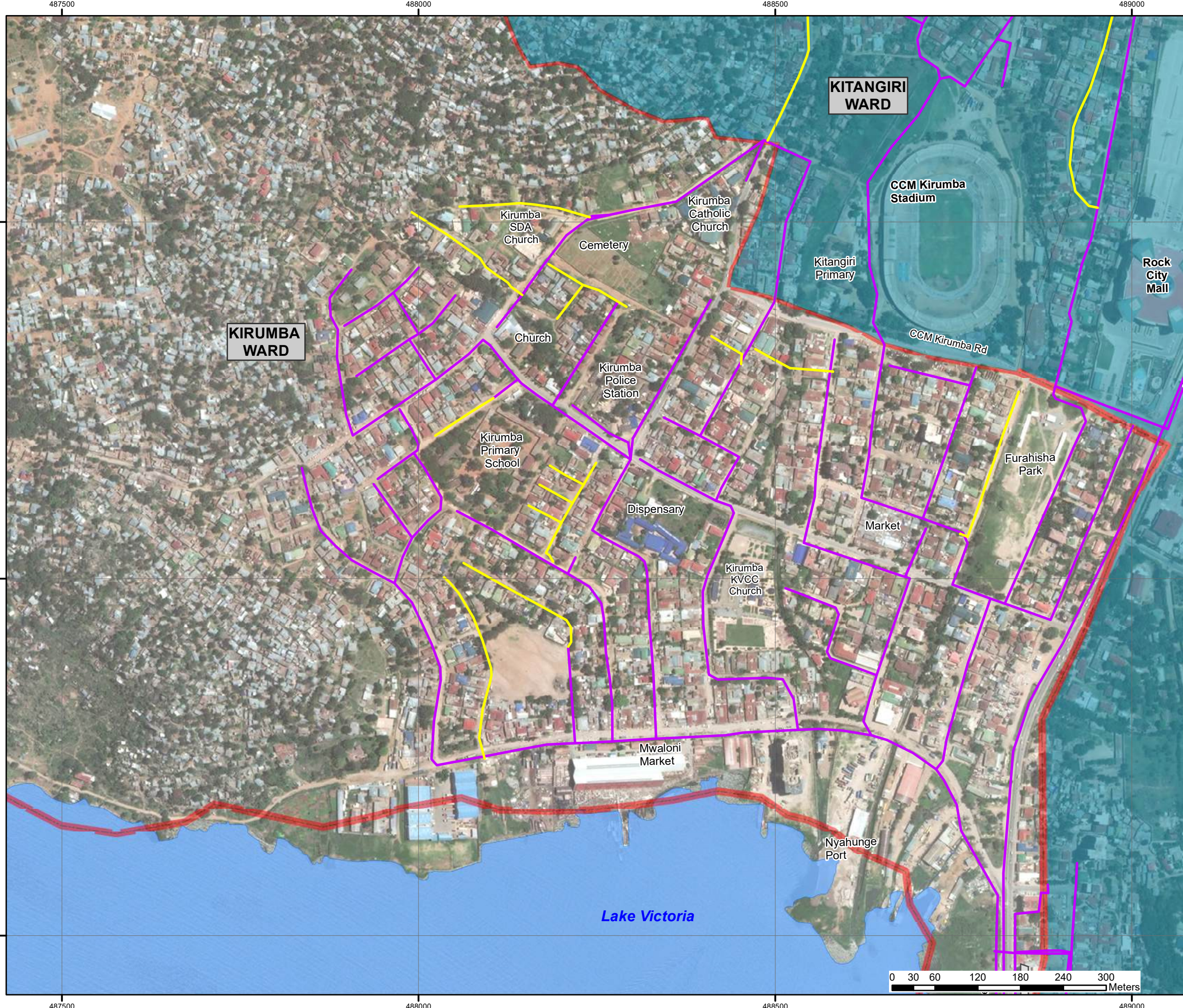


**KIRUMBA**



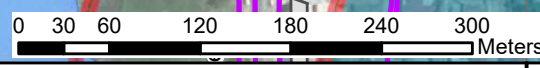
# Layout Plan of Existing and Proposed Sewers Kirumba Wards



**Legend**

- Contours 2m Intervals
- Existing Sewers
- Proposed Sewers [For Design and Construction]
- Administrative (Ward Boundary)

| REVISIONS  | SIGN              | DATE               | APPROVED |
|--|-------------------|--------------------|----------|
|  |                   |                    |          |
|  |                   |                    |          |
| Client: <b>EAST AFRICAN COMMUNITY (EAC) LAKE VICTORIA BASIN COMMISSION (LVBC)</b><br>P.O. BOX 1510 - 40100 KISUMU, KENYA<br>TEL: +254 57 202 6344  |                   |                    |          |
| PROJECT IMPLEMENTATION CONSULTANTS (PIC): JOINT VENTURE<br><b>CES CONSULTING ENGINEERS SALZGITTER GmbH</b><br>HAMBURGER STRASSE 227<br>38114 BRAUNSCHWEIG, GERMANY<br>E-MAIL: info@ces.de<br>TEL: +49 531 - 31704-0<br><b>AKUT PARTNER</b><br>WATTSTRAË 10<br>13355 BERLIN, GERMANY<br>TEL: +49 30 8145460 - 0<br>FAX: +49 30 8145460 - 19<br><b>MANGAT I.B PATEL (MIBP) LIMITED</b><br>P.O BOX 48674.00100-GPO,<br>NAIROBI, KENYA<br>E-MAIL: mibp.nairobi@mibp.co.ke<br>TEL: +254-2-2710500 |                   |                    |          |
| PROJECT NAME:<br><b>LAKE VICTORIA BASIN INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMME (LVB-IWRMP)</b>  |                   |                    |          |
| CONTRACT TITLE:<br><b>MWANZA SEWER CONNECTION UPGRADE</b>  |                   |                    |          |
| <b>INFILL SEWERS</b>   |                   |                    |          |
| DRAWING TITLE:<br><b>Layout Plan of Existing and Proposed Sewers Kirumba Ward</b>  |                   |                    |          |
| Designed by: V.K   |                   | Drawn by: G.O.N    |          |
| Checked by: NJN  |                   | Approved by: R.S.R |          |
| Scale: A3-: AS SHOWN   |                   | Date: MARCH 2024   |          |
| DRG No.  | M394(j)/MWZ/KR/01 |                    | REV      |



**SEWER KR-IS-1**

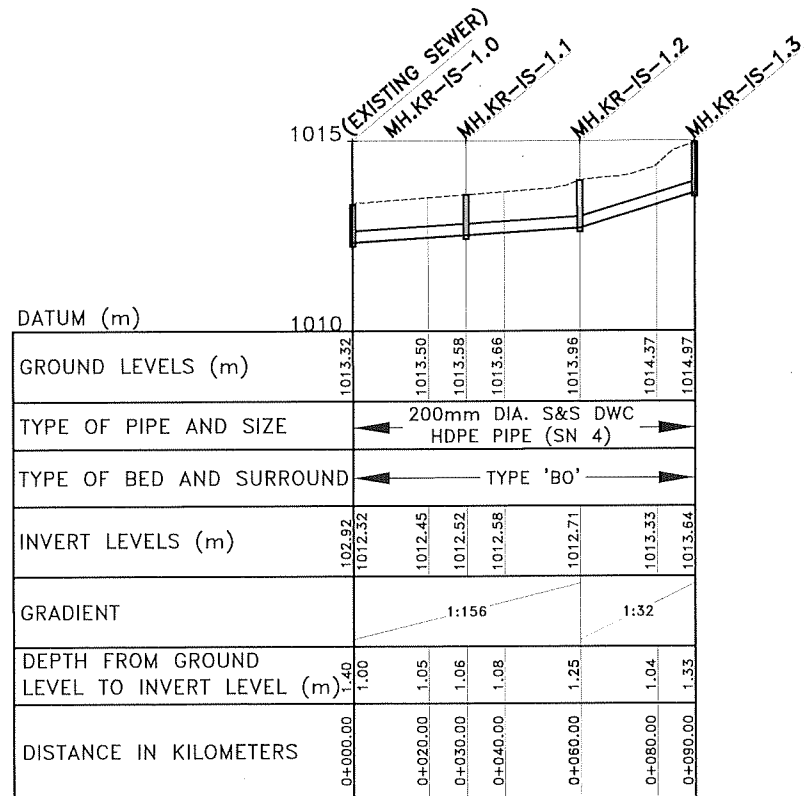
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-1.0        | 9723790.372 | 488580.660 |
| MH.KR-IS-1.1        | 9723792.846 | 488550.762 |
| MH.KR-IS-1.2        | 9723795.319 | 488520.865 |
| MH.KR-IS-1.3        | 9723809.616 | 488494.490 |

**SEWER KR-IS-2**

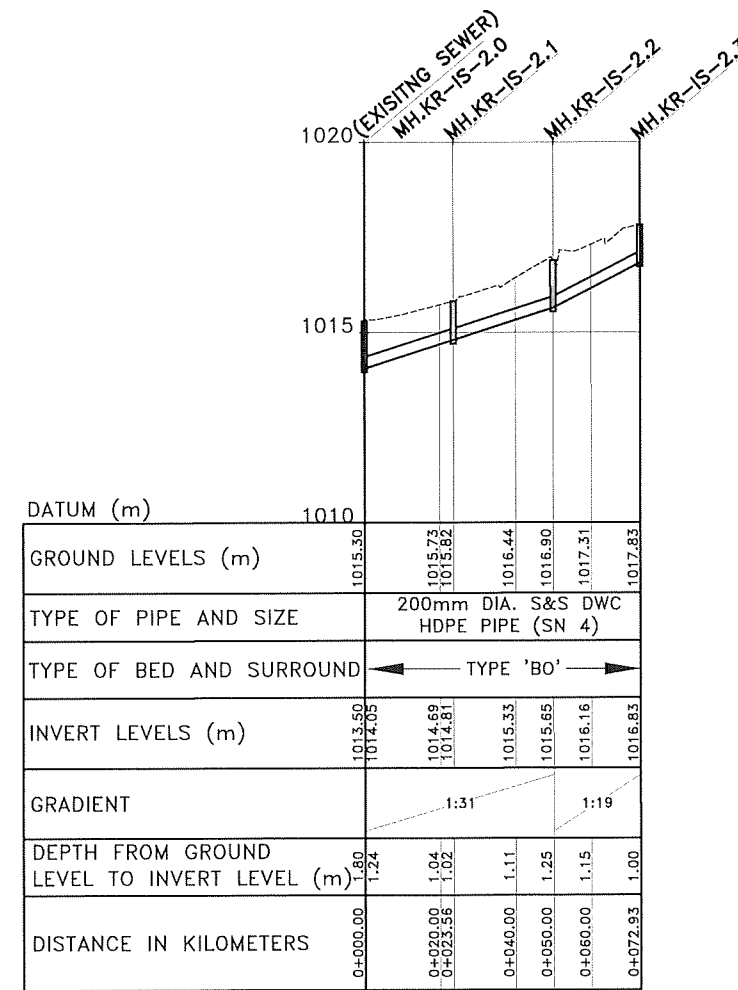
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-2.0        | 9723791.334 | 488451.755 |
| MH.KR-IS-2.1        | 9723814.861 | 488453.022 |
| MH.KR-IS-2.2        | 9723828.227 | 488430.210 |
| MH.KR-IS-2.3        | 9723839.819 | 48841.426  |



**SEWER KR-IS-1 & KR-IS-2 PLAN**



**SEWER KR-IS-1 LONGITUDINAL SECTION**



**SEWER KR-IS-2 LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN | DATE | APPROVED |
|-----------|--|--|--|------|------|----------|
|           |  |  |  |      |      |          |
|           |  |  |  |      |      |          |

**CLIENT:**

EAST AFRICAN COMMUNITY (EAC)  
LAKE VICTORIA BASIN COMMISSION (LVBC)  
P.O. BOX 1510 - 40100  
KISUMU, KENYA  
TEL: +254 57 202 6344

**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**  
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CES CONSULTING ENGINEERS  
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TEL: +254-2-2710500

**PROJECT NAME:**

LAKE VICTORIA BASIN INTEGRATED  
WATER RESOURCES MANAGEMENT  
PROGRAMME (LVB-IWRMP)

**CONTRACT TITLE:**

MWANZA SEWER CONNECTION UPGRADE

**INFILL SEWERS  
KIRUMBA WARD**

**DRAWING TITLE:**

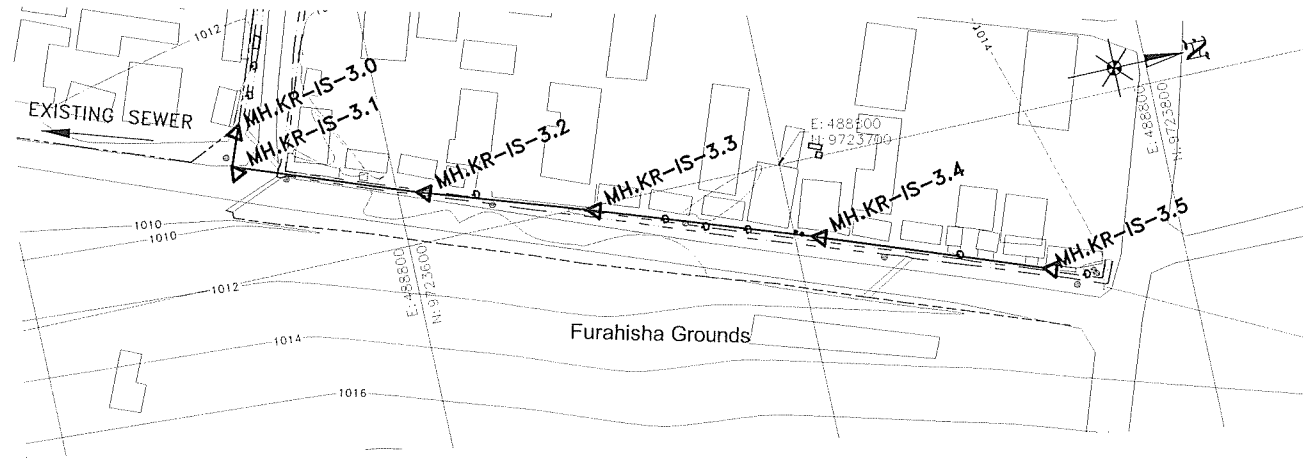
SEWER KR-IS-1 & KR-IS-2  
PLAN AND LONGITUDINAL SECTIONS

SHEET 1 OF 1

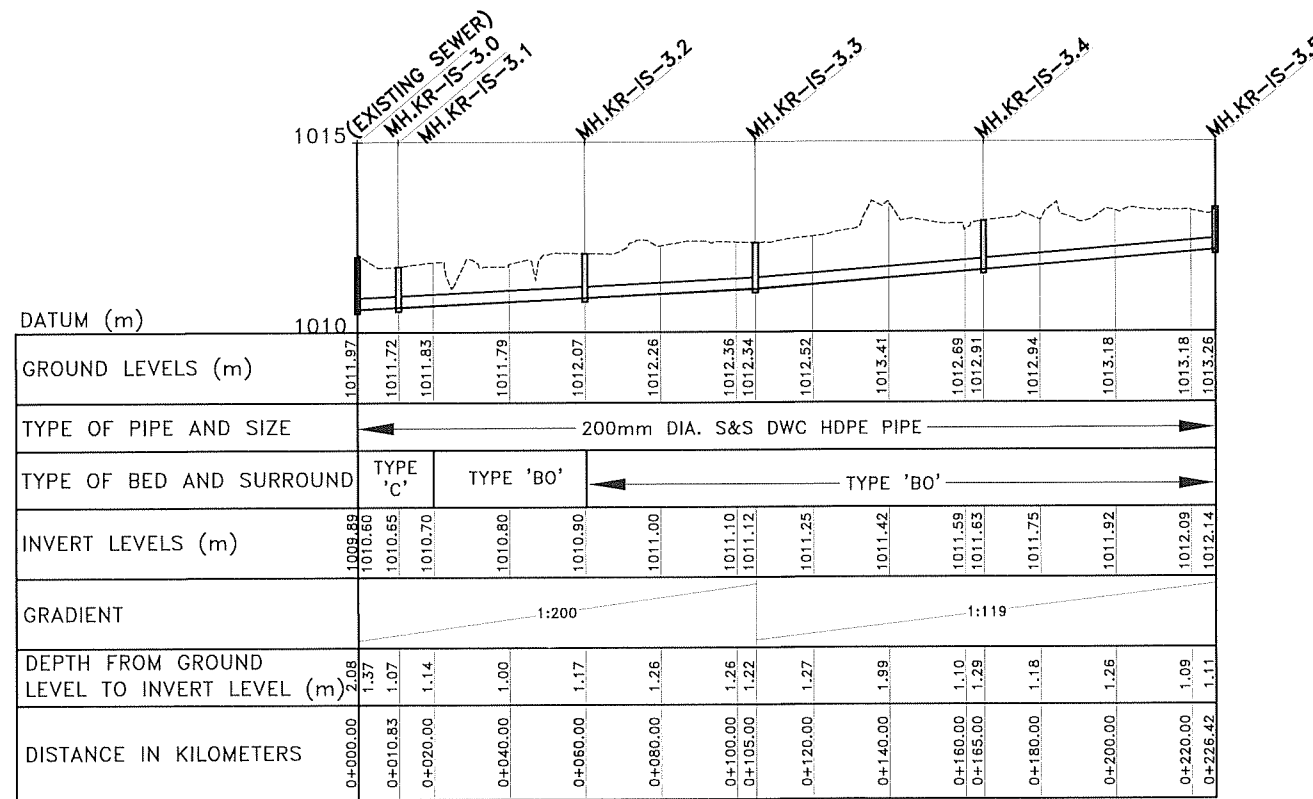
|                                       |                    |
|---------------------------------------|--------------------|
| Designed by: C.N.M                    | Drawn by: C.N.M    |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3- HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |

DRG No. M394(j)/MWZ/KR/02

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-3.0        | 9723562.910 | 488759.625 |
| MH.KR-IS-3.1        | 9723559.015 | 488769.729 |
| MH.KR-IS-3.2        | 9723605.179 | 488786.661 |
| MH.KR-IS-3.3        | 9723647.925 | 488800.724 |
| MH.KR-IS-3.4        | 9723704.636 | 488820.315 |
| MH.KR-IS-3.5        | 9723762.323 | 488841.396 |



**SEWER KR-IS-3  
PLAN**



**SEWER KR-IS-3  
LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN | DATE | APPROVED |
|-----------|--|--|--|------|------|----------|
|           |  |  |  |      |      |          |
|           |  |  |  |      |      |          |

**CLIENT:**

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TEL: +254 57 202 6344

**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**  
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NAIROBI, KENYA  
E-MAIL: mibp.nairobi@mibp.co.ke  
TEL: +254-2-2710500

**PROJECT NAME:**

LAKE VICTORIA BASIN INTEGRATED  
WATER RESOURCES MANAGEMENT  
PROGRAMME (LVB-IWRMP)

**CONTRACT TITLE:**  
MWANZA SEWER CONNECTION UPGRADE

**INFILL SEWERS  
KIRUMBA WARD**

**DRAWING TITLE:**

SEWER KR-IS-3  
PLAN AND LONGITUDINAL SECTION

SHEET 1 OF 1

Designed by: C.N.M      Drawn by: C.N.M

Checked by: N.J.N      Approved by: R.S.R

Scale: A3- HOR: 1:2,000      Date: MARCH 2024  
VER: 1:200

DRG No. M394(j)/MWZ/KR/03

**SEWER KR-IS-4**

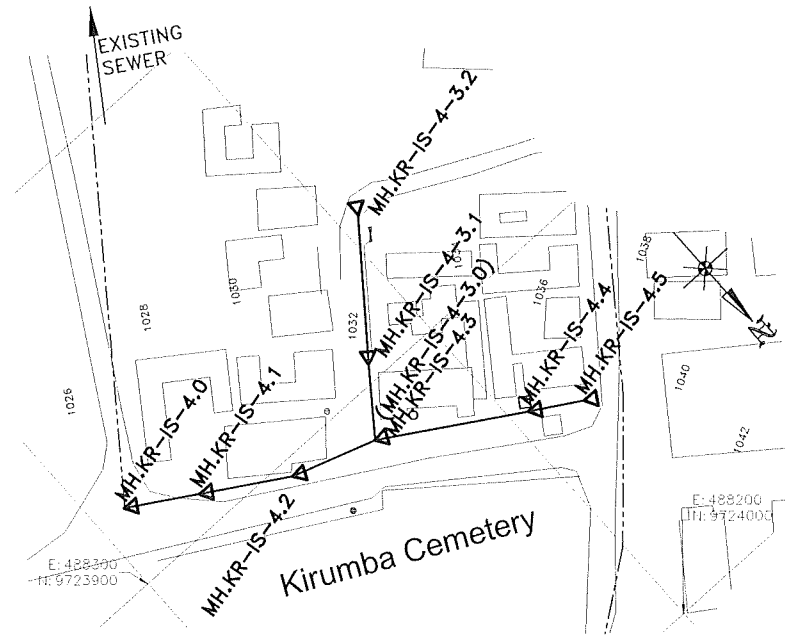
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-4.0        | 9723881.104 | 488291.361 |
| MH.KR-IS-4.1        | 9723891.454 | 488274.248 |
| MH.KR-IS-4.2        | 9723904.392 | 488252.856 |
| MH.KR-IS-4.3        | 9723911.783 | 488230.371 |
| MH.KR-IS-4.4        | 9723933.265 | 488195.061 |
| MH.KR-IS-4.5        | 9723940.936 | 488182.171 |

**SEWER KR-IS-4-3**

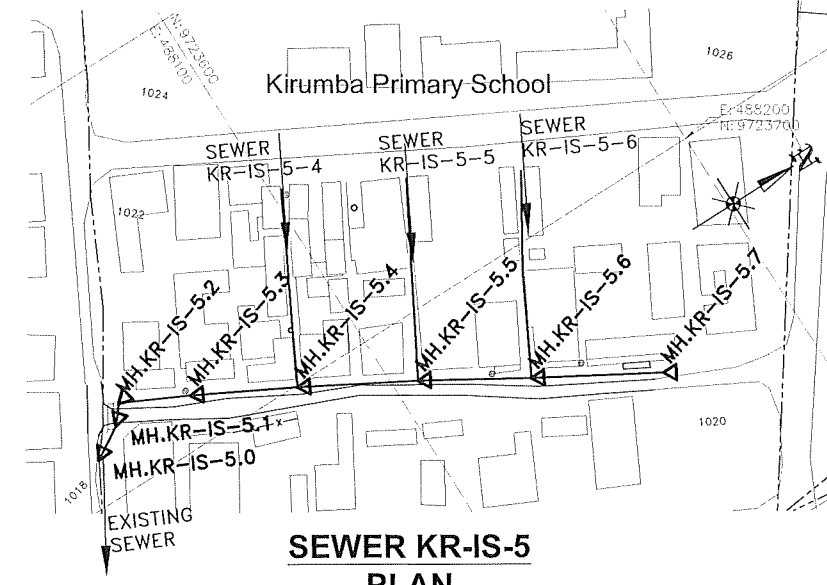
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
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| MH.KR-IS-4-3.1      | 9723895.775 | 488218.382 |
| MH.KR-IS-4-3.2      | 9723864.561 | 488194.302 |

**SEWER KR-IS-5**

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-5.0        | 9723524.170 | 488188.542 |
| MH.KR-IS-5.1        | 9723532.761 | 488183.423 |
| MH.KR-IS-5.2        | 9723536.512 | 488178.801 |
| MH.KR-IS-5.3        | 9723553.605 | 488187.204 |
| MH.KR-IS-5.4        | 9723578.638 | 488200.484 |
| MH.KR-IS-5.5        | 9723606.295 | 488215.900 |
| MH.KR-IS-5.6        | 9723632.031 | 488231.315 |
| MH.KR-IS-5.7        | 9723662.343 | 488248.813 |

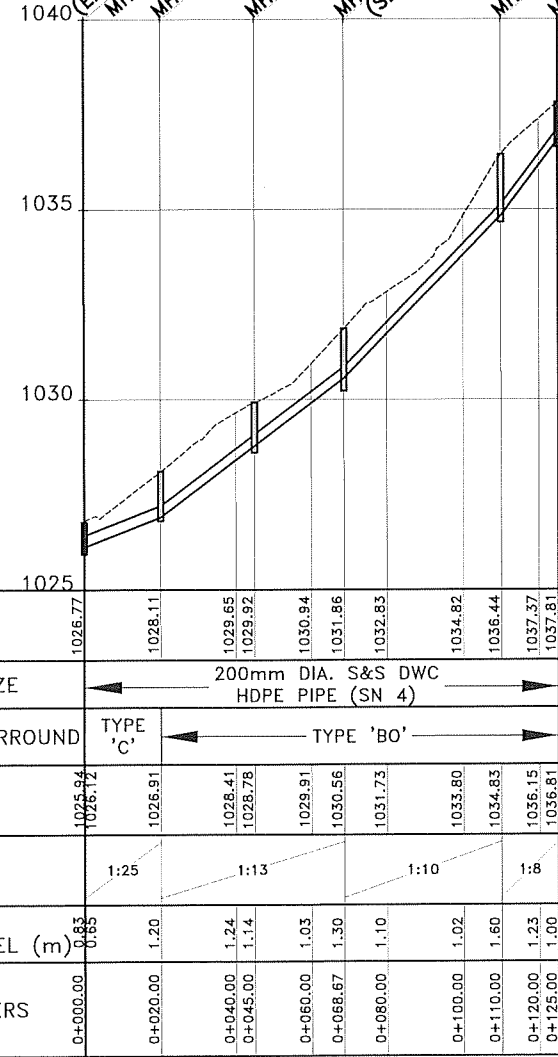


**SEWERS KR-IS-4 & KR-IS-4-3 PLAN**



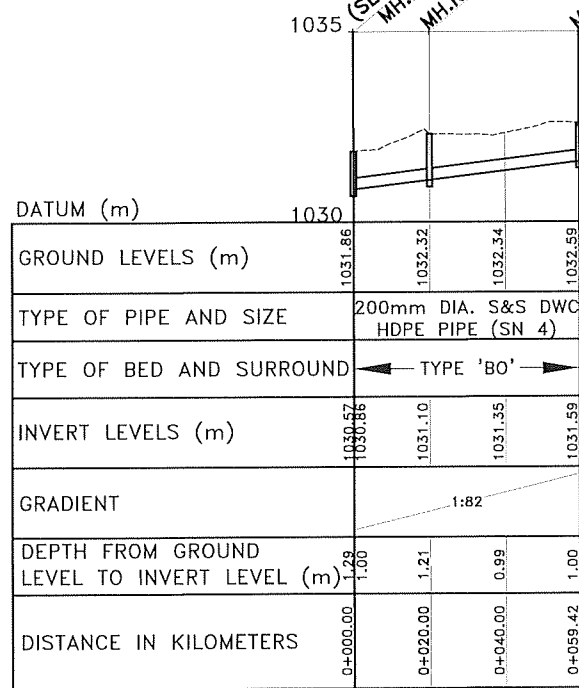
**SEWER KR-IS-5 PLAN**

1040 (EXISTING SEWER) MH.KR-IS-4.0  
 MH.KR-IS-4.1  
 MH.KR-IS-4.2  
 MH.KR-IS-4.3 (SEWER KR-IS-4-3)  
 MH.KR-IS-4.4  
 MH.KR-IS-4.5



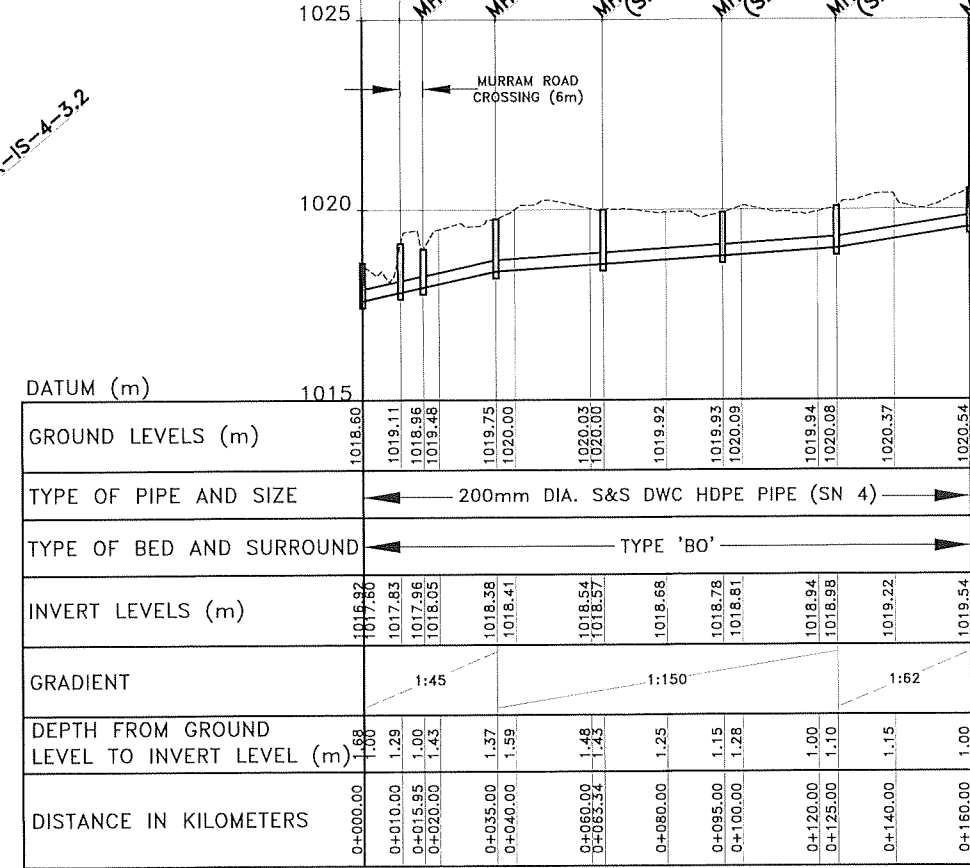
**SEWER KR-IS-4 LONGITUDINAL SECTION**

1035 (SEWER KR-IS-4.3) MH.KR-IS-4-3.0  
 MH.KR-IS-4-3.1  
 MH.KR-IS-4-3.2



**SEWER KR-IS-4-3 LONGITUDINAL SECTION**

(EXISTING SEWER) MH.KR-IS-5.0  
 MH.KR-IS-5.1  
 MH.KR-IS-5.2  
 MH.KR-IS-5.3 (SEWER KR-IS-5-4)  
 MH.KR-IS-5.4 (SEWER KR-IS-5-5)  
 MH.KR-IS-5.5 (SEWER KR-IS-5-6)  
 MH.KR-IS-5.6  
 MH.KR-IS-5.7



**SEWER KR-IS-5 LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(J)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURFOUND DETAILS REFER TO DRG. No. M394(J)/MWZ/SD/04

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN | DATE | APPROVED |
|-----------|--|--|--|------|------|----------|
|           |  |  |  |      |      |          |
|           |  |  |  |      |      |          |

**CLIENT:**

**EAST AFRICAN COMMUNITY (EAC) LAKE VICTORIA BASIN COMMISSION (LVBC)**  
 P.O. BOX 1510 - 40100 KISUMU, KENYA  
 TEL: +254 57 202 6344

**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**

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**MIBP CONSULTING ENGINEERS**

**MANGAT LB PATEL (MIBP) LIMITED**  
 P.O BOX 48674, 00100-GPO, NAIROBI, KENYA  
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 TEL: +254-2-2710500

**PROJECT NAME:**

**LAKE VICTORIA BASIN INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMME (LVB-IWRMP)**

**CONTRACT TITLE:**

**MWANZA SEWER CONNECTION UPGRADE**

**INFILL SEWERS KIRUMBA WARD**

**DRAWING TITLE:**

**SEWERS KR-IS-4, KR-IS-4-3 & KR-IS-5 PLAN AND LONGITUDINAL SECTIONS**

**SHEET 1 OF 1**

|                                       |                    |
|---------------------------------------|--------------------|
| Designed by: V.C                      | Drawn by: V.C      |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3- HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |
| DRG No. M394(J)/MWZ/KR/04             | REV                |

**SEWER KR-IS-5-4**

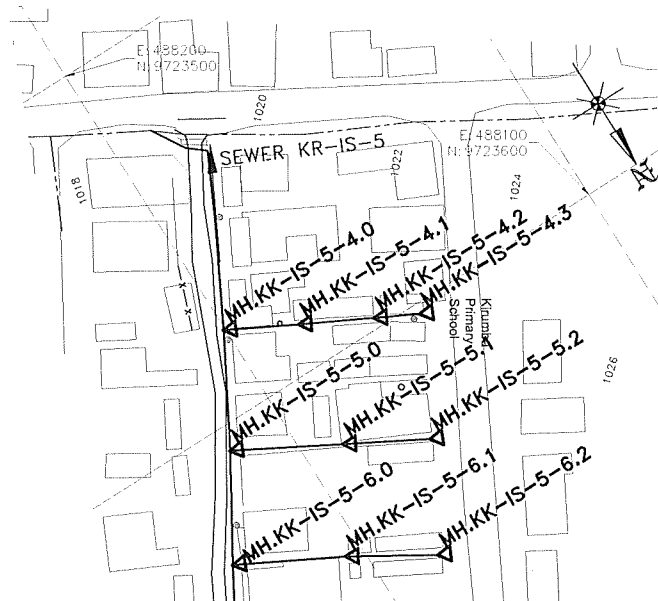
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KK-IS-5-4.0      | 9723578.638 | 488200.484 |
| MH.KK-IS-5-4.1      | 9723588.008 | 488182.815 |
| MH.KK-IS-5-4.2      | 9723597.197 | 488165.051 |
| MH.KK-IS-5-4.3      | 9723602.733 | 488154.351 |

**SEWER KR-IS-5-5**

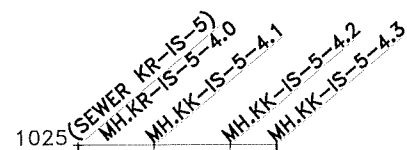
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KK-IS-5-5.0      | 9723606.295 | 488215.900 |
| MH.KK-IS-5-5.1      | 9723620.808 | 488189.644 |
| MH.KK-IS-5-5.2      | 9723631.908 | 488169.562 |

**SEWER KR-IS-5-6**

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KK-IS-5-6.0      | 9723632.031 | 488231.316 |
| MH.KK-IS-5-6.1      | 9723646.071 | 488204.808 |
| MH.KK-IS-5-6.2      | 9723658.759 | 488184.019 |

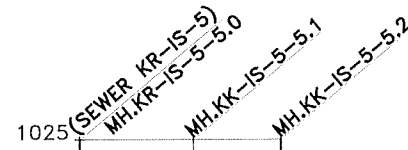


**SEWERS KR-IS-5-4, KR-IS-5-5 & KR-IS-5-6 PLAN**



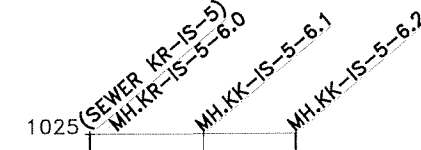
| DATUM (m)                                   | 1015                                |          |          |          |
|---|-------------------------------------|----------|----------|----------|
| GROUND LEVELS (m)                           | 1020.00                             | 1020.88  | 1022.54  | 1022.59  |
| TYPE OF PIPE AND SIZE                       | 200mm DIA. S&S DWC HDPE PIPE (SN 4) |          |          |          |
| TYPE OF BED AND SURROUND                    | TYPE 'B0'                           |          |          |          |
| INVERT LEVELS (m)                           | 1018.57<br>1019.00                  | 1019.68  | 1021.24  | 1021.59  |
| GRADIENT                                    | 1:29                                | 1:13     | 1:34     |          |
| DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | 1.43<br>1.00                        | 1.00     | 1.30     | 1.00     |
| DISTANCE IN KILOMETERS                      | 0+000.00                            | 0+020.00 | 0+040.00 | 0+052.05 |

**SEWER KR-IS-5-4 LONGITUDINAL SECTION**



| DATUM (m)                                   | 1015                                |          |          |          |          |
|---|-------------------------------------|----------|----------|----------|----------|
| GROUND LEVELS (m)                           | 1019.83                             | 1020.91  | 1021.44  | 1021.80  | 1022.50  |
| TYPE OF PIPE AND SIZE                       | 200mm DIA. S&S DWC HDPE PIPE (SN 4) |          |          |          |          |
| TYPE OF BED AND SURROUND                    | TYPE 'B0'                           |          |          |          |          |
| INVERT LEVELS (m)                           | 1018.78<br>1018.95                  | 1019.88  | 1020.35  | 1020.83  | 1021.45  |
| GRADIENT                                    |                                     | 1:21     |          |          |          |
| DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | 1.05                                | 1.03     | 1.09     | 0.97     | 1.05     |
| DISTANCE IN KILOMETERS                      | 0+000.00                            | 0+020.00 | 0+030.00 | 0+040.00 | 0+052.84 |

**SEWER KR-IS-5-5 LONGITUDINAL SECTION**



| DATUM (m)                                   | 1015                                |          |          |          |          |
|---|-------------------------------------|----------|----------|----------|----------|
| GROUND LEVELS (m)                           | 1020.08                             | 1020.58  | 1021.27  | 1022.00  | 1022.65  |
| TYPE OF PIPE AND SIZE                       | 200mm DIA. S&S DWC HDPE PIPE (SN 4) |          |          |          |          |
| TYPE OF BED AND SURROUND                    | TYPE 'B0'                           |          |          |          |          |
| INVERT LEVELS (m)                           | 1018.98<br>1019.08                  | 1019.61  | 1019.87  | 1020.60  | 1021.65  |
| GRADIENT                                    |                                     | 1:38     | 1:14     |          |          |
| DEPTH FROM GROUND LEVEL TO INVERT LEVEL (m) | 1.10                                | 0.97     | 1.40     | 1.40     | 1.00     |
| DISTANCE IN KILOMETERS                      | 0+000.00                            | 0+020.00 | 0+030.00 | 0+040.00 | 0+054.35 |

**SEWER KR-IS-5-6 LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04
- SIMPLIFIED SEWERS TO BE DONE TOGETHER WITH 1.2m WIDE STEPPED FOOTPATH

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN | DATE | APPROVED |
|-----------|--|--|--|------|------|----------|
|           |  |  |  |      |      |          |
|           |  |  |  |      |      |          |

**CLIENT:**

EAST AFRICAN COMMUNITY (EAC)  
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P.O. BOX 1510 - 40100  
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TEL: +254 57 202 6344

**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**  
JOINT VENTURE

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**PROJECT NAME:**  
LAKE VICTORIA BASIN INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMME (LVB-IWRMP)

**CONTRACT TITLE:**  
MWANZA SEWER CONNECTION UPGRADE

**INFILL SEWERS KIRUMBA WARD**

**DRAWING TITLE:**  
SEWERS KR-IS-5-4, KR-IS-5-5 & KR-IS-5-6 PLAN AND LONGITUDINAL SECTIONS

SHEET 1 OF 1

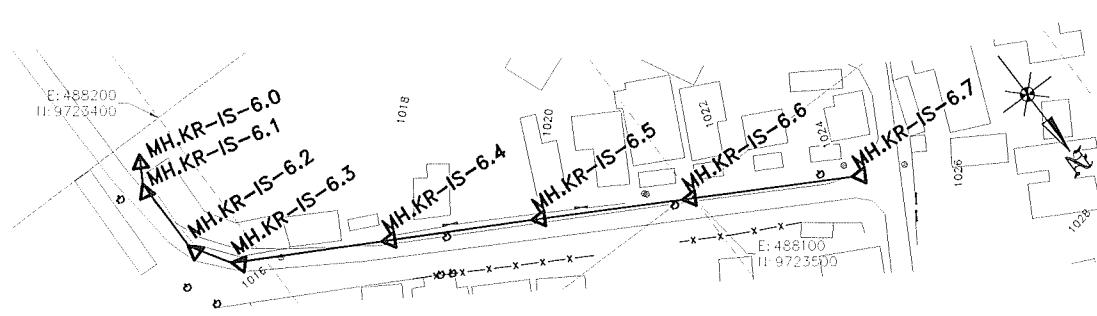
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| Designed by: V.C                      | Drawn by: V.C      |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3- HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |
| DRG No. M394(j)/MWZ/KR/05             | REV                |

**SEWER KR-IS-6**

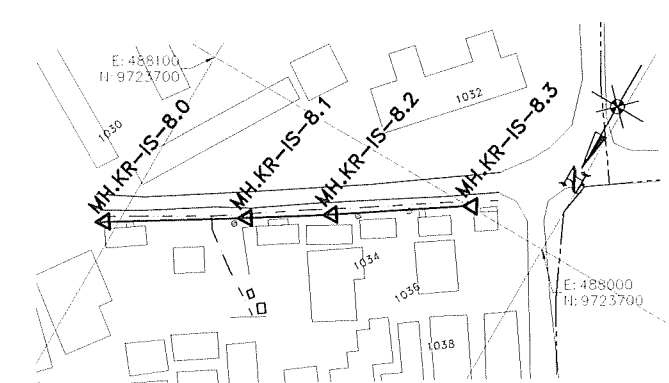
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| MH.KR-IS-6.1        | 9723411.638 | 488213.862 |
| MH.KR-IS-6.2        | 9723431.838 | 488213.790 |
| MH.KR-IS-6.3        | 9723442.097 | 488207.393 |
| MH.KR-IS-6.4        | 9723461.351 | 488172.331 |
| MH.KR-IS-6.5        | 9723480.628 | 488137.283 |
| MH.KR-IS-6.6        | 9723500.168 | 488102.380 |
| MH.KR-IS-6.7        | 9723522.150 | 488063.114 |

**SEWER KR-IS-8**

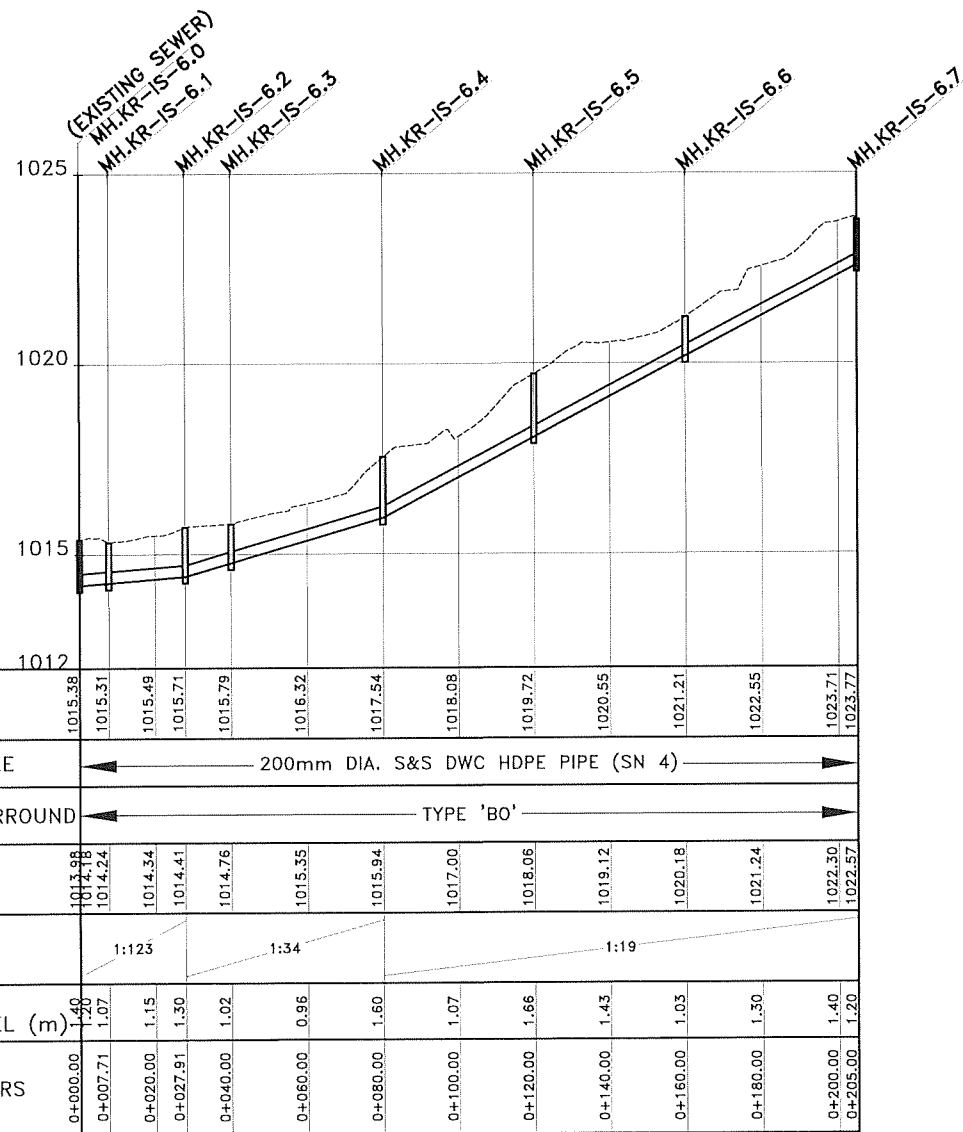
| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-8.0        | 9723753.230 | 488104.920 |
| MH.KR-IS-8.1        | 9723733.438 | 488073.192 |
| MH.KR-IS-8.2        | 9723721.275 | 488054.141 |
| MH.KR-IS-8.3        | 9723700.593 | 488023.489 |



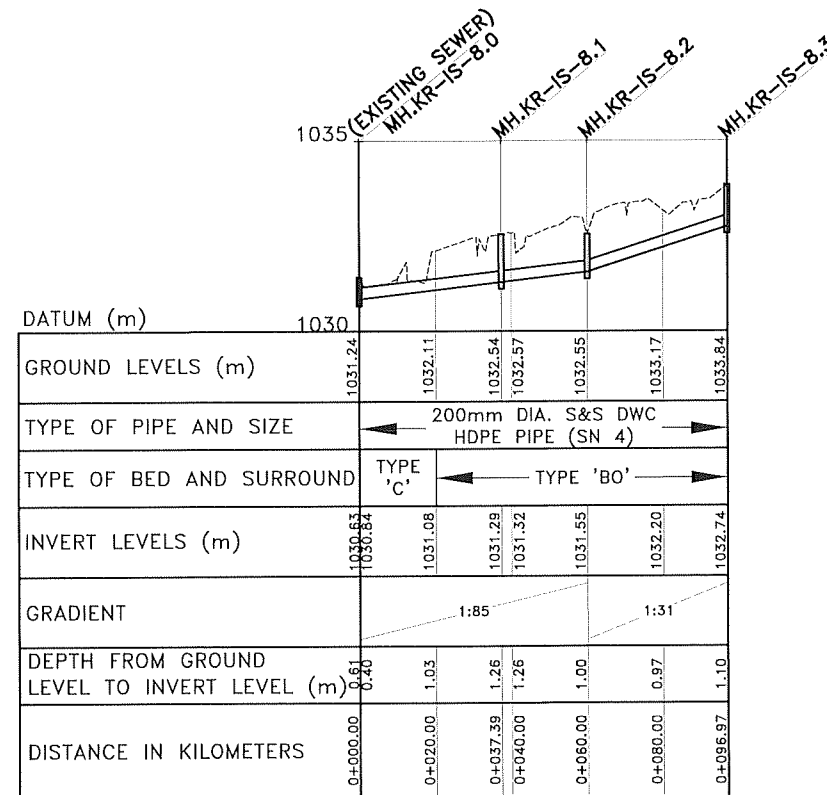
**SEWER KR-IS-6  
PLAN**



**SEWER KR-IS-8  
PLAN**



**SEWER KR-IS-6  
LONGITUDINAL SECTION**



**SEWER KR-IS-8  
LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04
- SIMPLIFIED SEWERS TO BE DONE TOGETHER WITH 1.2m WIDE STEPPED FOOTPATH

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN | DATE | APPROVED |
|-----------|--|--|--|------|------|----------|
|           |  |  |  |      |      |          |

**CLIENT:**

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TEL: +254-2-2710500

**PROJECT NAME:**

LAKE VICTORIA BASIN INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMME (LVB-IWRMP)

**CONTRACT TITLE:**

MWANZA SEWER CONNECTION UPGRADE

**INFILL SEWERS  
KIRUMBA WARD**

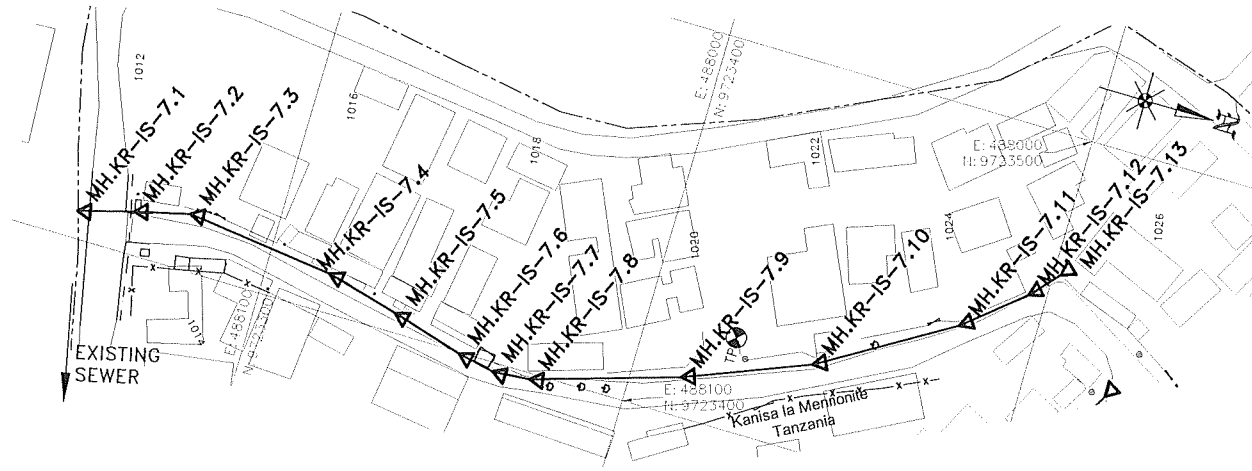
**DRAWING TITLE:**

SEWERS KR-IS-6 & KR-IS-8  
PLAN AND LONGITUDINAL SECTIONS

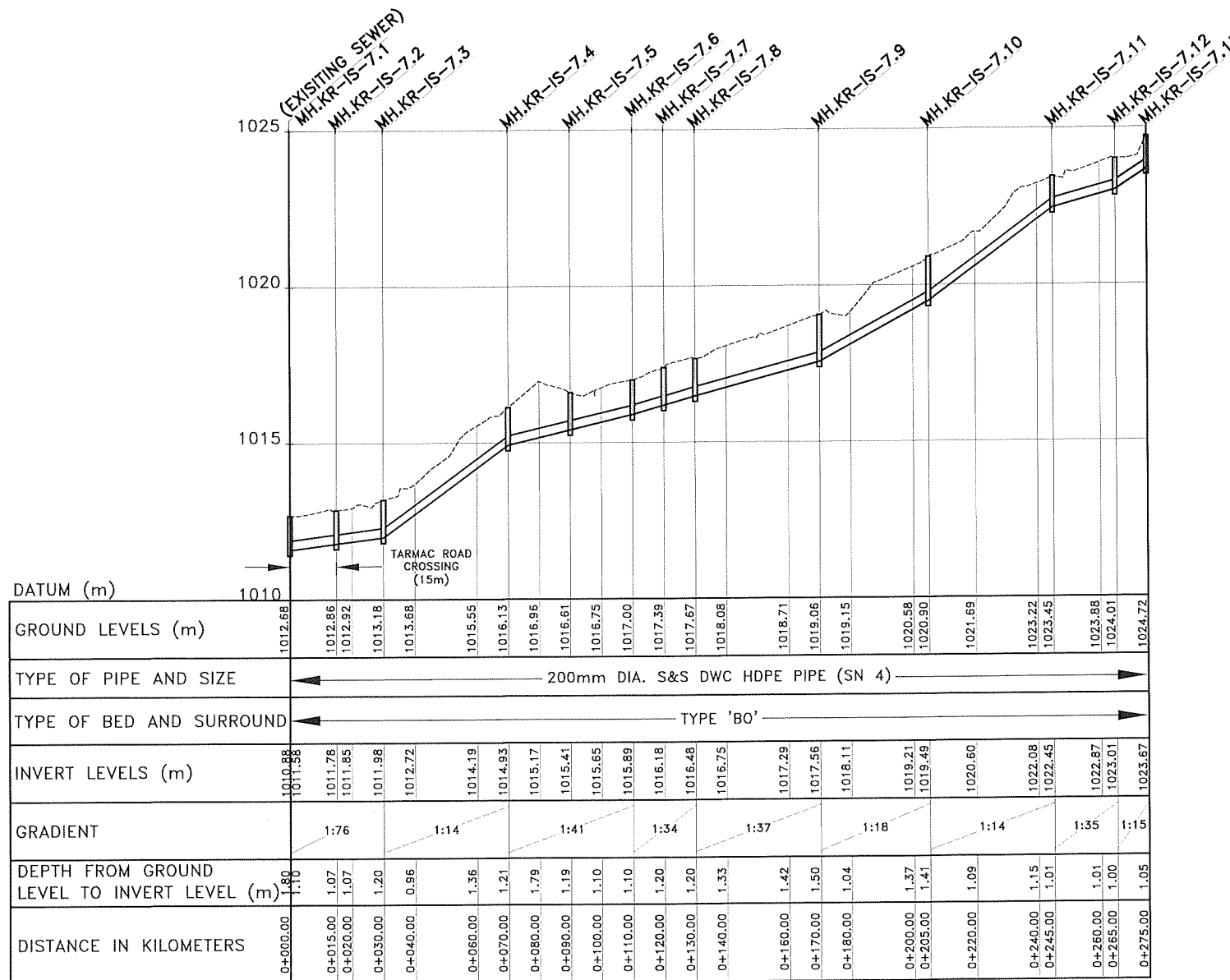
SHEET 1 OF 1

|                                       |                    |
|---------------------------------------|--------------------|
| Designed by: V.C                      | Drawn by: V.C      |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3- HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |
| DRG No. M394(j)/MWZ/KR06              | REV                |

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-7.1        | 9723247.954 | 488092.808 |
| MH.KR-IS-7.2        | 9723262.387 | 488088.722 |
| MH.KR-IS-7.3        | 9723276.958 | 488085.160 |
| MH.KR-IS-7.4        | 9723316.687 | 488089.806 |
| MH.KR-IS-7.5        | 9723336.023 | 488094.917 |
| MH.KR-IS-7.6        | 9723355.267 | 488100.365 |
| MH.KR-IS-7.7        | 9723365.066 | 488102.360 |
| MH.KR-IS-7.8        | 9723375.032 | 488101.538 |
| MH.KR-IS-7.9        | 9723413.240 | 488089.698 |
| MH.KR-IS-7.10       | 9723445.757 | 488076.751 |
| MH.KR-IS-7.11       | 9723480.023 | 488056.115 |
| MH.KR-IS-7.12       | 9723495.358 | 488043.275 |
| MH.KR-IS-7.13       | 9723502.021 | 488035.822 |



**SEWER KR-IS-7  
PLAN**



**SEWER KR-IS-7  
LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04
- SIMPLIFIED SEWERS TO BE DONE TOGETHER WITH 1.2m WIDE STEPPED FOOTPATH

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS | SIGN | DATE | APPROVED |
|-----------|------|------|----------|
|           |      |      |          |
|           |      |      |          |
|           |      |      |          |

**CLIENT:**

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**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**

**JOINT VENTURE**

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TEL: +254-2-2710500

**PROJECT NAME:**

**LAKE VICTORIA BASIN INTEGRATED  
WATER RESOURCES MANAGEMENT  
PROGRAMME (LVB-IWRMP)**

**CONTRACT TITLE:**

**MWANZA SEWER CONNECTION UPGRADE**

**INFILL SEWERS  
KIRUMBA WARD**

**DRAWING TITLE:**

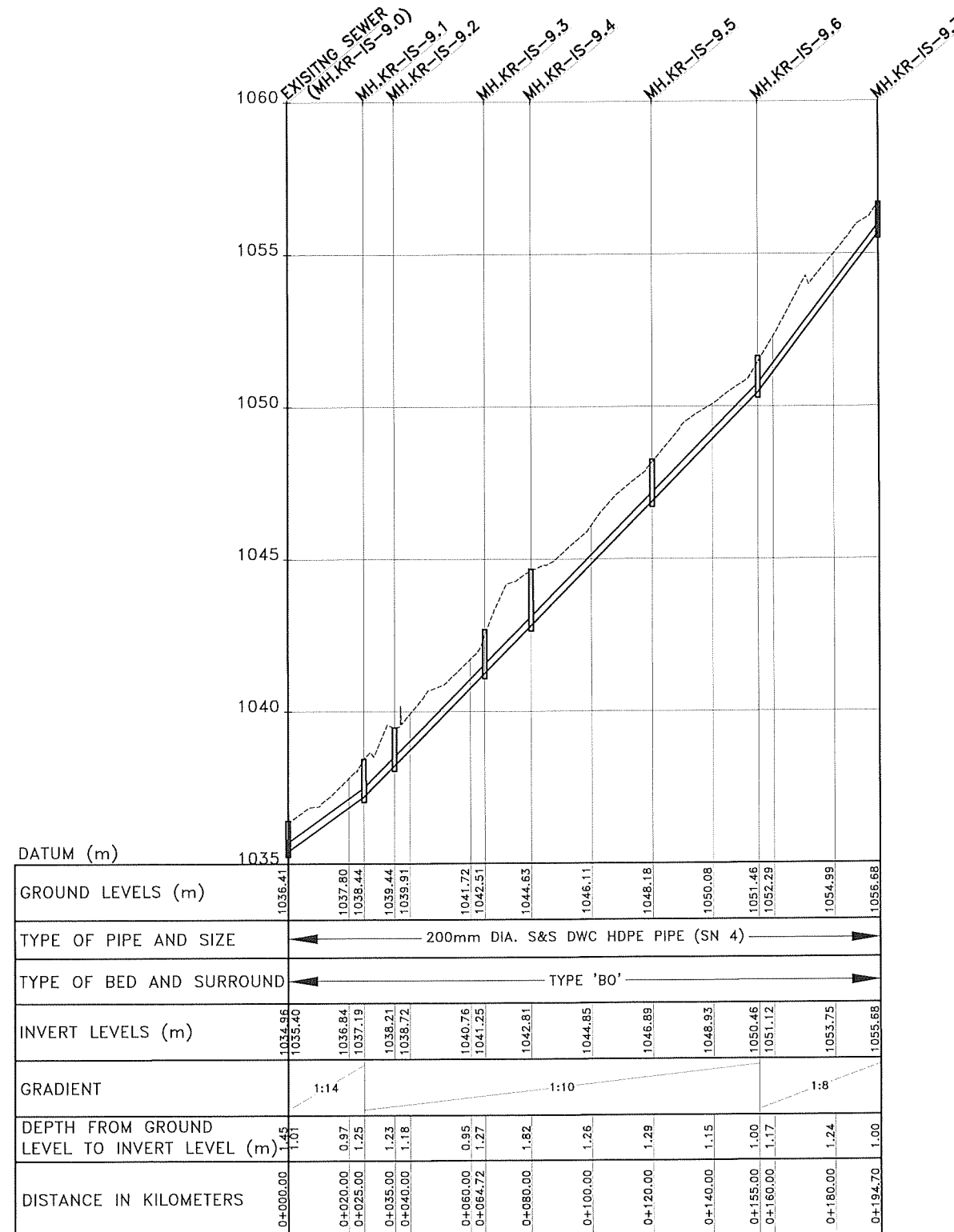
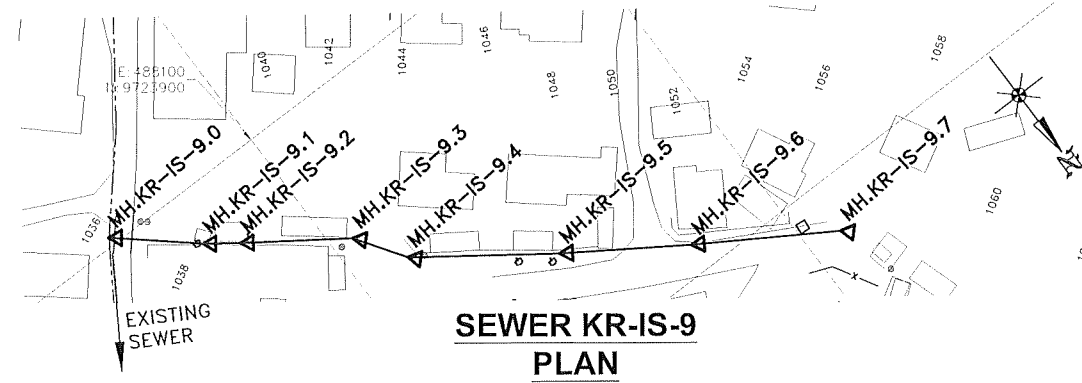
**SEWER KR-IS-7  
PLAN AND LONGITUDINAL SECTION**

**SHEET 1 OF 1**

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| Designed by: V.C                      | Drawn by: V.C      |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3- HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |

**DRG No. M394(j)/MWZ/KR/07**

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KR-IS-9.0        | 9723897.727 | 488145.524 |
| MH.KR-IS-9.1        | 9723914.028 | 488126.569 |
| MH.KR-IS-9.2        | 9723919.989 | 488118.541 |
| MH.KR-IS-9.3        | 9723936.951 | 488094.141 |
| MH.KR-IS-9.4        | 9723949.675 | 488085.675 |
| MH.KR-IS-9.5        | 9723973.082 | 488053.238 |
| MH.KR-IS-9.6        | 9723992.458 | 488024.091 |
| MH.KR-IS-9.7        | 9724013.545 | 487990.452 |



**SEWER KR-IS-9  
LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04
- SIMPLIFIED SEWERS TO BE DONE TOGETHER WITH 1.2m WIDE STEPPED FOOTPATH

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1220 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS | SIGN    | DATE | APPROVED |
|-----------|---------|------|----------|
|           | BY      |      |          |
|           | CHECKED |      |          |

**CLIENT:**

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**PROJECT IMPLEMENTATION CONSULTANTS (PIC):**

**JOINT VENTURE**

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TEL: +254-2-2710500

**PROJECT NAME:**

**LAKE VICTORIA BASIN INTEGRATED  
WATER RESOURCES MANAGEMENT  
PROGRAMME (LVB-IWRMP)**

**CONTRACT TITLE:  
MWANZA SEWER CONNECTION UPGRADE**

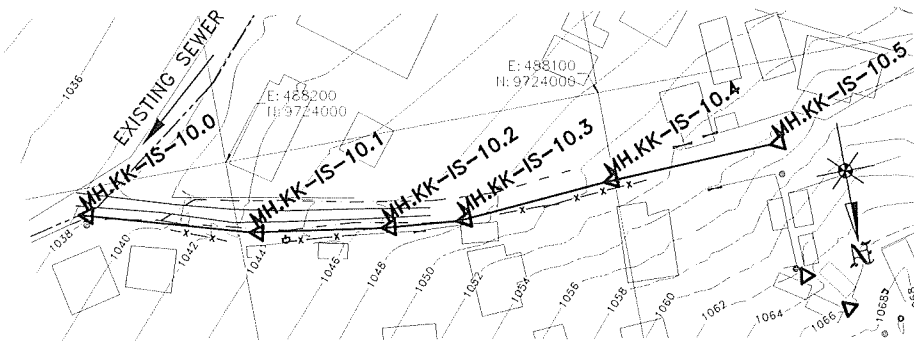
**INFILL SEWERS  
KIRUMBA WARD**

**DRAWING TITLE:  
SEWERS KR-IS-9  
PLAN AND LONGITUDINAL SECTION**

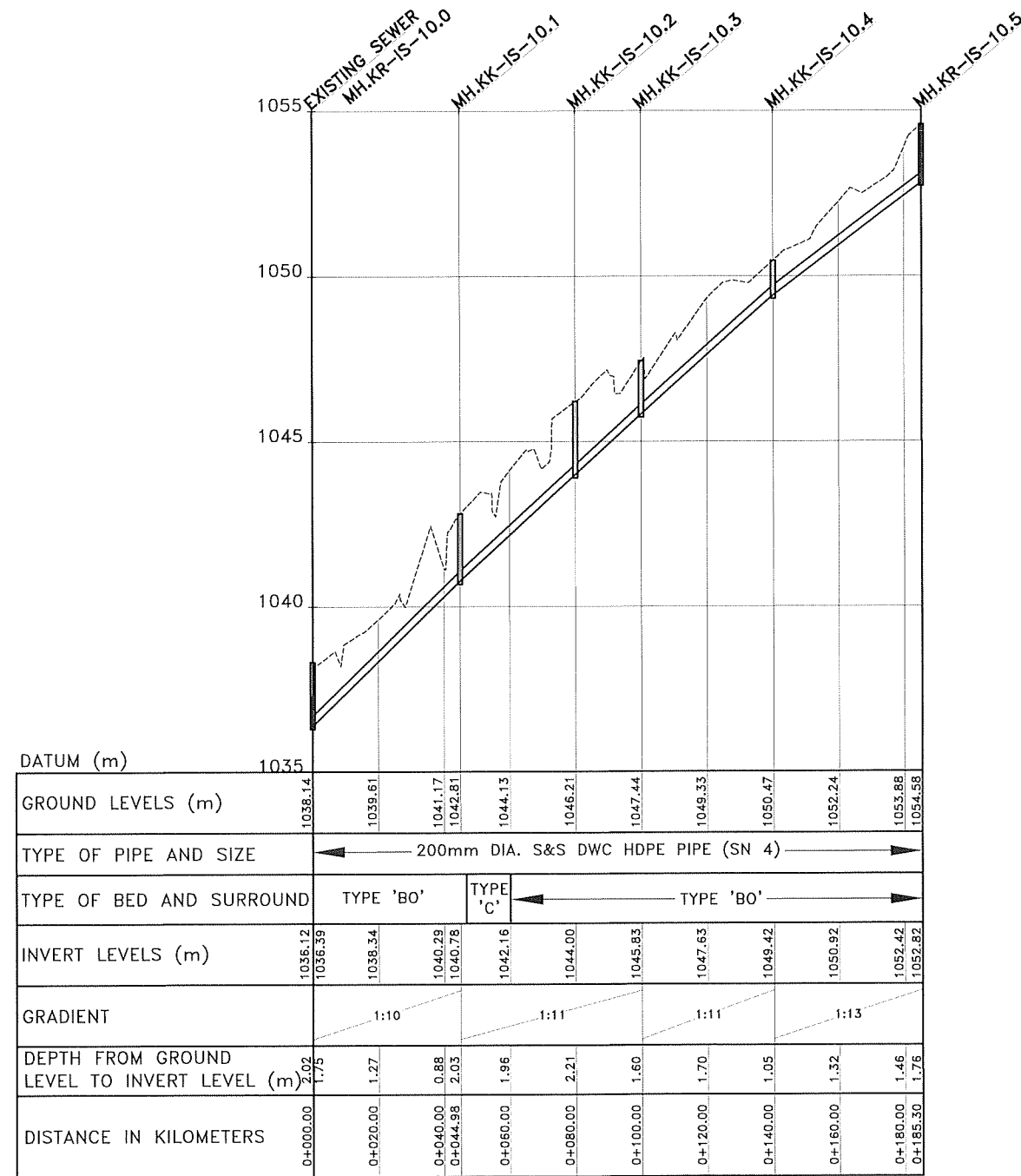
**SHEET 1 OF 1**

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| Designed by: V.C                      | Drawn by: V.C      |
| Checked by: N.J.N                     | Approved by: R.S.R |
| Scale: A3. HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |
| DRG No. <b>M394(j)/MWZ/KR/08</b>      | REV                |

| MANHOLE COORDINATES |             |            |
|---------------------|-------------|------------|
| REF. No             | NORTHING    | EASTING    |
| MH.KK-IS-10.0       | 9724006.733 | 488240.178 |
| MH.KK-IS-10.1       | 9724019.294 | 488196.992 |
| MH.KK-IS-10.2       | 9724024.544 | 488162.363 |
| MH.KK-IS-10.3       | 9724026.385 | 488142.448 |
| MH.KK-IS-10.4       | 9724023.456 | 488102.555 |
| MH.KK-IS-10.5       | 9724021.692 | 488057.292 |



**SEWER KR-IS-10  
PLAN**



**SEWER KR-IS-10  
LONGITUDINAL SECTION**

**NOTES:**

- FOR GENERAL SEWER LAYOUT PLAN SEE DRG. No. M394(j)/MWZ/KR/01
- CONTOUR LEVELS ARE AT 2 METER INTERVALS
- GRID VALUES ARE AT 100 METER INTERVALS
- FOR BED AND SURROUND DETAILS REFER TO DRG. No. M394(j)/MWZ/SD/04

**LEGEND - PLAN**

**EXISTING FEATURES:**

- 1:20 CONTOUR WITH ELEVATIONS
- SEWER
- DRAIN
- FENCE
- PAVED ROAD
- MURRAM / EARTH ROAD
- PERMANENT BUILDING
- TEMPORARY BUILDING
- POWER POLE
- GATE
- CULVERT
- TP 9 TRIAL PIT

**PROPOSED FEATURES:**

- SEWER WITH MANHOLE

**LEGEND - PROFILE**

**EXISTING FEATURES:**

- GROUND LEVEL

**PROPOSED FEATURES:**

- GRAVITY SEWER WITH MANHOLE

| REVISIONS |  |  |  | SIGN    | DATE | APPROVED |
|-----------|--|--|--|---------|------|----------|
|           |  |  |  | BY      |      |          |
|           |  |  |  | CHECKED |      |          |

**CLIENT:**

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**PROJECT NAME:**

**LAKE VICTORIA BASIN INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMME (LVB-IWRMP)**

**CONTRACT TITLE:**

**MWANZA SEWER CONNECTION UPGRADE**

**INFILL SEWERS  
KIRUMBA & KITANGIRI WARDS**

**DRAWING TITLE:**

**SEWER KR-IS-10  
PLAN AND LONGITUDINAL SECTION**

**SHEET 1 OF 1**

|  |                    |
|--|--------------------|
| Designed by: C.N.M                       | Drawn by: C.N.M    |
| Checked by: N.J.N                        | Approved by: R.S.R |
| Scale: A3-<br>HOR: 1:2,000<br>VER: 1:200 | Date: MARCH 2024   |

DRG No. **M394(j)/MWZ/KR/09** REV