm DIA. WATER METER
- ⑤ 2 No. 32mm DIA. HDPE MALE ADAPTOR
- ⑥ 1 No. 50X32mm DIA. HDPE REDUCER
- ⑦ 1 Nos. 32mm DIA. HEX NIPPLE MALE

- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

LEGEND:

- ROAD (TARMAC)
- - - ROAD / TRACK (EARTH / MURRAM)
- - - FENCE / HEDGE
- 1480 --- CONTOURS
- ⊙ ELECTRIC POST
- ⊖ CULVERT
- ⊖ GATE
- ▨ TEMPORARY STRUCTURES
- BUILDINGS
- KeNHA / KeRRA ROAD BEACON
- PROPOSED TREATED WATER DISTRIBUTION MAIN
- TP10 TRAVERSE POINT & No.
- ⊗ TRIAL HOLE
- ⤵ 30° HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
- RIVER/STREAM
- V.J. VIKING JOHNSON
- GV GATE VALVE
- SV-01 SECTIONAL VALVE & No.
- WO-01 WASHOUT VALVE & No.
- LAV-01 AIR VALVE & No.
- WM WATER METER
- PROPOSED MASONRY CHAMBER
- ⤵ n DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS	SIGN	DATE	APPROVED

OFFICER DEVELOPMENT

TECHNICAL DEVELOPMENT

NYERI, KENYA

PROJECT TITLE:

LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:

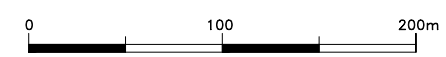
KWA NG'ANG'A LINE

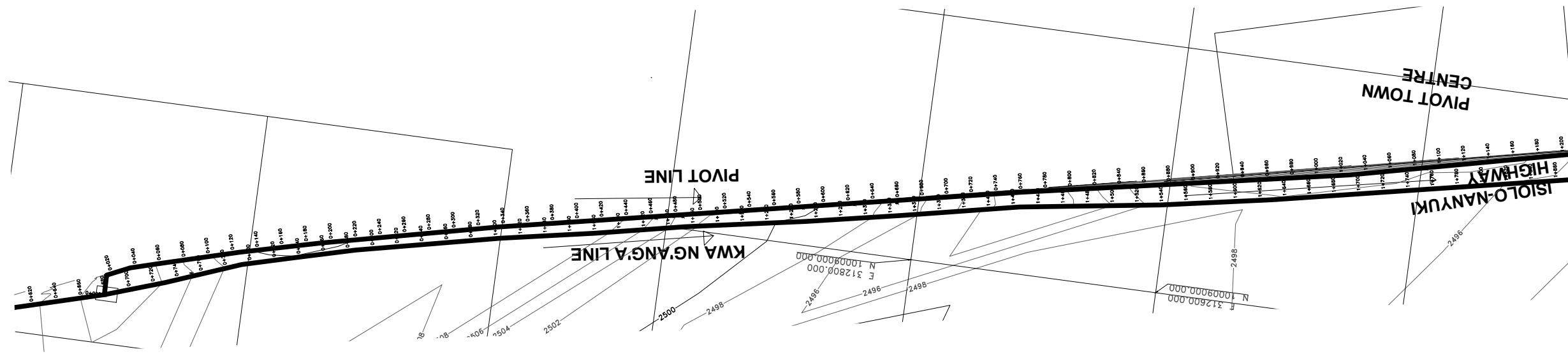
CH. 2+400.00 - 2+884

SHEET 3 OF 3

Designed by: K.N.G	Drawn by: A.M.M
Checked by: J.M.M	Approved by: D.N.M
Scale: H- 1:4000, V- 1:400	Date: SEP 2023

DRG No. **MAR/KNDL/03**





- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

CLIENT:
THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

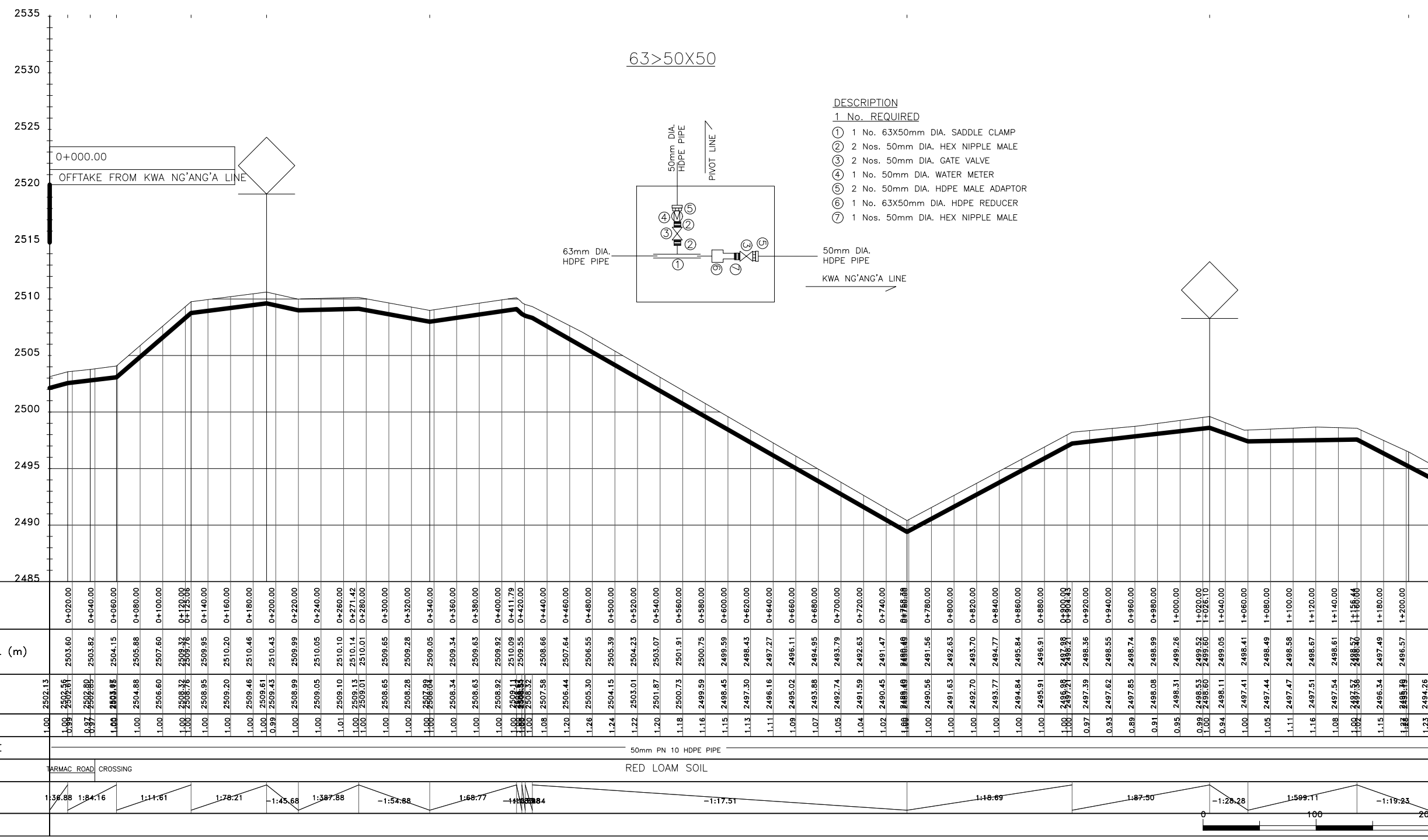
ENGINEER:
THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

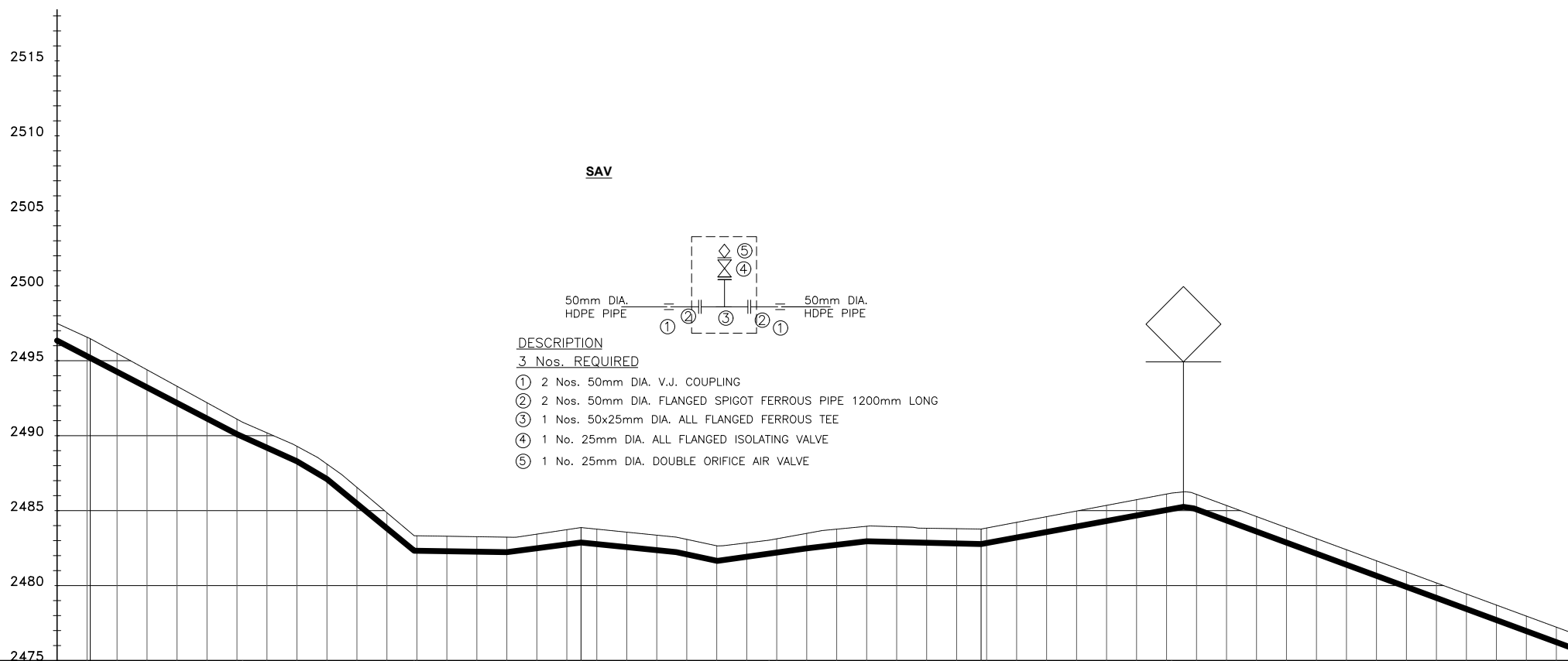
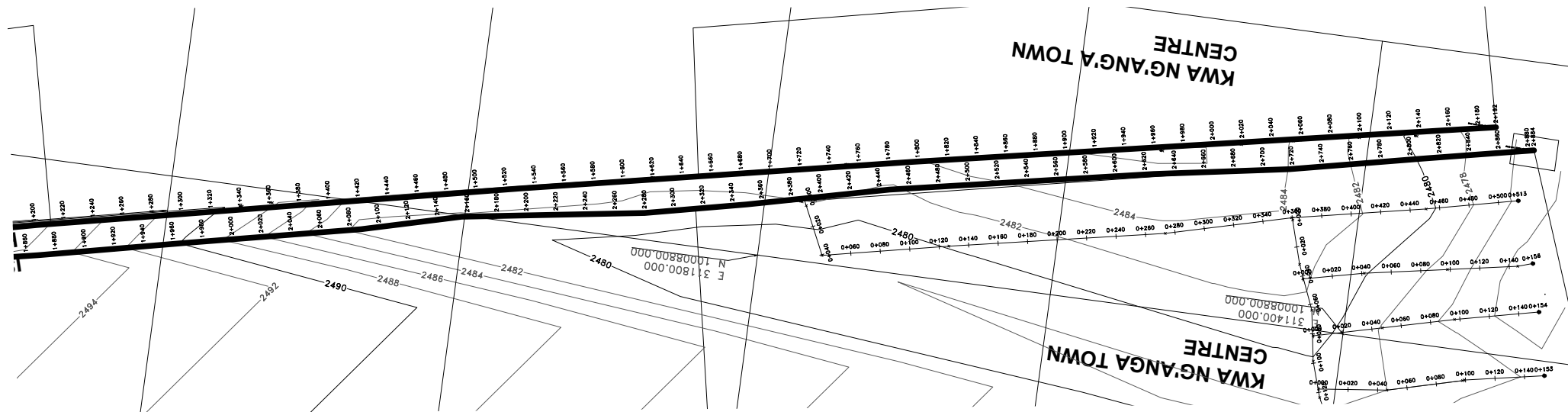
LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:
KWA NG'ANG'A PIVOT LINE
CH. 0+000.00 - 1+200
SHEET 1 OF 2

Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H: 1:4000, V: 1:400 Date: SEP 2023
 DRG No. **MAR/KNPL/01**



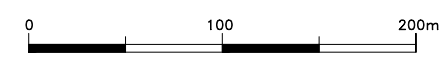
LONGITUDINAL SECTION



- DESCRIPTION**
3 Nos. REQUIRED
- ① 2 Nos. 50mm DIA. V.J. COUPLING
 - ② 2 Nos. 50mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - ③ 1 Nos. 50x25mm DIA. ALL FLANGED FERROUS TEE
 - ④ 1 No. 25mm DIA. ALL FLANGED ISOLATING VALVE
 - ⑤ 1 No. 25mm DIA. DOUBLE ORIFICE AIR VALVE

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m) DATUM (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
1+15	2496.57	2496.34	1.15	50mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:19.23	
1+200.00	2495.49	2495.19	1.23			-1:22.09	
1+220.00	2494.39	2494.26	1.17			-1:16.88	
1+240.00	2493.30	2493.22	1.12			-1:12.17	
1+260.00	2492.20	2492.18	1.06			-1:645.85	
1+280.00	2491.14	2491.14	1.00			1:77.14	
1+300.00	2490.00	2490.10	0.99			-1:99.29	
1+320.00	2489.19	2489.20	1.00			-1:46.78	
1+340.00	2488.29	2488.29	1.00			1:71.39	
1+360.00	2488.11	2488.11	1.00			1:84.62	
1+380.00	2486.55	2486.46	1.09			-1:418.11	
1+400.00	2484.86	2484.82	1.04			1:54.45	
1+420.00	2483.32	2483.32	1.08			-1:66.65	
1+440.00	2482.29	2482.29	1.00			-1:27.10	
1+460.00	2483.26	2483.26	1.00				
1+480.00	2483.23	2483.23	1.00				
1+500.00	2483.43	2483.43	0.94				
1+520.00	2485.73	2485.73	0.98				
1+540.00	2485.87	2485.87	1.00				
1+560.00	2485.77	2485.77	1.00				
1+580.00	2483.56	2483.56	1.00				
1+600.00	2483.36	2483.36	1.00				
1+620.00	2483.08	2483.08	1.00				
1+640.00	2482.66	2482.66	1.00				
1+660.00	2482.85	2482.85	0.93				
1+680.00	2483.03	2483.03	0.92				
1+700.00	2483.48	2483.48	1.00				
1+720.00	2483.76	2483.76	1.04				
1+740.00	2483.96	2483.96	1.00				
1+760.00	2485.93	2485.93	1.02				
1+780.00	2483.83	2483.83	0.97				
1+800.00	2483.80	2483.80	0.98				
1+820.00	2483.71	2483.71	1.00				
1+840.00	2484.22	2484.22	1.01				
1+860.00	2484.60	2484.60	1.02				
1+880.00	2484.97	2484.97	1.03				
1+900.00	2485.35	2485.35	1.04				
1+920.00	2485.73	2485.73	1.05				
1+940.00	2486.11	2486.11	1.06				
1+960.00	2486.08	2486.08	1.00				
1+980.00	2485.34	2485.34	1.00				
2+000.00	2484.61	2484.61	1.00				
2+020.00	2483.87	2483.87	1.00				
2+040.00	2483.13	2483.13	1.00				
2+060.00	2482.39	2482.39	1.00				
2+080.00	2481.65	2481.65	1.00				
2+100.00	2480.92	2480.92	1.00				
2+120.00	2480.18	2480.18	1.00				
2+140.00	2479.44	2479.44	1.00				
2+160.00	2478.70	2478.70	1.00				
2+180.00	2477.96	2477.96	1.00				
2+200.00	2477.23	2477.23	1.00				
2+220.00	2476.49	2476.49	1.00				

LONGITUDINAL SECTION



- NOTES:**
- CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 - GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 - GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

CLIENT:
THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

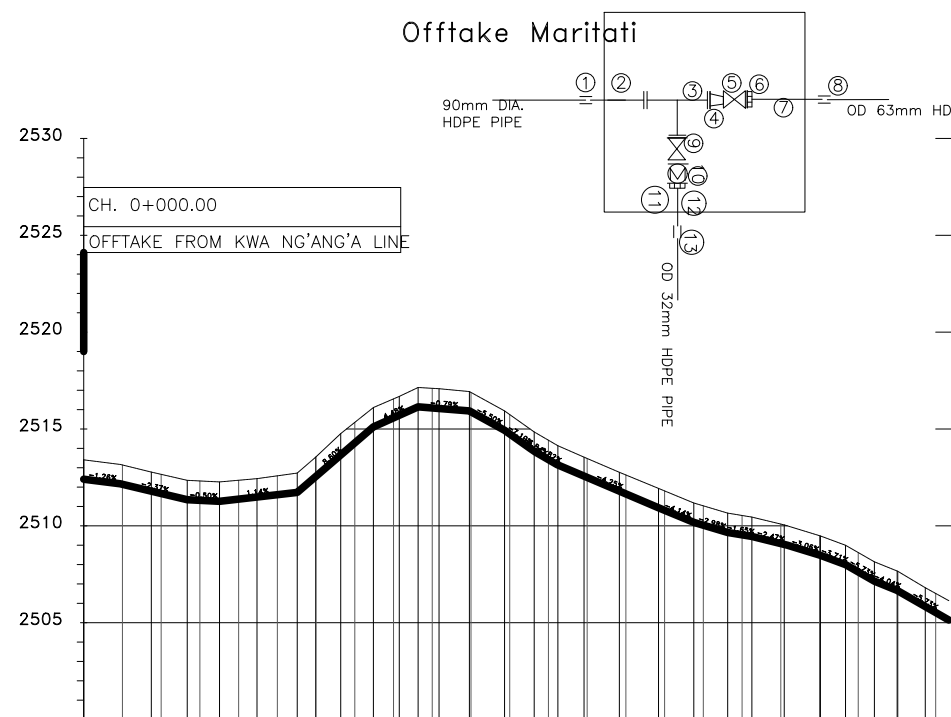
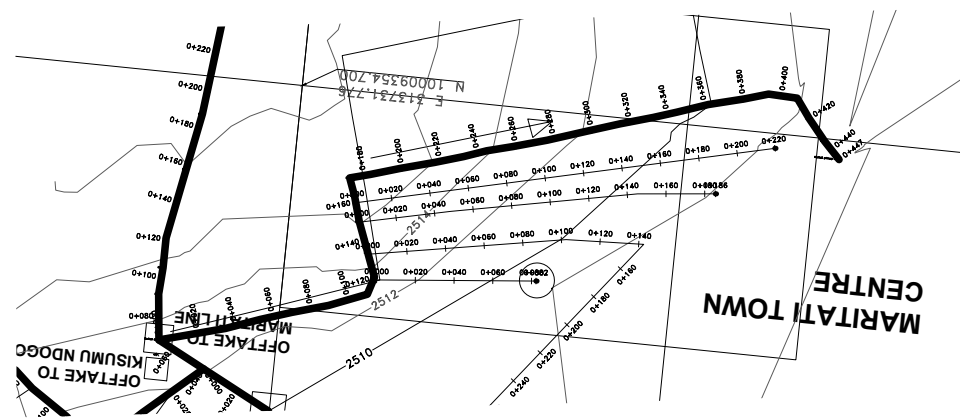
ENGINEER:
THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

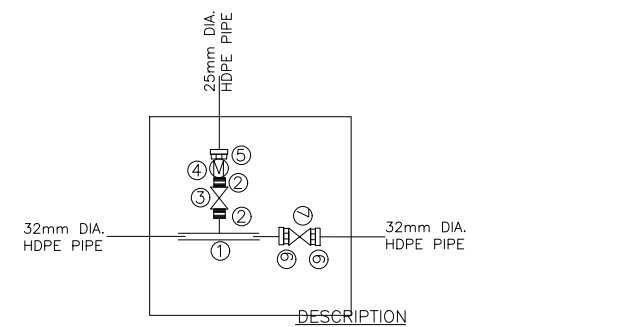
LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:
KWA NG'ANG'A PIVOT LINE
CH. 1+200.00 - 2+200
SHEET 2 OF 2

Designed by: K.N.G	Drawn by: A.M.M
Checked by: J.M.M	Approved by: D.N.M
Scale: H- 1:4000, V- 1:400	Date: SEP 2023
DRG No. MAR/KNPL/02	



- DESCRIPTION**
1 Nos. REQUIRED
- ① 1 Nos. 90mm DIA. V.J. COUPLING
 - ② 1 Nos. 90mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - ③ 1 Nos. 90x32mm DIA. ALL FLANGED FERROUS TEE
 - ④ 1 No. 90x63mm DIA. TAPERED REDUCER
 - ⑤ 1 No. 63mm DIA. ALL FLANGED SLUICE VALVE
 - ⑥ 1 No. 63mm DIA. V.J. FLANGE ADAPTOR
 - ⑦ 1 No. 63mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - ⑧ 1 No. 63mm DIA. V.J. STEPPED COUPLING
 - ⑨ 1 No. 32mm DIA. ALL FLANGED SLUICE VALVE
 - ⑩ 1 No. 32mm DIA. ALL FLANGED WATER METER
 - ⑪ 1 No. 32mm DIA. V.J. FLANGE ADAPTOR
 - ⑫ 1 No. 32mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - ⑬ 1 No. 32m DIA. V.J. STEPPED COUPLING



- DESCRIPTION**
3 Nos. REQUIRED
- ① 1 No. 32x25mm DIA. SADDLE CLAMP
 - ② 2 Nos. 25mm DIA. HEX NIPPLE MALE
 - ③ 1 Nos. 25mm DIA. GATE VALVE
 - ④ 1 No. 25mm DIA. WATER METER
 - ⑤ 1 No. 32mm DIA. HDPE MALE ADAPTOR
 - ⑥ 2 No. 25mm DIA. HDPE MALE ADAPTOR
 - ⑦ 1 Nos. 25mm DIA. GATE VALVE

CHAINAGE (m)	0+020.00	0+040.00	0+060.00	0+080.00	0+100.00	0+110.26	0+120.00	0+140.00	0+160.00	0+180.00	0+200.00	0+220.00	0+240.00	0+260.00	0+280.00	0+300.00	0+320.00	0+332.57	0+340.00	0+360.00	0+380.00	0+400.00	0+420.00	0+434.63	0+440.00	0+450.00		
EXISTING GROUND LEVEL (m)	2513.14	2512.66	2512.32	2512.35	2512.58	2512.72	2513.57	2515.34	2516.55	2517.10	2516.89	2516.53	2514.42	2513.48	2512.83	2511.80	2511.03	2510.66	2510.54	2510.09	2509.49	2508.62	2507.67	2506.80	2505.55	2505.14		
INVERT LEVELS (m)	2512.41	2511.79	2511.35	2511.27	2511.49	2511.61	2511.72	2513.66	2515.11	2516.57	2518.09	2519.61	2521.13	2522.65	2524.17	2525.69	2527.21	2528.73	2530.25	2531.77	2533.29	2534.81	2536.33	2537.85	2539.37	2540.89		
DEPTH OF INVERT (m)	1.00	0.99	1.00	0.97	0.97	1.00	1.11	0.98	1.00	1.02	1.00	1.08	1.08	0.98	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.98	1.00			
TYPE OF PIPE AND SIZE	32mm PN 10 HDPE PIPE																											
GEOLOGICAL CONDITION	RED LOAM SOIL																											
SLOPE OF PIPE (H/V)	-1:79.59 -1:42.14 -1:200.87 -1:87.64										1:11.63 1:22.31 1:126.17 1:127.10 1:100.73 1:123.52 -1:24.18 1:35.50 1:20.67 1:26.32 1:26.19 1:42.47 1:71.45																	
REFERENCE PEG NO.																												

LONGITUDINAL SECTION

- NOTES:**
- CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 - GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 - GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

LEGEND:

- ROAD (TARMAC)
- - - - ROAD / TRACK (EARTH / MURRAM)
- - - - FENCE / HEDGE
- 1480--- CONTOURS
- ELECTRIC POST
- CULVERT
- GATE
- ▨ TEMPORARY STRUCTURES
- BUILDINGS
- KeNHA / KeRRA ROAD BEACON
- PROPOSED TREATED WATER DISTRIBUTION MAIN
- TP10 TRAVERSE POINT & No.
- TRIAL HOLE
- HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
- RIVER/STREAM
- V.J. VIKING JOHNSON
- GV GATE VALVE
- SV-01 SECTIONAL VALVE & No.
- WO-01 WASHOUT VALVE & No.
- LAV-01 AIR VALVE & No.
- WM WATER METER
- PROPOSED MASONRY CHAMBER
- DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

CLIENT:

THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
P.O BOX 1292 - 10100, NYERI, KENYA

ENGINEER:

THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
P.O BOX 1292 - 10100, NYERI, KENYA

PROJECT TITLE:

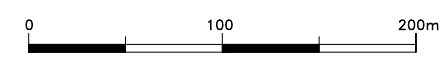
LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:

OFFTAKE -MARITATI LINE

CH. 0+000.00 - 0+447
SHEET 1 OF 1

Designed by: K.N.G	Drawn by: A.M.M
Checked by: J.M.M	Approved by: D.N.M
Scale: H- 1:4000, V- 1:400	Date: SEP 2023
DRG No. MAR/OML/01	



- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
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 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
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 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

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

CLIENT:

THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

ENGINEER:

THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

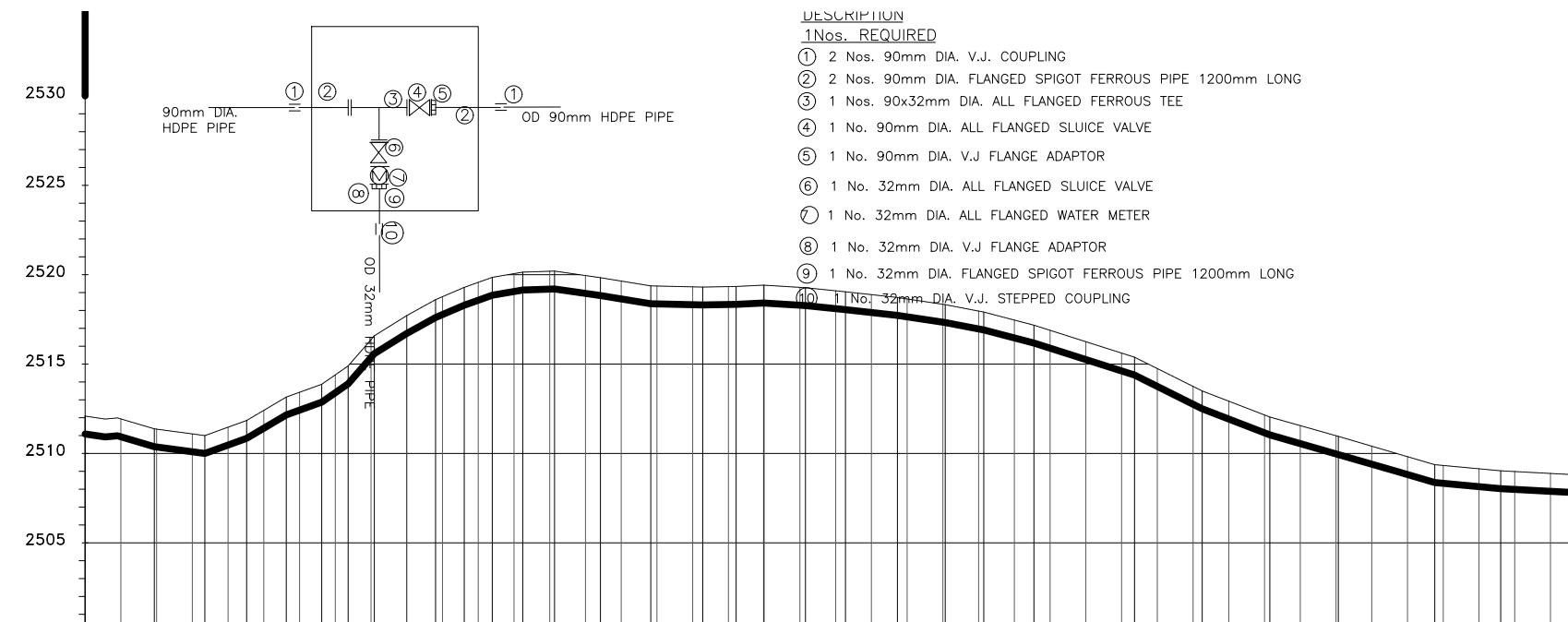
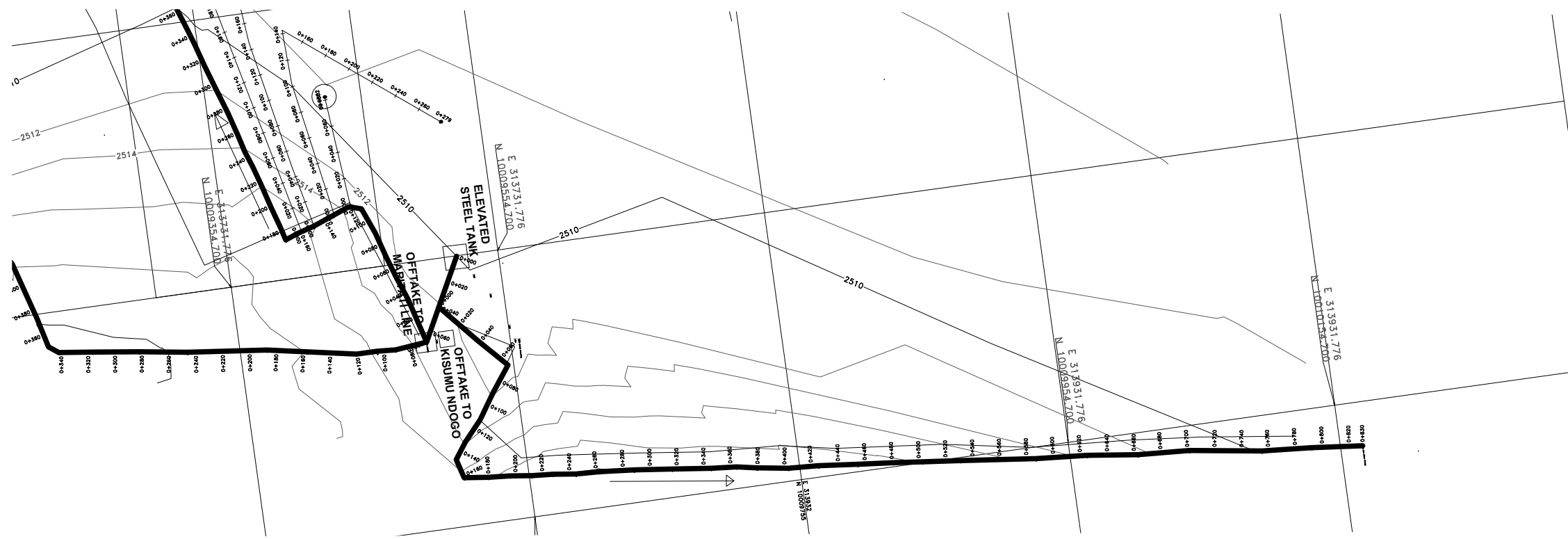
DRAWING TITLE:

KISUMU NDOGO PIPELINE

CH. 0+000.00 - 0+830
SHEET 1 OF 1

Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H- 1:4000, V- 1:400 Date: SEP 2023

DRG No. MAR/KN/01

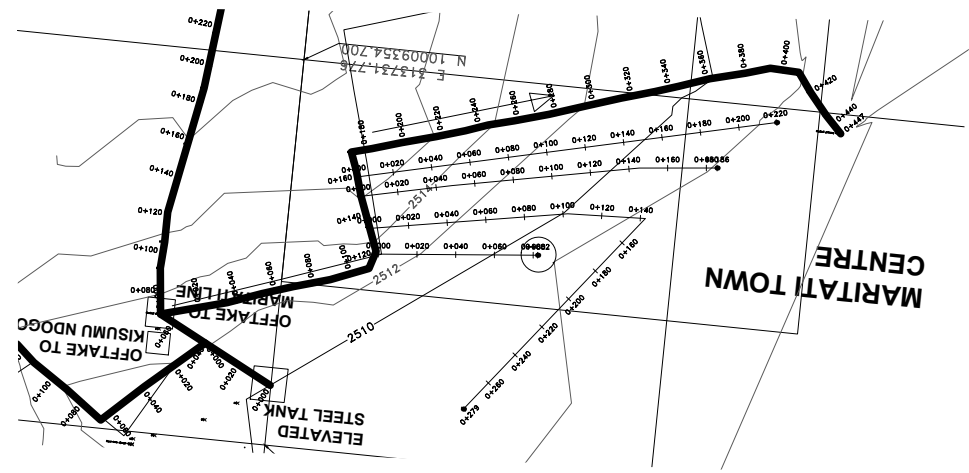


- DESCRIPTION**
1Nos. REQUIRED
- 1 2 Nos. 90mm DIA. V.J. COUPLING
 - 2 2 Nos. 90mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - 3 1 Nos. 90x32mm DIA. ALL FLANGED FERROUS TEE
 - 4 1 No. 90mm DIA. ALL FLANGED SLUICE VALVE
 - 5 1 No. 90mm DIA. V.J FLANGE ADAPTOR
 - 6 1 No. 32mm DIA. ALL FLANGED SLUICE VALVE
 - 7 1 No. 32mm DIA. ALL FLANGED WATER METER
 - 8 1 No. 32mm DIA. V.J FLANGE ADAPTOR
 - 9 1 No. 32mm DIA. FLANGED SPIGOT FERROUS PIPE 1200mm LONG
 - 10 1 No. 32mm DIA. V.J. STEPPED COUPLING

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2511.93	2511.09	0.84	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+040.00	2511.36	2510.84	0.52	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+060.00	2511.09	2510.84	0.25	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+080.00	2511.47	2511.41	0.06	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+100.00	2512.41	2512.41	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+112.57	2513.16	2513.16	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+120.00	2513.42	2513.42	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+140.00	2514.40	2514.40	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+160.00	2516.37	2516.37	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+180.00	2517.71	2517.71	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+200.00	2518.77	2518.77	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+220.00	2519.57	2519.57	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+227.84	2519.85	2519.85	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+240.00	2520.06	2520.06	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+260.00	2520.19	2520.19	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+280.00	2519.95	2519.95	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+300.00	2519.64	2519.64	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+320.00	2519.37	2519.37	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+340.00	2519.32	2519.32	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+345.61	2519.31	2519.31	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+360.00	2519.33	2519.33	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+380.00	2519.41	2519.41	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+400.00	2519.29	2519.29	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+420.00	2519.10	2519.10	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+440.00	2518.88	2518.88	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+454.56	2518.72	2518.72	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+460.00	2518.64	2518.64	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+480.00	2518.34	2518.34	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+500.00	2517.97	2517.97	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+520.00	2517.46	2517.46	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+540.00	2516.89	2516.89	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+560.00	2516.25	2516.25	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+580.00	2515.62	2515.62	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+587.25	2515.38	2515.38	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+600.00	2514.75	2514.75	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+620.00	2513.75	2513.75	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+640.00	2512.92	2512.92	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+660.00	2512.15	2512.15	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+680.00	2511.56	2511.56	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+700.00	2510.88	2510.88	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+720.00	2509.40	2509.40	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+740.00	2509.00	2509.00	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+760.00	2509.82	2509.82	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+780.00	2509.33	2509.33	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+800.00	2509.14	2509.14	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+820.00	2508.03	2508.03	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33
0+830.26	2507.88	2507.88	0.00	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:27.67	1:18.33

LONGITUDINAL SECTION






- NOTES:**
1. CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 2. GRID VALUES ARE IN METERS AT 200 METER INTERVALS
 3. GEOLOGICAL CONDITIONS INDICATED ON DRAWING ARE FOR GENERAL GUIDANCE ONLY

- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

ISSUED FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	SIGN	DATE

CLIENT:

THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

ENGINEER:

THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

PROJECT TITLE:

LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:
MARITATI DISTRIBUTION LINES

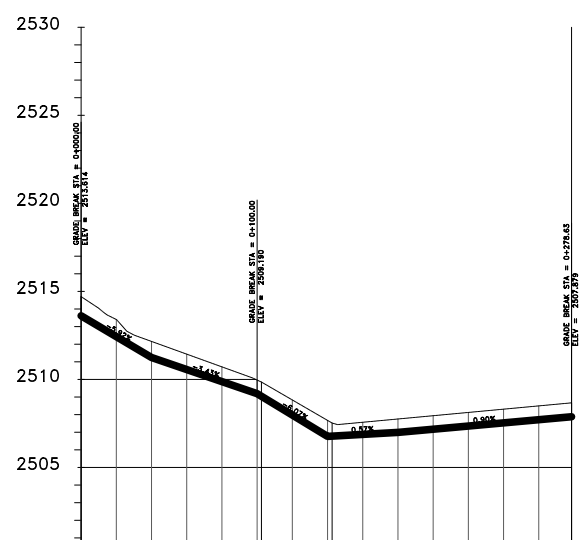
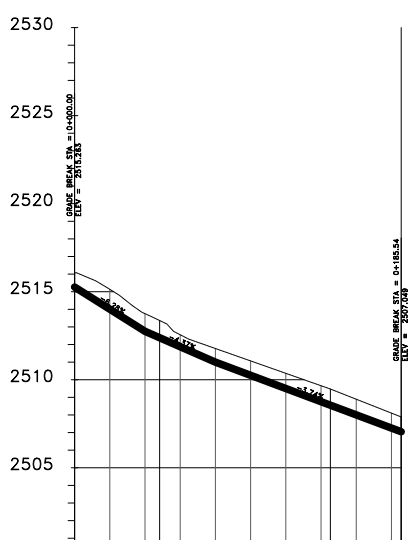
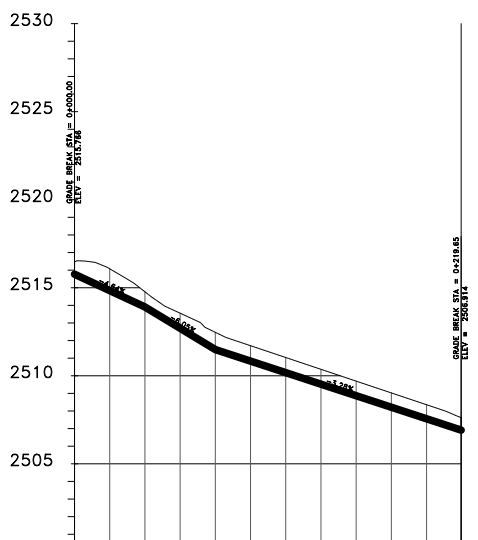
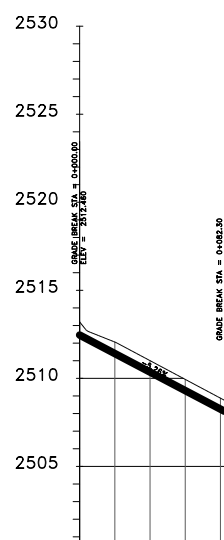
Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H: 1:4000, V: 1:400 Date: SEP 2023
DRG No. MAR/MTDL/01

BH TO KAMENE TNK

MARITATI DL1

MARITATI DL2

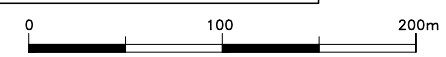
MARITATI DL3



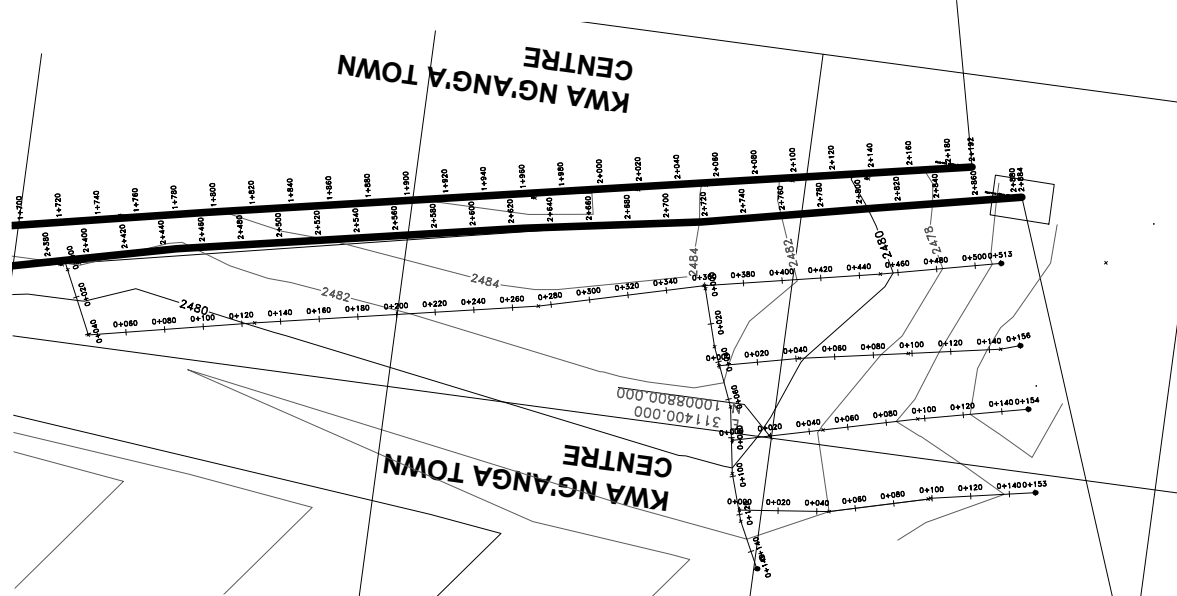
CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2512.06	2512.46	0.75	150mm HDPE PIPE	RED LOAM SOIL	-1:19.61	
0+040.00	2511.01	2511.41	0.65	150mm HDPE PIPE	RED LOAM SOIL	-1:19.61	
0+060.00	2509.94	2509.30	0.64	150mm HDPE PIPE	RED LOAM SOIL	-1:19.61	
0+080.00	2508.87	2508.21	0.63	150mm HDPE PIPE	RED LOAM SOIL	-1:19.61	
0+100.00	2511.71	2510.83	0.88	150mm HDPE PIPE	RED LOAM SOIL	-1:21.54	
0+120.00	2511.04	2510.18	0.86	150mm HDPE PIPE	RED LOAM SOIL	-1:18.52	
0+140.00	2510.37	2509.52	0.85	150mm HDPE PIPE	RED LOAM SOIL	-1:30.53	
0+160.00	2509.70	2508.87	0.83	150mm HDPE PIPE	RED LOAM SOIL	-1:30.53	
0+180.00	2509.03	2508.21	0.81	150mm HDPE PIPE	RED LOAM SOIL	-1:30.53	
0+200.00	2508.36	2507.56	0.80	150mm HDPE PIPE	RED LOAM SOIL	-1:30.53	
0+210.68	2508.00	2507.91	0.72	150mm HDPE PIPE	RED LOAM SOIL	-1:30.53	

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2515.14	2515.26	0.79	150mm HDPE PIPE	RED LOAM SOIL	-1:15.91	
0+040.00	2513.75	2512.75	1.00	150mm HDPE PIPE	RED LOAM SOIL	-1:22.88	
0+060.00	2512.56	2511.88	0.68	150mm HDPE PIPE	RED LOAM SOIL	-1:22.88	
0+080.00	2511.77	2511.00	0.77	150mm HDPE PIPE	RED LOAM SOIL	-1:22.88	
0+100.00	2511.07	2510.25	0.82	150mm HDPE PIPE	RED LOAM SOIL	-1:26.71	
0+120.00	2510.37	2509.50	0.86	150mm HDPE PIPE	RED LOAM SOIL	-1:26.71	
0+140.00	2509.66	2508.78	0.87	150mm HDPE PIPE	RED LOAM SOIL	-1:26.71	
0+160.00	2508.89	2508.01	0.89	150mm HDPE PIPE	RED LOAM SOIL	-1:26.71	
0+180.00	2508.11	2507.28	0.83	150mm HDPE PIPE	RED LOAM SOIL	-1:26.71	

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2513.40	2513.61	1.08	150mm HDPE PIPE	RED LOAM SOIL	-1:16.89	
0+040.00	2512.16	2511.25	0.91	150mm HDPE PIPE	RED LOAM SOIL	-1:29.19	
0+060.00	2511.44	2510.56	0.88	150mm HDPE PIPE	RED LOAM SOIL	-1:29.19	
0+080.00	2510.71	2509.88	0.84	150mm HDPE PIPE	RED LOAM SOIL	-1:16.48	
0+100.00	2509.85	2508.92	0.91	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+120.00	2508.83	2507.98	0.86	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+140.00	2507.67	2506.76	0.91	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+160.00	2507.57	2506.68	0.69	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+180.00	2507.75	2506.99	0.76	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+200.00	2507.94	2507.17	0.77	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+220.00	2508.13	2507.35	0.77	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+240.00	2508.31	2507.53	0.78	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+260.00	2508.50	2507.71	0.79	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	
0+275.63	2508.67	2507.88	0.79	150mm HDPE PIPE	RED LOAM SOIL	1:174.49	



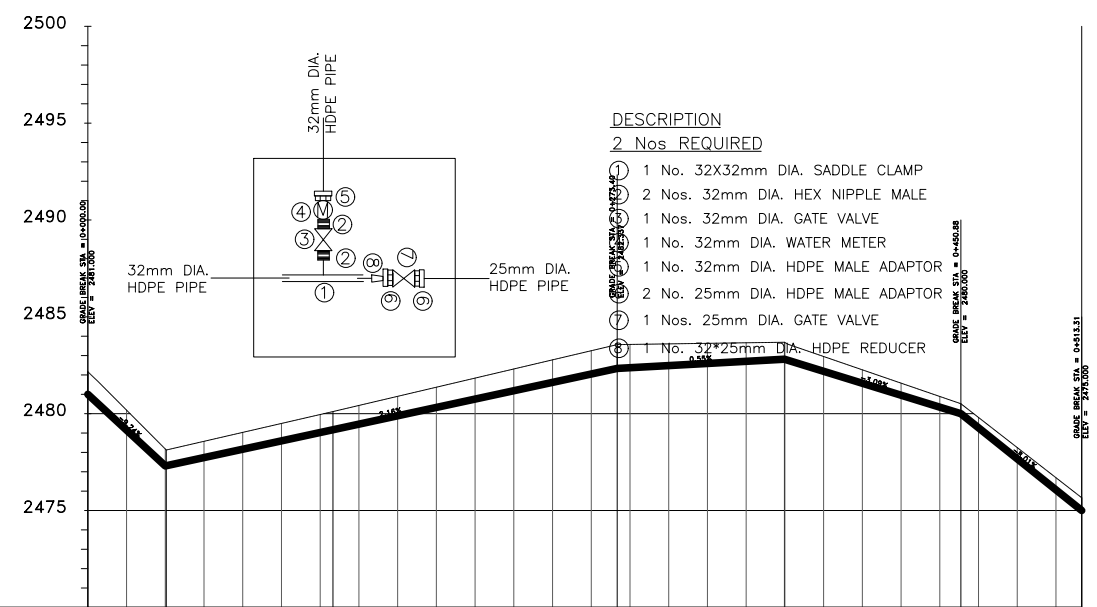
LONGITUDINAL SECTION



- NOTES:**
- CONTOUR LEVELS ARE IN METERS AT TWO METER INTERVALS
 - GRID VALUES ARE IN METERS AT 200 METER INTERVALS
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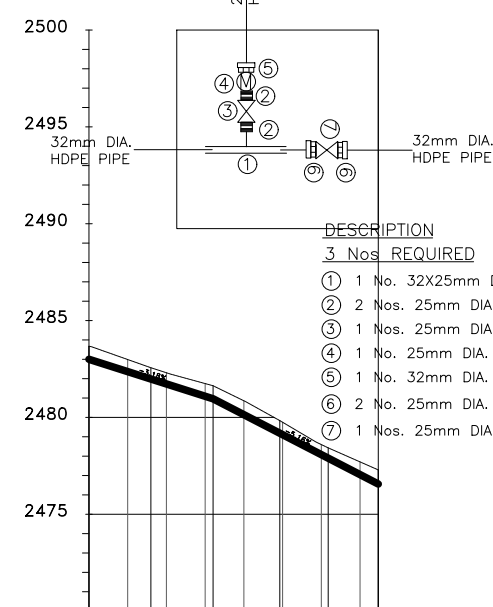
- LEGEND:**
- ROAD (TARMAC)
 - ROAD / TRACK (EARTH / MURRAM)
 - FENCE / HEDGE
 - CONTOURS
 - ELECTRIC POST
 - CULVERT
 - GATE
 - TEMPORARY STRUCTURES
 - BUILDINGS
 - KeNHA / KeRRA ROAD BEACON
 - PROPOSED TREATED WATER DISTRIBUTION MAIN
 - TP10 TRAVERSE POINT & No.
 - TRIAL HOLE
 - HORIZONTAL BEND (H) OR VERTICAL BEND (V) WITH ANGLE INDICATED
 - RIVER/STREAM
 - V.J. VIKING JOHNSON
 - GV GATE VALVE
 - SV-01 SECTIONAL VALVE & No.
 - WO-01 WASHOUT VALVE & No.
 - LAV-01 AIR VALVE & No.
 - WM WATER METER
 - PROPOSED MASONRY CHAMBER
 - DIRECTION (SLOPE MIN. OR 1 IN n)

KWA NG'ANG'A DL1



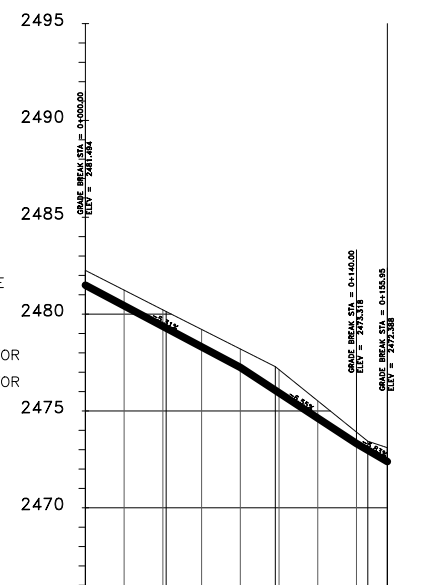
- DESCRIPTION**
2 Nos. REQUIRED
- 1 No. 32X32mm DIA. SADDLE CLAMP
 - 2 Nos. 32mm DIA. HEX NIPPLE MALE
 - 1 Nos. 32mm DIA. GATE VALVE
 - 1 No. 32mm DIA. WATER METER
 - 1 No. 32mm DIA. HDPE MALE ADAPTOR
 - 2 No. 25mm DIA. HDPE MALE ADAPTOR
 - 1 Nos. 25mm DIA. GATE VALVE
 - 1 No. 32X25mm DIA. HDPE REDUCER

KWA NG'ANG'A DL2



- DESCRIPTION**
3 Nos. REQUIRED
- 1 No. 32X25mm DIA. SADDLE CLAMP
 - 2 Nos. 25mm DIA. HEX NIPPLE MALE
 - 1 Nos. 25mm DIA. GATE VALVE
 - 1 No. 25mm DIA. WATER METER
 - 1 No. 32mm DIA. HDPE MALE ADAPTOR
 - 2 No. 25mm DIA. HDPE MALE ADAPTOR
 - 1 Nos. 25mm DIA. GATE VALVE

KWA NG'ANG'A DL3



CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2480.18	2481.00	1.16	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:10.82	
0+040.00	2478.16	2477.30	0.81				
0+060.00	2478.57	2477.73	0.84	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:16.36	
0+080.00	2479.03	2478.17	0.87				
0+100.00	2479.50	2478.60	0.90	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:18.97	
0+120.00	2479.96	2479.03	0.93				
0+140.00	2480.42	2479.46	0.96	25mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:32.41	
0+160.00	2480.90	2479.89	1.00				
0+180.00	2481.37	2480.32	1.04	25mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:12.49	
0+200.00	2481.84	2480.75	1.08				
0+220.00	2482.31	2481.19	1.12	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+240.00	2482.78	2481.62	1.16				
0+260.00	2483.25	2482.05	1.20	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+273.40	2483.57	2482.34	1.23				
0+280.00	2483.56	2482.37	1.20	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+300.00	2483.60	2482.48	1.12				
0+320.00	2483.63	2482.59	1.04	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+340.00	2483.66	2482.70	0.96				
0+360.00	2483.67	2482.80	0.88	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+380.00	2483.65	2482.95	0.76				
0+400.00	2482.26	2481.57	0.69	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+420.00	2481.56	2480.95	0.62				
0+440.00	2480.89	2480.34	0.55	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+450.88	2480.52	2480.00	0.51				
0+460.00	2479.80	2479.27	0.54	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+480.00	2478.25	2477.67	0.58				
0+500.00	2476.69	2476.07	0.63	25mm PN 10 HDPE PIPE	RED LOAM SOIL		
	2475.00	2475.00	0.66				

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2482.99	2483.00	0.67	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:31.44	
0+040.00	2482.31	2482.36	0.58				
0+060.00	2481.75	2481.73	0.58	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:19.39	
0+080.00	2480.86	2480.98	0.66				
0+100.00	2479.75	2480.14	0.72	32mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+112.31	2478.63	2479.19	0.55				
0+140.00	2477.70	2477.05	0.66	32mm PN 10 HDPE PIPE	RED LOAM SOIL		
	2476.56	2476.56	0.73				

CHAINAGE (m)	EXISTING GROUND LEVEL (m)	INVERT LEVELS (m)	DEPTH OF INVERT (m)	TYPE OF PIPE AND SIZE	GEOLOGICAL CONDITION	SLOPE OF PIPE (H/V)	REFERENCE PEG NO.
0+020.00	2481.24	2481.49	0.76	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:18.84	
0+040.00	2480.22	2480.43	0.81				
0+060.00	2479.21	2479.28	0.86	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:15.27	
0+080.00	2478.20	2478.31	0.90				
0+100.00	2477.13	2477.25	0.95	32mm PN 10 HDPE PIPE	RED LOAM SOIL	-1:17.14	
0+120.00	2475.52	2475.66	1.08				
0+140.00	2473.91	2474.63	0.89	32mm PN 10 HDPE PIPE	RED LOAM SOIL		
0+145.53	2473.44	2473.32	0.59				
	2472.98	2472.98	0.46				
	2472.39	2472.39	0.72				

ISSUED FOR CONSTRUCTION

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

CLIENT:
THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100, NYERI, KENYA

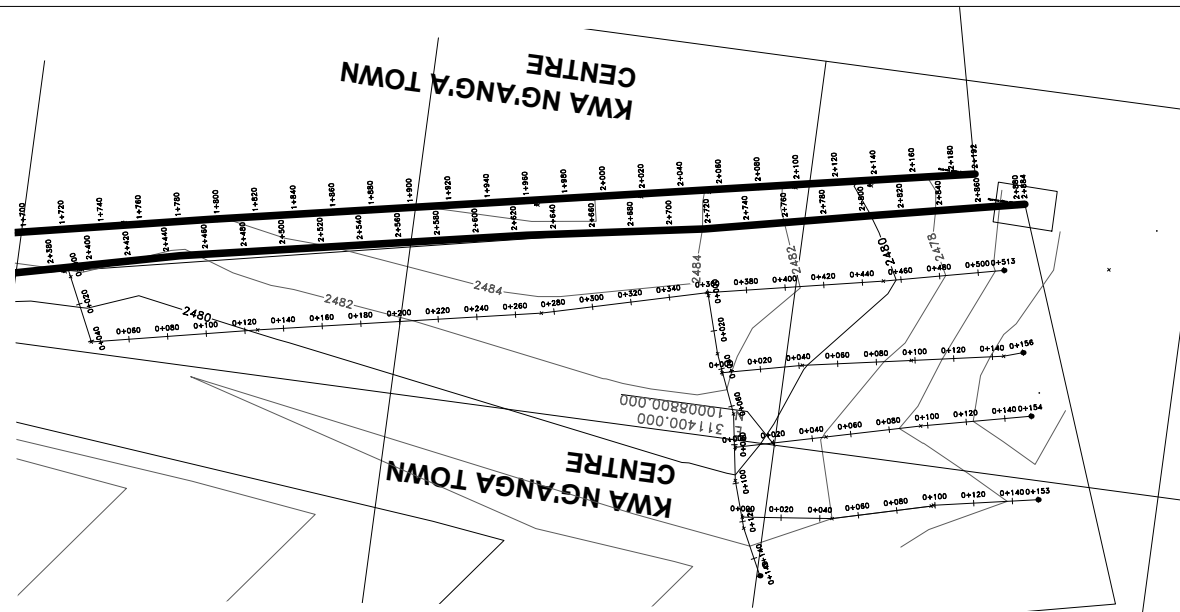
ENGINEER:
THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100, NYERI, KENYA

PROJECT TITLE:
LAST MILE CONNECTIVITY FOR MARITATI BOREHOLE PROJECT

DRAWING TITLE:
KWA NG'ANG'A DISTRIBUTION LINES

Designed by: K.N.G Drawn by: A.M.M
 Checked by: J.M.M Approved by: D.N.M
 Scale: H- 1:4000, V- 1:400 Date: SEP 2023
DRG No. MAR/KNDLs/01

LONGITUDINAL SECTION



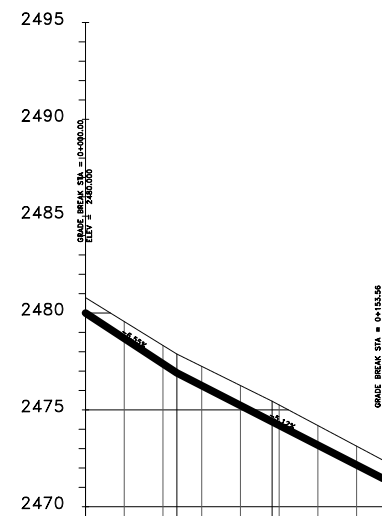
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ISSUED FOR CONSTRUCTION

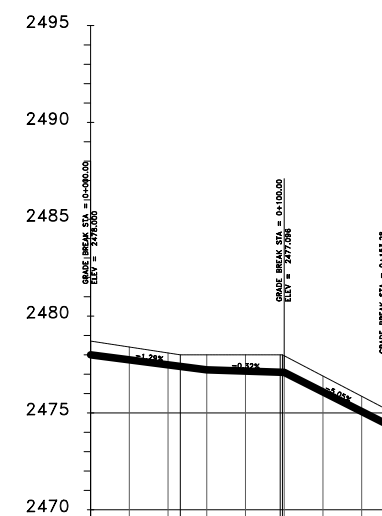
REVISIONS	SIGN	DATE	APPROVED
	BY		
	CHECKED		
	BY		
	CHECKED		
	BY		
	CHECKED		
	BY		
	CHECKED		

KWA NG'ANG'A DL4



CHAINAGE (m)	0+020.00	0+040.00	0+060.00	0+080.00	0+100.00	0+120.00	0+135.00
EXISTING GROUND LEVEL (m)	2479.56	2478.33	2477.25	2476.26	2475.25	2474.19	2473.33
INVERT LEVELS (m)	2480.00	2478.89	2477.88	2476.91	2475.93	2474.98	2474.06
DEPTH OF INVERT (m) DATUM (m)	0.78	0.87	0.95	0.97	1.00	1.05	0.97
TYPE OF PIPE AND SIZE	25mm PN 10 HDPE PIPE						
GEOLOGICAL CONDITION	RED LOAM SOIL						
SLOPE OF PIPE (H/V)	-1:13.26			-1:19.53			
REFERENCE PEG NO.							

KWA NG'ANG'A DL5



CHAINAGE (m)	0+020.00	0+040.00	0+060.00	0+080.00	0+100.00	0+120.00	0+140.00	0+153.28
EXISTING GROUND LEVEL (m)	2478.40	2478.10	2478.00	2478.00	2477.95	2476.91	2475.86	2475.17
INVERT LEVELS (m)	2478.00	2477.74	2477.48	2477.30	2477.23	2477.16	2476.09	2475.07
DEPTH OF INVERT (m) DATUM (m)	0.71	0.66	0.61	0.60	0.71	0.84	0.88	0.79
TYPE OF PIPE AND SIZE	25mm PN 10 HDPE PIPE							
GEOLOGICAL CONDITION	RED LOAM SOIL							
SLOPE OF PIPE (H/V)	-1:77.45		-1:308.76		-1:19.79			
REFERENCE PEG NO.								

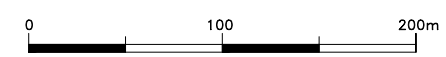
CLIENT:
THE CHIEF EXECUTIVE OFFICER
TANA WATER WORKS DEVELOPMENT AGENCY
 P.O BOX 1292 - 10100,
 NYERI, KENYA

ENGINEER:
THE CHIEF MANAGER TECHNICAL SERVICES
TANA WATER WORKS DEVELOPMENT AGENCY
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 Scale: H- 1:4000, V- 1:400 Date: SEP 2023



LONGITUDINAL SECTION

DRG No. **MAR/KNDLs/02**