

1610 936

1. ALL LEVELS ARE IN METRES BASED ON NATIONAL DATUM.
2. ALL DISTANCES ARE IN METRES UNLESS STATED OTHERWISE.
3. THE LOCATION OF PIPES FROM EDGES OF ROADS, PLOT BOUNDARIES AND FENCES AS SHOWN ARE APPROXIMATE.
4. EXACT LOCATION OF UNDERGROUND SERVICES TO BE CROSSED BY PIPELINES TO BE DETERMINED BY THE CONTRACTOR WITH ASSISTANCE FROM THE RELEVANT AUTHORITY AND FULL RESPONSIBILITY FOR ANY DAMAGE LIES WITH THE CONTRACTOR.
5. THE ACTUAL SETTING OUT TO BE CONFIRMED ON SITE BY THE ENGINEER
6. MINIMUM COVER TOP ALL PIPES TO BE 1.0M

	PROPOSED WATER MAIN
	ROAD
	BOREHOLE
	STRUCTURES
	EL STATIC
	HGL
	ORIGINAL GROUND LEVEL
	PIPE INVERT LEVEL
S.A.V 	SINGLE ORIFICE AIR VALVE USE AUTOMATIC AIR VALVE OR SMALL ORIFICE AIR VALVE
D.A.V 	DOUBLE ORIFICE AIR VALVE USE LARGE ORIFICE AIR VALVE
S.V 	SECTIONAL VALVE
W.O 	WASHOUT
	STANDARD BEND



Email: info.kenya@amref.org

ENEMASI WATER SUPPLY PROJECT

CHAINAGE 0+000 TO CHAINAGE 0+581

Drawn by	: S.O
Surveyed by	: N.W
Designed by	: J.A
Checked by	: J.A
Approved by	: J.A
Date	: SEPTEMBER 2022
Scale	: HS 1:2000 VS 1:200
Drg No.	: ENEMASI/WP/ BHT/01

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The graph displays the vertical alignment of a pipeline project. The red line indicates the existing ground surface, while the green line shows the proposed pipeline profile. The profile starts at an elevation of approximately 1560.5 at station 0+000 and descends to about 1526.5 at station 1+045. The ground profile shows a more gradual descent with some local variations, while the pipeline profile is a smooth curve following the general trend of the ground.

CHAINAGE (Km+m)	1559.850		1561.000	0+000
GROUND LEVEL (m amsl)	1559.484		1560.694	0+020
INVERT LEVEL (m amsl)	1559.118		1560.268	0+040
TRENCH DEPTH (m)	1558.692		1559.842	0+060
PIPE LENGTH & GRADIENT	1558.267		1559.417	0+080
PIPE DETAILS	1557.841		1558.991	0+100
VALVE CHAMBER NUMBER	1557.415		1558.565	0+120
DESIGN FLOW (M³/day)	1556.990		1558.140	0+140
BEDDING DETAILS	1556.387		1557.537	0+160
HORIZONTAL BENDS	1554.924		1556.198	0+180
VERTICAL BENDS	1553.461		1554.610	0+200
	1552.062		1553.217	0+220
	1550.643		1551.793	0+240
	1549.441		1550.510	0+260
	1548.238		1549.276	0+280
	1547.036		1548.105	0+300
	1546.834		1546.943	0+320
	1544.632		1545.782	0+340
	1543.641		1544.712	0+360
	1542.650		1543.746	0+380
	1541.658		1542.808	0+400
	1540.842		1541.995	0+420
	1540.025		1541.169	0+440
	1539.209		1540.342	0+460
	1538.392		1539.542	0+480
	1537.568		1538.660	0+500
	1536.743		1537.810	0+520
	1535.918		1537.066	0+540
	1535.093		1536.243	0+560
	1534.534		1535.714	0+580
	1533.976		1535.198	0+600
	1533.418		1534.568	0+620
	1532.531		1533.697	0+640
	1531.645		1532.795	0+660
	1531.289		1532.256	0+680
	1530.933		1532.083	0+700
	1530.621		1531.735	0+720
	1530.310		1531.492	0+740
	1529.998		1531.148	0+760
	1529.656		1530.943	0+780
	1529.314		1530.597	0+800
	1528.972		1530.122	0+820
	1528.450		1529.512	0+840
	1527.928		1529.078	0+860
	1527.870		1529.100	0+880
	1527.813		1529.164	0+900
	1527.749		1528.900	0+920
	1527.386		1528.525	0+940
	1527.024		1528.150	0+960
	1526.662		1527.812	0+980
	1526.484		1527.802	1+000
	1526.305		1527.478	1+020
	1525.987		1527.122	1+040
	1525.817		1526.877	1+060
	1525.633		1526.633	1+080
	1525.448		1526.388	1+100
	1525.263		1526.143	1+120
	1525.078		1525.898	1+140
	1524.893		1525.653	1+160
	1524.708		1525.408	1+180
	1524.523		1525.163	1+200
	1524.338		1524.918	1+220
	1524.153		1524.673	1+240
	1523.968		1524.428	1+260
	1523.783		1524.183	1+280
	1523.598		1523.938	1+300
	1523.413		1523.693	1+320
	1523.228		1523.448	1+340
	1523.043		1523.203	1+360
	1522.858		1522.958	1+380
	1522.673		1522.713	1+400
	1522.488		1522.468	1+420
	1522.303		1522.223	1+440
	1522.118		1521.978	1+460
	1521.933		1521.733	1+480
	1521.748		1521.488	1+500
	1521.563		1521.243	1+520
	1521.378		1520.998	1+540
	1521.193		1520.753	1+560
	1521.008		1520.508	1+580
	1520.823		1520.263	1+600
	1520.638		1520.018	1+620
	1520.453		1519.773	1+640
	1520.268		1519.528	1+660
	1520.083		1519.283	1+680
	1519.898		1519.038	1+700
	1519.713		1518.793	1+720
	1519.528		1518.548	1+740
	1519.343		1518.303	1+760
	1519.158		1518.058	1+780
	1518.973		1517.813	1+800
	1518.788		1517.568	1+820
	1518.603		1517.323	1+840
	1518.418		1517.078	1+860
	1518.233		1516.833	1+880
	1518.048		1516.588	1+900
	1517.863		1516.343	1+920
	1517.678		1516.098	1+940
	1517.493		1515.853	1+960
	1517.308		1515.608	1+980
	1517.123		1515.363	2+000
	1516.938		1515.118	2+020
	1516.753		1514.873	2+040
	1516.568		1514.628	2+060
	1516.383		1514.383	2+080
	1516.198		1514.138	2+100
	1516.013		1513.893	2+120
	1515.828		1513.648	2+140
	1515.643		1513.403	2+160
	1515.458		1513.158	2+180
	1515.273		1512.913	2+200
	1515.088		1512.668	2+220
	1514.903		1512.423	2+240
	1514.718		1512.178	2+260
	1514.533		1511.933	2+280
	1514.348		1511.688	2+300
	1514.163		1511.443	2+320
	1513.978		1511.198	2+340
	1513.793		1510.953	2+360
	1513.608		1510.708	2+380
	1513.423		1510.463	2+400
	1513.238		1510.218	2+420
	1513.053		1509.973	2+440
	1512.868		1509.728	2+460
	1512.683		1509.483	2+480
	1512.498		1509.238	2+500
	1512.313		1508.993	2+520
	1512.128		1508.748	2+540
	1511.943		1508.503	2+560
	1511.758		1508.258	2+580
	1511.573		1508.013	2+600
	1511.388		1507.768	2+620
	1511.203		1507.523	2+640
	1511.018		1507.278	2+660
	1510.833		1507.033	2+680
	1510.648		1506.788	2+700
	1510.463		1506.543	2+720
	1510.278		1506.298	2+740
	1510.093		1506.053	2+760
	1509.908		1505.808	2+780
	1509.723		1505.563	2+800
	1509.538		1505.318	2+820
	1509.353		1505.073	2+840
	1509.168		1504.828	2+860
	1508.983		1504.583	2+880
	1508.798		1504.338	2+900
	1508.613		1504.093	2+920
	1508.428		1503.848	2+940
	1508.243		1503.603	2+960
	1508.058		1503.358	2+980
	1507.873		1503.113	3+000
	1507.688		1502.868	3+020
	1507.503		1502.623	3+040
	1507.318		1502.378	3+060
	1507.133		1502.133	3+080
	1506.948		1501.888	3+100
	1506.763		1501.643	3+120
	1506.578		1501.398	3+140
	1506.393		1501.153	3+160
	1506.208		1500.908	3+180
	1506.023		1500.663	3+200
	1505.838		1500.418	3+220
	1505.653		1500.173	3+240
	1505.468		1499.928	3+260
	1505.283		1499.683	3+280
	1505.098		1499.438	3+300
	1504.913		1499.193	3+320
	1504.728		1498.948	3+340
	1504.543		1498.703	3+360
	1504.358		1498.458	3+380
	1504.173		1498.213	3+400
	1503.988		1497.968	3+420
	1503.803		1497.723	3+440
	1503.618		1497.478	3+460
	1503.433		1497.233	3+480
	1503.248		1496.988	3+500
	1503.063		1496.743	3+520
	1502.878		1496.498	3+540
	1502.693		1496.253	3+560
	1502.508		1496.008	3+580
	1502.323		1495.763	3+600
	1502.138		1495.518	3+620
	1501.953		1495.273	3+640
	1501.768		1495.028	3+660
	1501.583		1494.783	3+680
	1501.398		1494.538	3+700
	1501.213		1494.293	3+720
	1501.028		1494.048	3+740
	1500.843		1493.803	3+760
	1500.658		1493.558	3+780
	1500.473		1493.313	3+800
	1500.288		1493.068	3+820
	1500.103		1492.823	3+840
	1499.918		1492.578	3+860
	1499.733		1492.333	3+880
	1499.548		1492.088	3+900
	1499.363		1491.843	3+920
	1499.178		1491.598	3+940
	1498.993		1491.353	3+960
	1498.808		1491.108	3+980
	1498.623		1490.863	4+000
	1498.438		1490.618	4+020
	1498.253		1490.373	4+040
	1498.068		1490.128	4+060
	1497.883		1489.883	4+080
	1497.698		1489.638	4+100
	1497.513		1489.393	4+120
	1497.328		1489.148	4+140
	1497.143		1488.903	4+160
	1496.958		1488.658	4+180
	1496.773		1488.413	4+200
	1496.588		1488.168	4+220
	1496.403		1487.923	4+240
	1496.218		1487.678	4+260
	1496.033		1487.433	4+280
	1495.848		1487.188	4+300
	1495.663		1486.943	4+320
	1495.478		1486.698	4+340
	1495.293		1486.453	4+360
	1495.108		1486.208	4+380
	1494.923		1485.963	4+400
	1494.738		1485.718	4+420
	1494.553		1485.473	4+440
	1494.368		1485.228	4+460
	1494.183		1484.983	4+480
	1493.998		1484.738	4+500
	1493.813		1484.493	4+520
	1493.628		1484.248	4+540
	1493.443		1484.003	4+560
	1493.258		1483.758	4+580
	1493.073		1483.513	4+600
	1492.888		1483.268	4+620
	1492.703		1483.023	4+640
	1492.518		1482.778	4+660
	1492.333		1482.533	4+680
	1492.148		1482.288	4+700
	1491.963		1482.043	4+720
	1491.778		1481.798	4+740
	1491.593		1481.553	4+760
	1491.408		1481.308	4+780
	1491.223		1481.063	4+800
	1491.038		1480.818	4+820
	1490.853		1480.573	4+840
	1490.668		1480.328	4+860
	1490.483		1480.083	4+880
	1490.298		1479.838	4+900
	1490.113		1479.593	4+920
	1489.928		1479.348	4+940
	1489.743		1479.103	4+960
	1489.558		1478.858	4+980
	1489.373		1478.613	5+000
	1489.188		1478.368	5+020
	1489.003		1478.123	5+040
	1488.818		1477.878	5+060
	1488.633		1477.633	5+080
	1488.448		1477.388	5+100
	1488.263		1477.143	5+120
	1488.078		1476.898	5+140
	1487.893		1476.653	5+160
	1487.708		1476.408	5+180
	1487.523		1476.163	5+200
	1487.338		1475.9	

- ## NOTES:
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- ## LEGEND:
- | | |
|--|---|
|  | PROPOSED WATER MAIN |
|  | ROAD |
|  | BOREHOLE |
|  | STRUCTURES |
|  | EL STATIC |
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|  | ORIGINAL GROUND LEVEL |
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| S.A.V
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USE LARGE ORIFICE AIR
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 | SECTIONAL VALVE |
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 | WASHOUT |
|  | STANDARD BEND |

Client:



amref
health africa

Amref Health Africa
P. O. Box 30125-00100
Nairobi Kenya
Email: info.kenya@amref.org

Project:	ENEMASI WATER SUPPLY PROJECT
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Drawing Title:
T-JUNCTION 1 TO KIOSK 3 PIPELINE
PROFILE
CHAINAGE 0+000 TO CHAINAGE 1+045

[illegible]



T-JUNCTION 2 TO KIOSK 2 PIPELINE PROFILE KM 0+000 TO KM 0+967



CHAINAGE (Km+m)	0+000	1542.461	1541.311	1.15	PIPE LENGTH & GRADIENT L=40.00 S=1.38% L=60.00 S=0.95% L=60.02 S=2.80% L=100.07 S=3.62% L=100.07 S=3.65% L=40.02 S=3.40% L=60.06 S=4.59% L=60.09 S=5.50% L=60.18 S=7.79% L=60.39 S=9.57% L=39.97 S=6.55% L=60.03 S=3.20% L=60.09 S=5.53% L=80.03 S=2.91% L=60.02 S=2.77% L=27.47 S=11.30%	1542.148	1541.036	1.11	PIPE DETAILS
GROUND LEVEL (m amsl)	0+020	1542.148	1541.036	1.11		1542.148	1541.036	1.11	
INVERT LEVEL (m amsl)	0+040	1541.911	1540.761	1.15		1541.911	1540.761	1.15	
TRENCH DEPTH (m)	0+060	1541.990	1540.951	1.04		1541.990	1540.951	1.04	
	0+080	1542.231	1541.141	1.09		1542.231	1541.141	1.09	
	0+100	1542.480	1541.330	1.15		1542.480	1541.330	1.15	
	0+120	1542.954	1541.890	1.06		1542.954	1541.890	1.06	
	0+140	1543.500	1542.451	1.05		1543.500	1542.451	1.05	
	0+160	1544.161	1543.011	1.15		1544.161	1543.011	1.15	
	0+180	1544.857	1543.734	1.12		1544.857	1543.734	1.12	
	0+200	1545.581	1544.457	1.12	1545.581	1544.457	1.12		
	0+220	1546.387	1545.180	1.21	1546.387	1545.180	1.21		
	0+240	1547.100	1545.903	1.20	1547.100	1545.903	1.20		
	0+260	1547.777	1546.027	1.15	1547.777	1546.027	1.15		
	0+280	1548.467	1547.357	1.11	1548.467	1547.357	1.11		
	0+300	1549.142	1548.088	1.05	1549.142	1548.088	1.05		
	0+320	1549.860	1548.819	1.04	1549.860	1548.819	1.04		
	0+340	1550.628	1549.549	1.08	1550.628	1549.549	1.08		
	0+360	1551.430	1550.280	1.15	1551.430	1550.280	1.15		
	0+380	1552.157	1550.960	1.20	1552.157	1550.960	1.20		
	0+400	1552.791	1551.641	1.15	1552.791	1551.641	1.15		
	0+420	1553.634	1552.558	1.08	1553.634	1552.558	1.08		
	0+440	1554.575	1553.475	1.10	1554.575	1553.475	1.10		
	0+460	1555.543	1554.393	1.15	1555.543	1554.393	1.15		
	0+480	1556.647	1555.492	1.16	1556.647	1555.492	1.16		
	0+500	1557.677	1556.591	1.09	1557.677	1556.591	1.09		
	0+520	1558.840	1557.690	1.15	1558.840	1557.690	1.15		
	0+540	1560.336	1559.248	1.11	1560.336	1559.248	1.11		
	0+560	1561.892	1560.806	1.09	1561.892	1560.806	1.09		
	0+580	1563.513	1562.363	1.15	1563.513	1562.363	1.15		
	0+600	1565.417	1564.278	1.14	1565.417	1564.278	1.14		
	0+620	1567.407	1566.193	1.21	1567.407	1566.193	1.21		
	0+640	1569.280	1568.108	1.15	1569.280	1568.108	1.15		
	0+660	1570.860	1569.422	1.44	1570.860	1569.422	1.44		
	0+680	1571.881	1570.731	1.15	1571.881	1570.731	1.15		
	0+700	1572.509	1571.371	1.14	1572.509	1571.371	1.14		
	0+720	1573.089	1572.010	1.08	1573.089	1572.010	1.08		
	0+740	1573.799	1572.649	1.15	1573.799	1572.649	1.15		
	0+760	1574.812	1573.755	1.06	1574.812	1573.755	1.06		
	0+780	1576.035	1574.862	1.17	1576.035	1574.862	1.17		
	0+800	1577.118	1575.968	1.15	1577.118	1575.968	1.15		
	0+820	1577.872	1576.550	1.32	1577.872	1576.550	1.32		
	0+840	1578.354	1577.131	1.22	1578.354	1577.131	1.22		
	0+860	1578.834	1577.712	1.12	1578.834	1577.712	1.12		
	0+880	1579.444	1578.294	1.15	1579.444	1578.294	1.15		
	0+900	1580.057	1578.847	1.21	1580.057	1578.847	1.21		
	0+920	1580.542	1579.401	1.14	1580.542	1579.401	1.14		
	0+940	1581.104	1579.954	1.15	1581.104	1579.954	1.15		
	0+960	1581.380	1582.214	0.97	1581.380	1582.214	0.97		
	0+987	1584.195	1584.195		1584.195	1584.195			

NOTES:

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6. MINIMUM COVER TOP ALL PIPES TO BE 1.0M

LEGEND:

- | | |
|---|---|
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|  | BOREHOLE |
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USE LARGE ORIFICE AIR
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| W.O  | WASHOUT |
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Client:



Amref Health Africa
P. O. Box 30125-00100
Nairobi Kenya
Email: info.kenya@amref.org

Project:

ENEMASI WATER SUPPLY PROJECT

Drawing Title:
T-JUNCTION 2 TO KIOSK 2 PIPELINE
PROFILE
CHAINAGE 0+000 TO CHAINAGE 0+967

Drawn by : S.O

Surveyed by : N.W

Designed by : J.A

Checked by : J.A

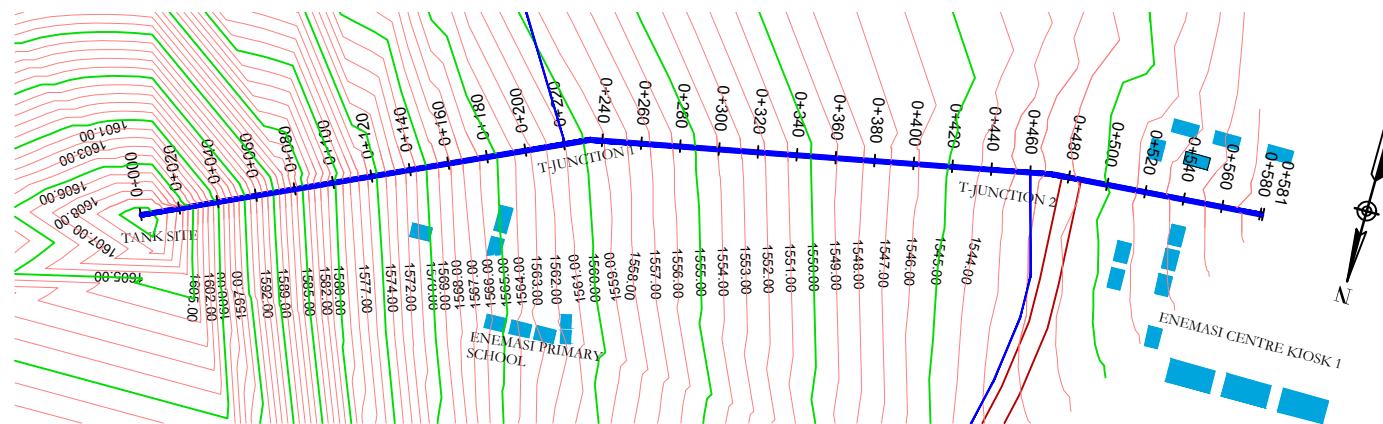
Approved by : J.A

Date : SEPTEMBER 2022

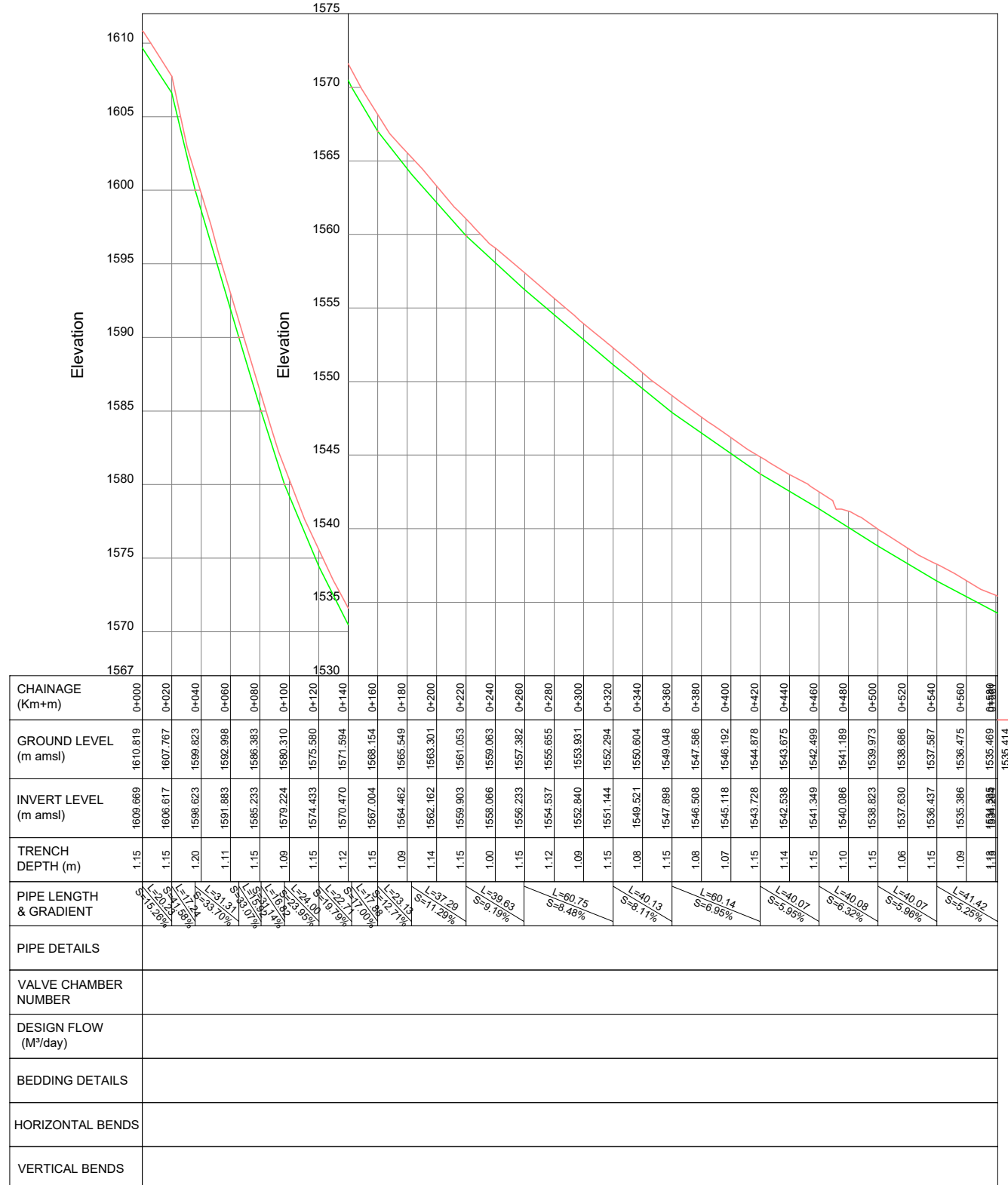
Scale · HS 1:2000 VS 1:200

Drg No : ENEMASI/WP/TI2K2/0

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TANK SITE TO ENEMASI KIOSK 1 PIPELINE PROFILE KM 0+000 TO KM 0+581



NOTES:

1. ALL LEVELS ARE IN METRES BASED ON NATIONAL DATUM.
2. ALL DISTANCES ARE IN METRES UNLESS STATED OTHERWISE.
3. THE LOCATION OF PIPES FROM EDGES OF ROADS, PLOT BOUNDARIES AND FENCES AS SHOWN ARE APPROXIMATE.
4. EXACT LOCATION OF UNDERGROUND SERVICES TO BE CROSSED BY PIPELINES TO BE DETERMINED BY THE CONTRACTOR WITH ASSISTANCE FROM THE RELEVANT AUTHORITY AND FULL RESPONSIBILITY FOR ANY DAMAGE LIES WITH THE CONTRACTOR.
5. THE ACTUAL SETTING OUT TO BE CONFIRMED ON SITE BY THE ENGINEER
6. MINIMUM COVER TOP ALL PIPES TO BE 1.0M

LEGEND:

- | | |
|-------|---|
| | PROPOSED WATER MAIN |
| | ROAD |
| | BOREHOLE |
| | STRUCTURES |
| | EL STATIC |
| | HGL |
| | ORIGINAL GROUND LEVEL |
| | PIPE INVERT LEVEL |
| S.A.V | SINGLE ORIFICE AIR VALVE USE
AUTOMATIC AIR VALVE OR SMALL
ORIFICE AIR VALVE |
| D.A.V | DOUBLE ORIFICE AIR VALVE
USE LARGE ORIFICE AIR
VALVE |
| S.V | SECTIONAL VALVE |
| W.O | WASHOUT |
| | STANDARD BEND |

Client:



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Nairobi Kenya
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Project:

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