# Attachment 9: Kigali City Reservoir Inventory Survey Results

# THE REPUBLIC OF RWANDA KIGALI CITY



#### Introduction

In order to strengthen the Non-Revenue Water Control in Kigali City Water Network, WASAC in partnership with Kyowa Engineering Consultants Ltd decided to conduct a survey in which the purpose is to gather the functionality information and the issues related to non-revenue water.

As per the scope of the current survey we focused on equipments, installed accessories and reservoirs physical features that are contributing to the non-revenue water increment and reporting them according to their priorities from higher to lower in order to allow decision either maintenance, repairing or replacement.

#### Purpose

To Make clear the following present issue of each reservoirs

- Functional situation as the main facility in distribution system (storage, buffer)
- Functional condition of the equipment (Float Valve, Gate Valve, Flow Meter, Water Level Gauge) in the reservoir
- Operational condition (assignment of operator, duty, regulation)
- Situation of overflow

#### Overview

Based on the list of reservoirs obtained from the GIS section, reservoirs were selected and surveyed.

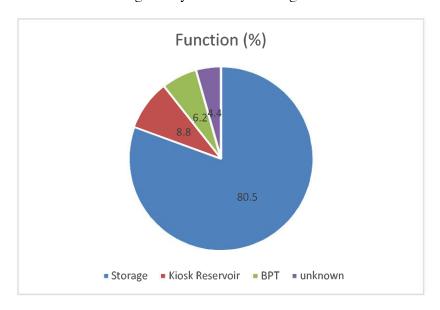
New reservoirs such as AfDB are not included

#### **Survey Results**

The results of a survey of 113 reservoirs from the 194 reservoirs listed in Kigali City that were obtained are summarized below.

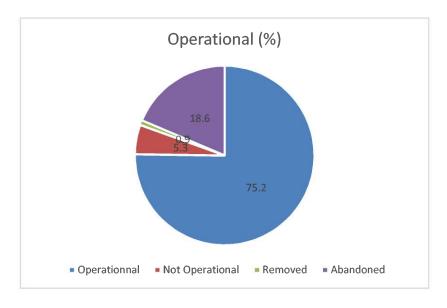
#### 1.Function

About 80% of the reservoir in Kigali City is used for storage.



#### 2.Operatioal

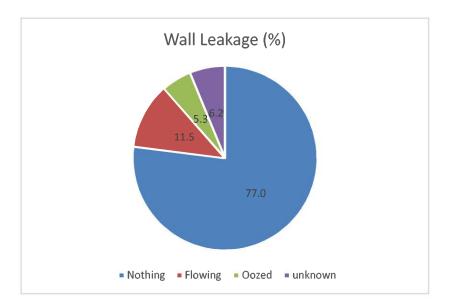
20% of the Kigali city's reservoir has been abandoned. The result is that 25% of the total reservoirs are unused.



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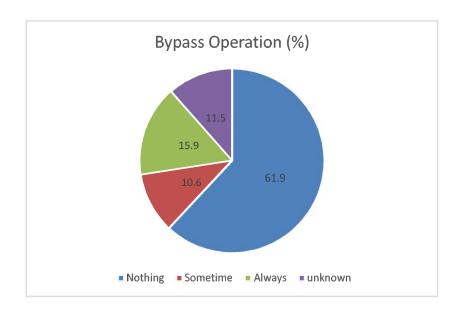
#### 3. Wall Leakage

23% of reservoirs have structural problems. Immediate action is required as major water leaks and water quality problems can occur.



#### 4. Bypass Operation

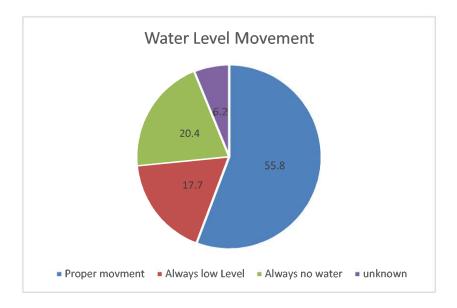
Bypass operation is carried out in about 25% of the reservoirs. Bypass operation is not recommended because it does not satisfy the original reservoir function.



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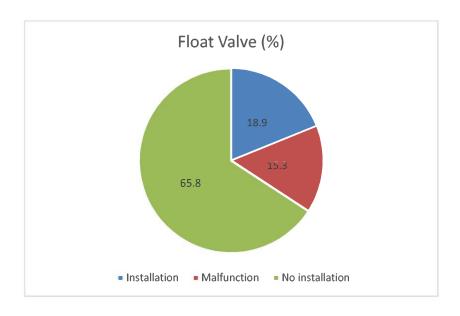
#### 5. Water Level Movement

Approximately 45% of the reservoirs are in a state where water is not stored. The water storage function, which is the role of the reservoir, has not been fulfilled.



#### 6. Float Valve

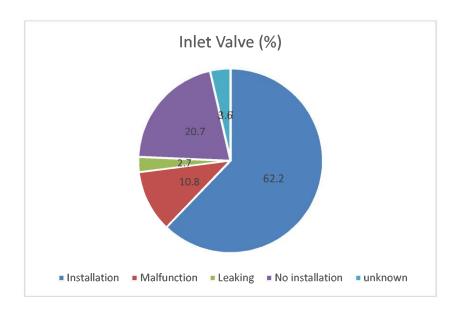
FVs are installed only in about 30% of reservoirs. About half of them are malfunction. Only about 20% of FVs are actually working.



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#### 7. Inlet Valve

Inlet valves are installed in about 75% of the reservoirs. However, about 13% of the inlet valves have some problems, and if you add that they are not installed, about 35% of the reservoirs will not have inlet valves.



#### **Summary**

Based on the results of this survey, the functional status of the reservoir in Kigali City can be confirmed and used as a material for creating a rehabilitation plan.

It turns out that about 25% of the distribution reservoirs are not used, and it is necessary to organize the distribution reservoir list. It leads to the lack of asset management and needs to be improved.

FVs are not installed in many reservoirs, and it is possible that the overflow of the reservoirs is affecting NRW.

There is a possibility that the water distribution situation will improve and some will be full of the reservoir.

It is recommend that you conduct a survey like this once every few years and update the information.

# Reservoir List in Kigali City

#### Reservoir List in Kigali City

| Surve Reservoir No. y OBJECTID   | Name of Reservoir  | Note   | ID code   | Branch Name   
  | Province   | District  | Sector   | Cell   
   | Village  | Street Number  | Reservoir Function Capacit   | ty m3 Reservoir Form  | Reservoir Position   
   | Material   | Construction<br>Year Dia   | Base<br>Elevatio  
   | n Height m  
  | servoir Typ<br>tatus the   | e of E          | levation of the<br>let pipe in meter Inlet Valve  | Diameter of inlet<br>FV pipe   | Water<br>Meter   
  | Latitude Longitude   | Altitude Provide comment if necessary 1,476 <null></null>  |                         |
--	--	--	---
--|--|--|--
---|--|--|--
--
---|--
--|-----------------|---|--|---
--|--|-------------------------|
| O 7:   | 3 Abarezi Samuduha<br>Kimuhurura   | Amajyambere,Golf 2   | KANM2RE2<br>KACZ5H3RE01   | Kanombe<br>Kacyiru  
  | Kigali City<br>Kigali City   | Gasabo  |  | Rubirizi<br>Kimihurura   
   |  | <null><br/>KG 2 Av</null>  | Kiosk reservoir<br>Storage   | 50 Circular<br>1000 Circular  | Ground<br>Ground   
   | Stones<br>Concrete   | <null></null>  | 3<br>22 <null></null>   
   | 0 3 Ac  
  | ive Top  | <               | Null>   | No<br>Yes  |  
  | -1.956961 30.084182  | 1,465 No,convancing answer   |                         |
| O 59   | 4 Amakawa reservoir<br>9 Antene  |  | JABI11RE1<br>KANN3RE2<br>KANN3RE1   | Nyarugenge<br>Kanombe   
  | Kigali City  | Kicukiro  | Jabana<br>Kanombe  | Kabuye<br>Busanza  
   | - / /  | <null><br/>KK 20 Av<br/>KK 20 Av</null>  | Storage<br>Storage   | 400 Circular<br>45 Circular   | Semiground<br>Ground   
   | Stones<br>Stones   | <null> <null> <null></null></null></null>  | 11 <null></null>  
   | 0 2 Ac  
  | ive Top  | <               | Null>   | No<br>Yes<br>Yes   | 200 <null><br/>63 <null><br/>63 <null></null></null></null>  
  | -1.894242 30.051359<br>-1.983556 30.148623   | 1.500 <null></null>  |                         |
| O 49   | 0 Antene<br>9 Beninka<br>5 Buhoro  |  | KANN2RE1<br>KIMQ5RE2  | Kanombe<br>Kanombe<br>Remera  
  | Kigali City<br>Kigali City<br>Kigali City  | Kicukiro  | Kanombe<br>Kanombe<br>Kimironko  | Busanza<br>Rubirizi<br>Kibagabaga  
   | Gashyushya<br>Zirakamwa<br>Rindiro   | KK 18 Av<br>KG 108 St  | Storage<br>Storage<br>Storage  | 50 Circular<br>25 Circular<br>30 Rectangular  | Ground<br>Ground<br>Elevated   
   | Stones<br>Stones<br>Concrete   | <null></null>  | 8<br>ull>   
   | 0 2 Ac<br>0 4 Ac  
  | ive Top<br>ive Top<br>ive Top  |                 | 2   | Yes<br>No  | 2 <null></null>  
  | -1.989079 30.13193<br>-1.929035 30.134208  | 3 1.508 <null></null>  |                         |
| O 17   | 6 Buhoro<br>8 Bumbogo Central st Leonard   |  | KIMQ5RE1<br>BUL6RE1   | Remera<br>Remera  
  | Kigali City<br>Kigali City   | Gasabo<br>Gasabo  | Kimironko<br>Bumbogo   | Kibagabaga<br>Mvuzo  
   | Rindiro<br>Kigabiro  | KG 108 St<br><null></null>   | Storage<br>Storage   | 100 Circular<br>400 Circular  | Ground<br>Ground   
   | Stones<br>Concrete   | <null></null>  | 7<br>12   
   | 0 4 Ac<br>0 5 Ac  
  | ive Top  |                 | 4 4   | No :   | 200 <null><br/>200 <null></null></null>  
  | -1.928964 30.13413<br>-1.882886 30.150883  | 3 1,508 <null> 2 1.842 <null></null></null>  |                         |
| O 3-   | 4 Byimana<br>2 Byimana<br>1 Byimana  | Busanza  | KANO3RE1<br>NIBX16RE1<br>NIBX16RE2  | Kanombe<br>Gikondo<br>Gikondo   
  | Kigali City  | Kicukiro<br>Kicukiro  | Kanombe<br>Kagarama  | Busanza<br>Kanserege   
   | Radari<br>Byimana  | KK 20 Av<br><null><br/><null></null></null>  | Storage<br>Storage   | 20 Circular<br>150 Circular<br>40 Circular  | Ground<br>Underground  
   | Stones<br>Concrete<br>Concrete   | <null> <null> <null></null></null></null>  | 5<br>7 <null><br/>5 <null></null></null>  
   | 2 Ac  
  | ive Top<br>ive Top<br>ive Bott   |                 | 2<br>1<br>Null>   | No   | 40 <null> <null> <null></null></null></null>   
  | -1.988865 30.118798  | 3 1,490 <null> 3 1,386 <null></null></null>  |                         |
| 12:  | 2 Centre ville Centre ville  | F.3  | KIM&GITO11RE1<br>KIM&GITO11RE2  | Nyarugenge  
  | Kigali City  | Nyarugenge<br>Nyarugenge  | Nyarugenge<br>Nyarugenge   | Kanserege<br>Kiyovu<br>Kiyovu  
   | Byimana<br>Inyarurembo   | KN 28 St   | Storage<br>Storage<br>Storage  | 600 Hexagon   | Underground<br>Ground<br>Semiground  
   | Concrete<br>Concrete   |  | ull> <null></null>  
   | 4 Ac  
  | ive Bott   |                 | Null>   | No Yes   | 250 <null><br/>250 <null></null></null>  
  | -1.944561 30.057688<br>-1.94455 30.057814  | 3 1,515 <null> 1,517 <null></null></null>  |                         |
| O 110  | 0 Chez Lando<br>6 Cyaruzinge   |  | RET3RE1<br>NDERJ7RE1  | Remera<br>Kanombe   
  | Kigali City<br>Kigali City   | Gasabo<br>Gasabo  | Remera<br>Ndera  | Rukiri li<br>Rudashya  
   | Rebero<br>Ruhogo   | KG 203 St<br><null></null>   | Storage<br>Storage   | 400 Rectangular<br>200 Circular<br>400 Circular   | Ground<br>Semiground   
   | Concrete<br>Concrete   | <null></null>  | 16<br>14  
   | 0 4 Ac  
  |  |                 | 2 4   | No<br>Yes  | 200 <null></null>  
  |  | 1,504 <null></null>  |                         |
| O 41   | 1 Cyeru<br>0 Cyimo<br>3 Cyimo  | Masaka Jehowba, Down Hill  | MASV7RE1<br>MASO6RE1<br>MASO7RE1  | Kanombe<br>Kanombe  
  | Kigali City  | Kicukiro<br>Kicukiro<br>Kicukiro  | Masaka<br>Masaka<br>Masaka   | Rusheshe<br>Cyimo<br>Cyimo   
   | Cyankongi<br>Nyakagunga  | <null> <null> <null></null></null></null>  | Storage Storage  | 10 Circular<br>50 Circular<br>150 Circular  | Semiground<br>Semiground<br>Semiground   
   | Stones<br>Concrete<br>Stones   | <null> <null> <null></null></null></null>  | 6   
   |   
  | ive Top<br>ive Top   |                 | 2 2 3   | Yes<br>Yes<br>Yes  | 90 <null></null>   
  | -2.05745 30.206806<br>-1.996025 30.192659<br>-1.999979 30.199968   | 1,416 <null></null>  |                         |
| 0 16   | 3 Cyimo<br>9 Cyimo<br>3 Fawe Girls School  | Masaka Charch, Up Hill   | MASP8RE2<br>KACZ2F2RE01   | Kanombe<br>Kacyiru  
  | Kigali City<br>Kigali City   | Kicukiro<br>Gasabo  | Masaka<br>Gisozi   | Cyimo<br>Musezero  
   | Cyimo<br>Byimana   | <null><br/>KG 14 Av</null>   | Break pressure<br>Storage  | 150 Circular<br>50 Circular<br>250 Circular   | Semiground<br>Ground   
   | Concrete<br>Concrete   | <null></null>  | 3   
   | 0 2 Ac<br>0 2.5 Ac  
  | ive Top  |                 | 2 3   | Yes<br>Yes   | 100 <null></null>  
  | -1.999979 30.199968<br>-2.001774 30.21120<br>-1.913842 30.07225  | 3 1,471 <null></null>  |                         |
| 0 11   | 9 Free zone<br>8 Free zone<br>5 Gacuriro   | New Industrial Park  | NDES7RE1<br>NDES7RE2<br>KACZ3D4RE01   | Remera<br>Remera  
  | Kigali City  | Gasabo  | Ndera<br>Ndera   | Masoro<br>Masoro   
   | Munini<br>Munini<br>Estate 2020  | <null> <null> KG 14 Av</null></null>   | Storage<br>Storage   | 250 Other<br>250 Other<br>400 Circular  | Elevated<br>Elevated<br>Ground   
   | Steel<br>Steel<br>Concrete   |  | ull>  
   | 12 3 Ac<br>12 3 Ac<br>0 4 Ac  
  | ive Top  |                 | 3   | Yes<br>Yes   | 150 <null> 150 <null></null></null>  
  | -1.949635 30.15503<br>-1.949778 30.154724  | 1,469 <null> 1,469 <null> 1,495  Initial, maximum and minimum</null></null>  | a loval are not known t |
| 15-  | 4 Gacuriro<br>7 Gako   | Avabarava  | KACZ3D4RE01<br>KACZ3D4RE02<br>MASP8RE1  | Kacyiru<br>Kacyiru<br>Kanombe   
  | Kigali City  | Gasabo<br>Gasabo<br>Kicukiro  | Kinyinya<br>Kinyinya<br>Masaka   | Gacuriro<br>Gacuriro<br>Gako   
   | Estate 2020<br>Kibande   | KG 14 Av   | Storage<br>Storage<br>Storage  | 400 Circular<br>50 Circular   | Ground<br>Semiground   
   | Concrete<br>Concrete   | <null></null>  | 11  
   | 0 4 Ac<br>0 4 Ac  
  | ive Top  | <               | Null>   | Yes<br>Yes<br>Yes  |  
  | -1.923486 30.09373   | 1.495 Initial, maximum and minimum   |                         |
| 0 12   | 5 Gatsata<br>4 Gihara  |  | MUYL11RE2<br>RUNDN4RE1  | Kanombe<br>Nyarugenge   
  | Eastern<br>Southern  | Rwamagana<br>Kamonyi  | Muyumbu<br>Runda   | Nyarukombe<br>Gihara   
   | Gatuza<br>Bimba  | <null></null>  | Break pressure<br>Storage  | 10 Circular<br>400 Circular<br>Circular   | Ground<br>Ground   
   | Stones<br>Concrete   | <null></null>  | 2<br>13   
   | 0 2 Ac<br>0 4 Ac  
  | ive Top  |                 | 2 3   | No<br>No   | 63 <null><br/>160 <null></null></null>   
  | -1.969952 30.251363<br>-1.937084 29.965723   | 3 1,525 <null></null>  |                         |
| 0 16   | 5 Gihogwe<br>7 Gihogwe<br>9 Gihuke   |  | JALJ10RE1<br>JALJ10RE3<br>MASO9RE1  | Nyarugenge<br>Nyarugenge<br>Kanombe   
  | Kigali City  | Gasabo  | Gatsata<br>Jali<br>Masaka  | Karuruma<br>Agateko<br>Gako  
   | Rugoro<br>Bukamba<br>Gihuke  | <null> <null> <null></null></null></null>  | Storage <null> Storage <null></null></null>  |   | Semiground<br>Semiground<br>Ground   
   | Stones<br>Concrete<br>Stones   | <null> <null> <null></null></null></null>  | 5 <null><br/>9 <null></null></null>   
   | 2 Ac  
  | ive Bott<br>ive Top<br>ive <nu< td=""><td></td><td>Null&gt;</td><td>No<br/>No</td><td>90 <null> 140 <null></null></null></td><td>-1.907305 30.044174<br/>-1.905917 30.046478</td><td>1,495 Ntabwo bakigikoresha kuko nta<br/>1,462 <null><br/>1,403 The connection pipes have been</null></td><td>a mazi akigeramo. nta*</td></nu<>  |                 | Null>   | No<br>No   | 90 <null> 140 <null></null></null>   
  | -1.907305 30.044174<br>-1.905917 30.046478   | 1,495 Ntabwo bakigikoresha kuko nta<br>1,462 <null><br/>1,403 The connection pipes have been</null>  | a mazi akigeramo. nta*  |
| 6  | 4 Gikondo primaire   | Kimironko  | GIKW13RE1<br>KIMQ5RE3   | Gikondo<br>Remera   
  | Kigali City  | Kicukiro<br>Kicukiro<br>Gasabo  | Gikondo<br>Kimironko   | Kagunga<br>Kibagabaga  
   | Kagunga I  | KK 31 Av<br>KG 108 St  | Storage<br>Storage   | 200 Circular  | Semiground<br>Underground  
   | Concrete<br>Concrete   | <null></null>  | 10<br>ull>  
   |   
  | ive Top  |                 | 3 0   | No<br>No   | 110 <null><br/>200 <null></null></null>  
  | -1.980004 30.223930<br>-1.980201 30.076702<br>-1.92987 30.134829<br>-1.951217 30.11950   | 2 1,531 <null> 5 1,505 <null></null></null>  | enremoveu               |
| O 11:  | 5 Golf 8<br>3 Golf 8<br>2 Golf five  | Rwahama  | RET4RE3<br>RET4RE2  | Remera<br>Remera  
  | Kigali City<br>Kigali City   | Gasabo<br>Gasabo  | Kimironko<br>Kimironko   | Nyagatovu<br>Nyagatovu   
   | ljabiro<br>ljabiro   | <null></null>  | Storage<br>Storage   | 50 Rectangular<br>600 Circular<br>1500 Rectangular  | Ground<br>Ground   
   | Concrete<br>Concrete   | <null></null>  | 0   
   | 0 4 Ac  
  | ive Top  |                 | 4 3   | No   | 250 <null></null>  
  | -1.951441 30.11936   | 1,527 <null></null>  |                         |
| O 3  | 2 Golf five<br>0 Golf five<br>1 Golf five kimisange  | Kimisange P.S  | 130704RE1<br>KIGY11RE3<br>KIGY11RE2   | Gikondo<br>Gikondo  
  | Kigali City  | Kicukiro  | Kigarama<br>Kigarama<br>Kigarama   | Nyarurama<br>Nyarurama<br>Nyarurama  
   | Rebero<br>Rebero   | <null></null>  | Storage<br>Storage   | 250 Circular<br>150 Circular<br>250 Circular  | Semi-ground<br>Semiground  
   | Stones<br>Concrete   | <null> <n< td=""><td>  Val   Val</td><td>2 Ac</td><td>ive <nu<br>ive Top<br/>ive Top</nu<br></td><td>  &gt;  &lt;</td><td>Null&gt;</td><td><null></null></td><td><null></null></td><td>-2.001192 30.059203<br/>-2.001327 30.059050<br/>-2.001327 30.059050</td><td>3 1,628 <null></null></td><td></td></n<></null> | Val   
   | 2 Ac   | ive <nu<br>ive Top<br/>ive Top</nu<br>   
   | >  <            | Null>   | <null></null>  | <null></null>   | -2.001192 30.059203<br>-2.001327 30.059050<br>-2.001327 30.059050  | 3 1,628 <null></null>   
  |                         |
| 50   | 6 Golf seven<br>Golf seven   | Kikukiro P.S   | NIBX15RE2<br>NIBX15RE1  | Gikondo<br>Gikondo  
  | Kigali City<br>Kigali City   | Kicukiro<br>Kicukiro  | Gatenga<br>Gatenga   | Nyanza<br>Nyanza   
   | Bwiza  | KK 15 Rd   | Storage<br>Storage   | 600 Octagonal prism<br>600 Rectangular  | Ground<br>Ground   
   | Concrete<br>Concrete   | <null></null>  | 0<br>0 <null></null>  
   | 0 4 Ac  
  | ive Top  | <               | 3<br>Null>  | No 200/:   | 250 <null></null>  
  | -1.985369 30.102105<br>-1985361 30.102098  | 5 1,510 <null><br/>3 1,510 <null></null></null>  |                         |
| 5  | 8 karama<br>7 Indatwa village  |  | KIGAP9RE1<br>KIGX12RE2<br>KANM2RE1  | Nyarugenge<br>Gikondo   
  | Kigali City<br>Kigali City   | Nyarugenge<br>Kicukiro  | Kigali<br>Kigarama   | Nyabugogo<br>Kigarama  
   | Kadobogo<br>Indatwa  | <null> KK 722 St</null>  | Storage<br>Kiosk reservoir   | 400 Circular<br>5 Circular<br>50 Circular   | Ground<br>Ground   
   | Concrete<br><null></null>  | <null> <null> <null></null></null></null>  | 12<br>2 <null></null>   
   | 0 8 Ac<br>2 Ac  
  | ive Top  | =               | 4 2   | No <null> No <null></null></null>  | <null></null>  
  | -1.960132 30.019674<br>-1.984685 30.072334<br>-1.975074 30.13642   | 1,519 <null><br/>1,560 <null></null></null>  |                         |
| 0 17:  | 7 Intwari<br>2 Jabana<br>9 Jali  | Jali (Bas)   | JABI11RE2<br><null></null>  | Nyarugenge<br>Nyarugenge  
  | Kigali City  | Gasabo  | Kanombe<br>Jabana<br>Jali  | Rubirizi<br>Kabuye<br>Nyamitanga   
   | Uwabarezi<br>Karuruma<br>Runyinya  | KK 2229 St<br><null><br/><null></null></null>  | Kiosk reservoir Kiosk reservoir Storage  | 8 Circular<br>125 Circular  | Ground<br>Ground<br>Semi-ground  
   | Stones<br>Stones<br><null></null>  | <null> <null> <null></null></null></null>  | 4<br>4<br>ull> <null></null>  
   |   
  | ive Top<br>ive Top<br>ive <nu< td=""><td>  &gt;  &lt;</td><td>2<br/>2<br/>Null&gt;</td><td>No<br/>No<br/><null></null></td><td>2 <null><br/><null></null></null></td><td>-1.898211 30.056244<br/>-1.901231 30.02393</td><td>1 1,429 <null><br/>7 1,936 <null></null></null></td><td></td></nu<>  | >  <            | 2<br>2<br>Null>   | No<br>No<br><null></null>  | 2 <null><br/><null></null></null>  
  | -1.898211 30.056244<br>-1.901231 30.02393  | 1 1,429 <null><br/>7 1,936 <null></null></null>  |                         |
|  | 9 Jali<br>7 Jali<br>9 Jali<br>1 Jali   | Camp Militaire 1 Camp Militaire 2  | JALH8RE1<br>JALG8RE1  | Nyarugenge<br>Nyarugenge  
  | Kigali City<br>Kigali City   | Gasabo<br>Gasabo  | Jali<br>Jali   | Nyamitanga<br>Muko   
   | Kabuga<br>Gahinga  | <null></null>  | Storage<br>Unbalanced reservoir  | 400 Circular<br>10 Circular   | Elevated<br>Semiground   
   | Concrete<br>Stones   | <null></null>  | 7<br>3 <null></null>  
   | 8 <null> Ac</null>  
  | ive Top<br>ive Bott  |                 | 12<br>Null>   | No<br>No   | 125 <null></null>  
  | -1.882975 30.015297<br>-1.876315 30.012488   | 7 2,071 <null></null>  |                         |
| O 17' O 17' O 17'  | 1 Jali<br>0 Jali<br>3 Jali bugarama  | EP<br>→No.179  | JALJ9RE1<br>JALJ9RE2  | Nyarugenge<br>Nyarugenge<br>Nyarugenge  
  | Kigali City<br>Kigali City   | Gasabo  | Jali<br>Jali   | Nyamitanga<br>Nyamitanga<br>Agateko  
   | Runyinya<br>Runyinya<br>Rwankuha   | <null></null>  | Storage Kiosk reservoir  | 6 Circular<br>6 Circular<br>150 Rectangular   | Underground<br>Underground<br>Semiground   
   | Concrete<br>Stones   | <null></null>  | 3 <null><br/>2 <null></null></null>   
   | 2 Ac<br>2 Ac<br>5 Ac  
  | ive Top  | om <            | 2<br>Null>  | No<br>No   | 32 <null></null>   
  | -1.89867 30.02598<br>-1.900852 30.02330<br>-1.896104 30.031792   | 1,932 <null></null>  |                         |
| O 170  | 6 Jali Bugarama<br>1 Kabagesera  | 10.110   | 120607RE1<br>RUNDQ3RE1  | Nyarugenge<br>Nyarugenge<br>Nyarugenge  
  | Kigali City  | Gasabo  | Jali<br>Runda  | Nyamitanga<br>Kabagesera   
   | Kabuga<br>Bwirabo  | <null></null>  | Storage<br>Storage<br>Unbalanced reservoir   | 125 Circular<br>10 Circular   | Ground<br>Ground   
   | <null> Concrete</null>   | <null></null>  | ull> <null> 6</null>  
   |   
  | ive Top  | <               | Null>   | <null> <null> Yes</null></null>  | <null></null>  
  | -1.896104 30.03179<br>-1.883229 30.014817<br>-1.967177 29.942677<br>-1.970691 30.126024  | 7 2.065 <null></null>  |                         |
| O 8-   | 4 Kabeza<br>6 Kabizoza<br>6 Kacyiru Public Library   |  | KANL1RE2<br>NYARRE1<br><null></null>  | Kanombe<br>Nyarugenge<br>Kacyiru  
  | Kigali City<br>Kigali City   | Kicukiro<br>Gasabo  | Kanombe<br>Jali  | Kabeza<br>Agateko<br>Kibaza  
   | Karisimbi<br>Kabizoza  | KK18 Av<br><null></null>   | Storage<br>Storage<br><null></null>  | 20 Circular<br>250 Circular   | Ground<br>Ground   
   | Stones<br>Concrete<br>Stones   | <null></null>  | 4<br>12<br>ull> <null></null>   
   | 0 4 Ac<br>0 2 Ac  
  |  | $=$ $\exists$ . | 2<br>2<br>Null>   | No<br>Yes<br><null></null>   | 140 <null></null>  
  | -1.970691 30.126024<br>-1.907194 30.034529<br>-1.934031 30.078803  | 1,662 <null></null>  |                         |
| 13   | 7 Kacyiru Public Library<br>0 Kagese   |  | 120703RE1<br>MASS7RE1   | Kacyiru<br>Kanombe  
  | Kigali City<br>Kigali City<br>Kigali City  | Gasabo<br>Gasabo<br>Kicukiro  | Kacyiru<br>Kacyiru<br>Masaka   | Kibaza<br>Kibaza<br>Rusheshe   
   | Virunga<br>Virunga<br>Kagese   | <null></null>  | Storage<br>Kiosk reservoir   | 150 Circular<br>30 Circular   |  
   | <null><br/>Stones</null>   |  | ull> <null></null>  
   | <null> Ac</null>  
  | ive <nu< td=""><td></td><td>Null&gt;</td><td><null> <null> Null&gt; No</null></null></td><td><null></null></td><td>-1.934031 30.078803</td><td>3 1,450 <null></null></td><td></td></nu<>   |                 | Null>   | <null> <null> Null&gt; No</null></null>  | <null></null>  
  | -1.934031 30.078803  | 3 1,450 <null></null>  |                         |
| 0 7  | 6 Kamashashi<br>8 Kamuhoza   | Sekimondo  | NYARUM5RE1<br>NYARRE2   | Kanombe<br>Nyarugenge   
  | Kigali City  |   | Nyarugunga   | Kamashashi<br>Kagina   
   | Mukoni<br>Kamuhoza   | <null></null>  | Storage<br>Storage   | 100 Rectangular<br>10 Circular  | Elevated<br>Ground   
   | Steel<br>Concrete  | <null></null>  | 7 3   
   | 20 3 Ac<br>1 3 Ac   
  | ive Top  |                 | 20<br>2   | Yes<br>Yes   | 75 <null><br/>32 <null></null></null>  
  | -2.036988 30.207354<br>-1.975249 30.17475<br>-1.905811 29.94872<br>-2.0368 30.029  | 1,421 <null> 1,574 <null></null></null>  |                         |
| 0  | Kankuba I<br>Kankuba II<br>0 Kanyetabi   | Rugendabari<br>Rugendabari   | 110501RE1<br>110501RE2<br>MASR7RE1  | Nyarugenge<br>Nyarugenge<br>Kanombe   
  | Kigali City  | Kicukiro  | Masaka   | Rusheshe   
   | Kanyetabi  | <null></null>  | Storage<br>Storage<br>Kiosk reservoir  | 50 Circular<br>150 <null><br/>10 Circular</null>  | Ground<br>Ground<br>Ground   
   | <null><br/>Concrete<br/>Concrete</null>  |  | ull> <null></null>  
   | <null></null>   
  | <nu<br><nu<br>ive Top</nu<br></nu<br>  |                 | Null>   | <null></null>  | <null></null>  
  | -2.0368 30.0299<br>-2.0368 30.0299<br>-2.024548 30.19540   | 1,565  |                         |
| O 8i   | 8 Kanyinya<br>7 Kanyinya   |  | MUYL12RE2<br>KANM8RF1   | Kanombe   
  | Eastern  | Rwamagana<br>Nyarugenge   | Muyumbu  | Ntebe<br>Nyamweru  
   | Kanyinya<br>Nyamweru   | <null></null>  | Break pressure Storage   | 3 Circular<br>250 Circular  |  
   | Stones<br>Concrete   | <null></null>  | 3   
   | 0 2 Ac  
  |  |                 | 2   | No<br>No   | 60 <null></null>   
  | -1.96847 30.274609<br>-1.928457 30.014629<br>-1.970887 30.273542   | 1.500 <null></null>  |                         |
| O 8:   | 3 Kanyinya<br>3 Karama   | →No.46   | MUYL12RE1<br>KANO3RE3   | Kanombe<br>Kanombe  
  | Eastern<br>Kigali City   | Rwamagana<br>Kicukiro   | Muyumbu<br>Kanombe   | Ntebe<br>Karama  
   | Kanyinya<br>Urukundo   | <null></null>  | Break pressure<br>Storage  | 10 Circular<br>20 Circular  | Semiground<br>Ground   
   | Stones<br>Stones   | <null></null>  | 3<br>5  
   |   
  | ive Top  |                 | 2 2   | No<br>No   | 0 <null></null>  
  | -1.992376 30.149583  | 3 1,470 <null></null>  |                         |
| 9:   | 6 Karama<br>5 Karama<br>6 Karama   | Rukundo Village  | KANN4RE1<br>110301RE2   | Kanombe   
  |  | Nyarugenge  |  | Karama<br>Kigali   
   | Karama<br>Gisenga  | KK 29 St<br><null></null>  | Storage  |   | Ground   
   | Stones   | <null></null>  | - 4   
   | <null> Ac</null>  
  | ive Top  |                 |   | <null> <null></null></null>  | I \IVUII/  
  | =1.551744 30.13534   | 1,422 Nulle  |                         |
| 31   | o Natallia   |  | 110301RE1   | Nyarugenge  
  | Kigali City  | Nyarugenge  | Kigali   | Nyabugogo  
   | Karama   | <null></null>  | Storage<br>Storage   | 1000 Rectangular<br>1000 Rectangular  | Semi-ground<br>Semi-ground   
   | Concrete<br>Concrete   | <null></null>  | 11 <null></null>  
   | <null> Ac</null>  
  |  |                 | Null>   | <null> <null></null></null>  | <null></null>  
  | -1.991744 30.159549<br>-1.963667 30.023316<br>-1.963636 30.023316  | 5 1,562 <null></null>  |                         |
| O 100  | 6 Katabaro<br>6 Kavumu   | →No.48   | 110301RE1<br>KIM&GITP11RE200<br>110502RE2   | Nyarugenge<br>Nyarugenge<br>Nyamirambo  
  | Kigali City<br>Kigali City<br>Kigali City  | Nyarugenge<br>Nyarugenge<br>Nyarugenge  | Kigali<br>Kimisagara<br>Mageregere   | Nyabugogo<br>Katabaro<br>Kavumu  
   | Karama<br>Inganzo<br>Mubura  | <null> <null> <null> KG 10 Av</null></null></null>   | Storage <null></null>  | 1000 Rectangular<br>Circular<br>100 <null></null>   | Semi-ground<br>Semiground<br>Ground  
   | Concrete<br>Concrete<br><null></null>  | <null> <null> <null></null></null></null>  |   
   | <null> Ac<br/>4 Ac<br/><null> Ac</null></null>  
  | ive Top  |                 |   | <null></null>  | <null> 100 <null> <null></null></null></null>  
  | -1.963636 30.023316<br>-1.955524 30.047485<br>-2.038763 30.017434  | 5 1,562 <null><br/>5 1,523 <null><br/>4 1,532 <null></null></null></null>  |                         |
| O 10<br>O 14   | 6 Katabaro<br>6 Kavumu<br>1 Kibagabaga<br>0 Kibagabaga<br>Mwendo-Rwesero   |  | 110301RE1<br>KIM&GITP11RE200<br>110502RE2<br>KIMQ4RE1<br>KIMQ4RE2<br>NYAMIRE1   | Nyarugenge<br>Nyarugenge<br>Nyamirambo<br>Remera<br>Remera<br>Nyamirambo  
  | Kigali City  | Nyarugenge<br>Nyarugenge<br>Nyarugenge<br>Gasabo<br>Gasabo<br>Nyarugenge  | Kigali Kimisagara Mageregere Kimironko Kimironko Kigali  | Nyabugogo<br>Katabaro<br>Kavumu<br>Kibagabaga<br>Kibagabaga<br>Ruriba  
   | Karama<br>Inganzo<br>Mubura<br>Rugero<br>Rugero  | <null> <null> KG 10 Av KG 10 Av</null></null>  | Storage Storage <null> Storage Storage Storage Storage Storage</null>  | 1000 Rectangular<br>Circular<br>100 <null><br/>27 Other<br/>200 Circular<br/>50 Circular</null>   | Semi-ground Semiground Ground Elevated Ground Semiground   
   | Concrete<br>Concrete   | <null></null>  | 11 <null><br/>9 <null></null></null>  
   | <null> Ac <null> Ac <null> Ac &lt;0 4 Ac &lt;0 5 Ac</null></null></null>  
  | ive         Top           ive         Top           ive <nu< td="">           ive         Top           ive         Top           ive         Top</nu<>  | > <             | Null>   | <null></null>  | <null> 100 <null> <null> <null> 110 <null> 200 <null></null></null></null></null></null></null>   | -1.963636 30.023316<br>-1.955524 30.04748<br>-2.038763 30.01743<br>-1.931302 30.113372   
   | 1,562 <null> 1,523 <null> 1,532 <null> 2,1496 <null> 1,496 <null></null></null></null></null></null>   |                         |
| O 100<br>O 14<br>O 14<br>O 70<br>O 66  | 6 Katabaro<br>6 Kavumu<br>1 Kibagabaga<br>0 Kibagabaga<br>Mwendo-Rwesero<br>0 Kigarama<br>9 Kigarama   | Rusororo<br>Rusororo   | 110301RE1<br>KIM&GITP11RE200<br>110502RE2<br>KIMQ4RE1<br>KIMQ4RE2<br>NYAMIRE1<br>RUSM7RE5<br>RUSM7RE4   | Nyarugenge Nyarugenge Nyamirambo Remera Remera Nyamirambo Kanombe Kanombe   
  | Kigali City  | Nyarugenge<br>Nyarugenge<br>Nyarugenge<br>Gasabo<br>Gasabo<br>Nyarugenge<br>Gasabo<br>Gasabo  | Kigali Kimisagara Mageregere Kimironko Kimironko Kigali Rusororo Rusororo  | Nyabugogo Katabaro Kavumu Kibagabaga Kibagabaga Ruriba Nyagahinga Nyagahinga   
   | Karama<br>Inganzo<br>Mubura<br>Rugero<br>Rugero<br>Kigarama<br>Kigarama  | <null> <null> <null> KG 10 Av KG 10 Av <null> <null></null></null></null></null></null>  | Storage Storage <null> Storage Storage Storage Storage Storage Storage Storage Storage</null>  | 1000 Rectangular Circular 100 <null> 27 Other 200 Circular 50 Circular 250 Rectangular 250 Rectangular</null>   | Semi-ground Semiground Ground Elevated Ground Semiground Elevated Elevated Elevated  
   | Concrete Concrete <null> Steel Concrete</null>   | <null> <null> <null> <null> <null> <null> <null> <null></null></null></null></null></null></null></null></null>  | 11 <null> 9 <null> will&gt; 3 14 6 <null> 0</null></null></null>  
   | <null> Ac <null> Ac <null> Ac 6 3 Ac 0 4 Ac 3 Ac 0 3 Ac 0 3 Ac 0 3 Ac</null></null></null>  
  | ive Top ive Top ive SNu ive Top  | > <             | Null>   | <null></null>  | CNUI ><br>  100   CNUI ><br>  CNUI ><br>  110   CNUI ><br>  200   CNUI ><br>  90   CNUI ><br>  200   CNUI >  
  | -1.963636 30.023316<br>-1.955524 30.04748<br>-2.038763 30.01743<br>-1.931302 30.11337<br>-1.931619 30.11246<br>-1.983639 30.02417<br>-1.977384 20.19917  | 1,562 <null> 1,562 <null> 1,523 <null> 1,532 <null> 1,496 <null> 1,496 <null> 1,496 <null> 1,496 <null> 1,414 <null> 1,414 <null></null></null></null></null></null></null></null></null></null></null>  |                         |
| O 100<br>O 14<br>O 144<br>O 7.<br>O 66<br>O 66<br>O 66   | 6 Katabaro<br>6 Kavumu<br>1 Kibagabaga<br>0 Kibagabaga<br>Mwendo-Rwesero<br>0 Kigarama<br>9 Kigarama<br>8 Kigarama<br>7 Kigarama   | Rusororo   | 110301RE1<br>KIM&GITP11RE200<br>110502RE2<br>KIMQ4RE1<br>KIMQ4RE2<br>NYAMIRE1<br>RUSM7RE5<br>RUSM7RE4<br>RUSM7RE2<br>RUSM7RE3<br>KIM&GITO11RE204<br>KIM&GITO11RE204   | Nyarugenge Nyarugenge Nyarugenge Nyamirambo Remera Remera Nyamirambo Kanombe Kanombe Kanombe Kanombe Kanombe Kanombe Hanombe Nyarugenge   
  | Kigali City  | Nyarugenge<br>Nyarugenge<br>Ogasabo<br>Gasabo<br>Nyarugenge<br>Gasabo<br>Gasabo<br>Gasabo<br>Gasabo<br>Nyarugenge   | Kigali Kimisagara Mageregere Kimironko Kimironko Kigali Rusororo Rusororo Rusororo Rusororo Kusororo Kusororo Kusororo Kimisagara  | Nyabugogo<br>Katabaro<br>Kavumu<br>Kibagabaga<br>Kibagabaga<br>Ruriba<br>Nyagahinga<br>Nyagahinga<br>Nyagahinga<br>Nyagahinga<br>Kimisagara  
   | Karama Inganzo Mubura Rugero Rugero Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama  | <null> <null> KG 10 Av KG 10 Av <null> <null> <null> <null> <null> <null> <null> <null> <null></null></null></null></null></null></null></null></null></null></null></null>  | Storage   Shull> Storage   Shull> Storage  | 1000 Rectangular Circular  Circular  200 Circular  50 Circular  50 Circular  250 Rectangular  250 Rectangular  250 Rectangular  260 Rectangular  260 Rectangular  | Semi-ground Semiground Ground Elevated Ground Semiground Elevated Elevated Elevated Elevated Elevated Elevated Semiground  
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  | Null> Ac <null> Ac <null> Ac 6 3 Ac 0 4 Ac 3 Ac 0 3 Ac 0 3 Ac 0 3 Ac 0 3 Ac 4 Ac</null></null>   
  | ive Top  | > <             | Null> 3 Null> 3 Null> 3 3 3 Null> 3 3 5 6 6 7 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8   | Null    | CNull>   C  | -1.963636 30.02331<br>1.955624 30.04748<br>2-0.038763 30.01743<br>-1.931302 30.11337<br>-1.931302 30.11337<br>-1.97384 30.19917<br>-1.977384 30.19917<br>-1.977397 30.19933<br>-1.977496 30.19933<br>-1.977496 30.19933<br>-1.944514 30.04600  | 1,562   CNull  |                         |
| O 10<br>O 14<br>O 14<br>O 77<br>O 66<br>O 6<br>O 6<br>O 122<br>122   | 6 Katabaro<br>6 Kavumu<br>1 Kibagabaga<br>0 Kibagabaga<br>Mwendo-Rwesero<br>0 Kigarama<br>9 Kigarama<br>8 Kigarama<br>7 Kigarama<br>4 Kimisagara<br>7 Kimisagara   | Rusororo<br>Rusororo<br>Rusororo<br>Rusororo   | 110301RE1<br>KIMAGITP11RE200<br>110502RE2<br>KIMO4RE1<br>KIMO4RE2<br>NYAMIRE1<br>RUSM7RE5<br>RUSM7RE4<br>RUSM7RE3<br>KIMAGITO11RE204<br>KIMAGITO11RE204<br>KIMAGITO11RE204<br>KIMAGITO11RE204<br>KIMAGITO11RE204  | Nyarugenge Nyarugenge Nyarugenge Nyamirambo Remera Remera Nyamirambo Kanombe Kanombe Kanombe Kanombe Anyarugenge Nyarugenge Nyarugenge  
  | Kigali City<br>Kigali City  | Nyarugenge<br>Nyarugenge<br>Gasabo<br>Gasabo<br>Nyarugenge<br>Gasabo<br>Gasabo<br>Gasabo<br>Gasabo<br>Nyarugenge<br>Nyarugenge<br>Nyarugenge  | Kigali Kimisagara Mageregere Kimironko Kimironko Kigali Rusororo Rusororo Rusororo Kimisagara Kimisagara Kimisagara  | Nyabugogo<br>Katabaro<br>Kavumu<br>Kibagabaga<br>Kibagabaga<br>Ruriba<br>Nyagahinga<br>Nyagahinga<br>Nyagahinga<br>Kimisagara<br>Kimisagara   
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| O 10<br>O 14<br>O 14<br>O 77<br>O 66<br>O 6<br>O 12<br>12<br>12<br>12<br>12<br>12<br>12<br>0 2   | 6 Katabaro 6 Kavumu 1 Kibagabaga 0 Kibagabaga Mwendo-Rwesero Kigarama 9 Kigarama 9 Kigarama 6 Kigarama 4 Kimisagara 7 Kimisagara 5 Kimisagara 6 Kimisagara 1 Kimisagara 1 Kimisagara   | Rusororo<br>Rusororo<br>Rusororo<br>Rusororo   | 110301RE1 KIMAGITP11RE200 110502RE2 KIMO4RE1 KIMO4RE1 KIMO4RE1 RUSM7RE5 RUSM7RE4 RUSM7RE4 RUSM7RE2 RUSM7RE2 RUSM7RE4 KIMAGITO11RE204 KIMAGITO11RE204 KIMAGITO11RE204  | Nyarugenge Nyarugenge Nyarugenge Nyamirambo Remera Remera Nyamirambo Kanombe Kanombe Kanombe Kanombe Anyarugenge Nyarugenge Nyarugenge  
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  | Null   Ac  
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O 10 O 14 O 14 O 14 O 77 O 66 O 67 O 67 O 68 O 68 O 68 O 68 O 68 O 68 O 78 O 79 O 88 O 89 O 133 O 133 O 133 O 110 O 88 O 89 O 133 O 140 O 88 O 150 O 1	6 Katabaro 6 Karumu 1 Kibagabaga 1 Kibagabaga Mwendo-Rwesero 0 Kigarama 8 Kigarama 8 Kigarama 9 Kigarama 1 Kibagara 1 Kibagara 1 Kibagara 1 Kimisagara 1 Kimisagara 6 Kinyambi 6 Kinyambi 8 Kimisagara 1 Kimisagara 1 Kimisagara 6 Kinyambi 8 Kimisagara 1 Kimisagara 8 Kimisagara 1 Kimisagara 1 Kimisagara 8 Kimisagara 8 Kimisagara 9 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 1 Kizanyambi 1 Kizanyambi 8 Kimisagara 8 Kimisagara 1 Kizanyambi 9 Kimisagara 8 Kimisagara 8 Kimisagara 9 Kimisagara 1 Kizanyambi 1 Kizanyambi 9 Kimisagara 8 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 9 Masoro fisanyambi 9 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro fisa Contabuturo 4 Mburabuturo 9 Mont Kigali 9 Mont Kigali 9 Mont Kigali 1 Mumena 8 Munt Kigali haut 1 Mumambi 1 Kigali haut 1 Mumambi 2 Niyarumama 3 Nyarurama 4 Nyakabanda (Golf Make) 8 Nyarumama 5 Nyarurama 6 Nyarurama 7 Nyarutarama 8 Nyarurama 8 Nyarurama 8 Nyarurama 8 Nzove New	Rusororo Rujugiro  Amarembo  Haut P.S.  Rwampara P.S.  MTN Antena  Rugendabari Rugendabari Mont Kigali Bas —No.74 —No.84	1110301RE1  KIMAGITP11RE200  110502RE2  110502RE2  KIMAGARE1  KIMAGARE1  KIMAGARE1  KIMAGARE1  KIMAGARE1  KIMAGARE1  KIMAGARE1  RUSM/FRE5  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  RUSM/FRE4  KIMAGITO11RE200  XYARRE7  BUOSRE1  NYDARE1  KIMAGITO11RE20  KIMAGITO11RE20  KIMAGITO11RE20  KIMAGITO11RE20  KIMAGITO11RE20  KIMAGITO11RE20  KIMAGITO11RE2  KIGW14RE2  KIGW14RE2  KIGW14RE2  KIGW14RE2  KIGW14RE1  KIMAGITO11RE1  KIMAGITO	Nyarugenge Nyarugenge Nyamirambo Remera Nyarugenge Nyarugenge Nyarugenge Remera Nyamirambo Remera Nyarugenge Nyarugenge Nyarugenge Remombe Remera Nyarugenge	Kigali City	Nyarugenge Nyarugenge Nyarugenge (Sasabo Gasabo Gasabo Gasabo Gasabo Gasabo Gasabo Gasabo Myarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Kicukiro Gasabo Gasabo Gasabo Gasabo Myarugenge Nyarugenge	Kigali Kimisagara Mageregere Kimironko Kimironko Kimironko Kimironko Kimironko Kigali Rusororo Rusororo Rusororo Rusororo Rusororo Kingali Rusororo Kimisagara Rugara Rugara Rugara Rugara Rugara Rugara Nayarirambo Gatenga Gikondo Nyarugenge Nyarugenge Rusororo Huyumbu Bumbogo Bumbogo Bumbogo Bumbogo Bumbogo Bumbogo Rugali Kigali	Nyabugopo Katabaro Katabaro Kavumu Kibagabaga Kibagabaga Kibagabaga Kibagabaga Ruriba Nyagahinga Nyagahinga Nyagahinga Kimisagara Kagunga Biryogo Biryogo Biryogo Biryogo Biryogo Biryogo Biryogo Biryogo Kavumu Nyagahinga Kinyaga Kinyania Kinyania Mumanira Mumanira II Mumanira II Mumanira II Mumanira Kankuba Nyarurama Kabeza	Karama inganzo Mubura Rugero Mubura Rugero Rugero Rugero Rugero Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kimisagara Kimis	Chail   Chai	Storage   Stor	1000 Rectangular	Semi-ground Ground Ground Elevated Ground Elevated Ground Elevated Elevated Elevated Elevated Elevated Elevated Elevated Semiground Semiground Semiground Semiground Semiground Semiground Ground	Concrete Concrete Concrete Concrete Steel Steel Steel Steel Steel Steel Steel Steel Concrete	Chulin   C	11   < Null>	Null   Acc	Tops	om	Null>   Null>	SAUII   SAUI	CAUID-   C	-1.986363 30.02331 -1.985524 30.04748 -1.985525 30.04748 -1.981619 30.11367 -1.931619 30.11367 -1.931619 30.11367 -1.97363 30.02417 -1.977364 30.1903 -1.977364 30.1903 -1.977483 30.1903 -1.977483 30.1903 -1.944502 30.04651 -1.944502 30.04651 -1.944503 30.04652 -1.944503 30.04652 -1.944503 30.04652 -1.944503 30.04652 -1.944503 30.04652 -1.944503 30.04652 -1.944503 30.04652 -1.945663 30.04652 -1.945663 30.04652 -1.956691 30.0654 -1.956691 30.05901 -1.976691 30.05901 -1.976691 30.05901 -1.97691 30.05901 -1.976901 30.05	1,562   Null>   1,532   Null>   1,532   Null>   1,532   Null>   1,532   Null>   1,463   Null>   1,464   Null>   1,463   Null>   1,464   Null>   1,464   Null>   1,464   Null>   1,465   Null>   1,465   Null>   1,665   Null>   1,665   Null>   1,665   Null>   1,665   Null>   1,665   Null>   1,666   Null>   1,668   Null>   1,668   Null>   1,668   Null>   1,668   Null>   1,669   Null>   1,669   Null>   1,669   Null>   1,669   Null>   1,669   Null>   1,660   Null	and it have octagon f*
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O 10 O 14 O 14 O 14 O 77 O 66	6 Katabaro 6 Karumu 1 Kibagabaga 1 Kibagabaga Mwendo-Rwesero 0 Kigarama 8 Kigarama 8 Kigarama 9 Kigarama 1 Kibagara 1 Kibagara 1 Kibagara 1 Kimisagara 1 Kimisagara 6 Kinyambi 6 Kinyambi 8 Kimisagara 1 Kimisagara 1 Kimisagara 6 Kinyambi 8 Kimisagara 1 Kimisagara 8 Kimisagara 1 Kimisagara 1 Kimisagara 8 Kimisagara 8 Kimisagara 9 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 1 Kizanyambi 1 Kizanyambi 8 Kimisagara 8 Kimisagara 1 Kizanyambi 9 Kimisagara 8 Kimisagara 8 Kimisagara 9 Kimisagara 1 Kizanyambi 1 Kizanyambi 9 Kimisagara 8 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 9 Kimisagara 1 Kizanyambi 9 Masoro fisanyambi 9 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro fisa Contabuturo 4 Mburabuturo 9 Mont Kigali 9 Mont Kigali 9 Mont Kigali 1 Mumena 8 Munt Kigali haut 1 Mumambi 1 Kigali haut 1 Mumambi 2 Niyarumama 3 Nyarurama 4 Nyakabanda (Golf Make) 8 Nyarumama 5 Nyarurama 6 Nyarurama 7 Nyarutarama 8 Nyarurama 8 Nyarurama 8 Nyarurama 8 Nzove New	Rusororo Rusorororo Rusororo Rusorororo Rusororo Rus	110301RE1  KIMAGITP11RE200  110502RE2  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  RUSM/RE5  RUSM/RE5  RUSM/RE5  RUSM/RE6  RUSM/RE6  RUSM/RE2  RUSM/RE2  RUSM/RE2  RUSM/RE2  RUSM/RE2  RUSM/RE2  RUSM/RE2  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE201  KIMAGITO11RE2  KIMAGITO11RE2  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  KIMAGITO11RE1  RUSM/RE1  MUYLIORE1  MUYLIORE1  MUYLIORE1  MUYLIORE1  NDERGRE2  BUO7RE1  NOERGRE2  BUO7RE1  NOERGRE2  BUO7RE1  NOERKSRE1  NOERKSRE1  NOERKSRE1  NOERKSRE1  RUSMASSRE1  RUNDDSRE1  NOERKSRE1  NOERKSRE1  NOERKSRE1  NOERKSRE1  NOERKSRE1  KACZ2CIRE01  110502RE1  RUNDOSRE1  RUNDOSRE1  NOERKSRE1  KACZ2CIRE01  110502RE1  RUNDOSRE1  RUNDOSRE1  RUNDOSRE1  RUNDOSRE1  RUNDOSRE1  RUNDOSRE1  RUNDOSRE1  KACZCIRE01  110502RE1  KANAVIRE3  KANN/RE3  KANN/RE3  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1	Nyarugenge Nyarugenge Nyamirambo Remera Nyamirambo Remera Nyarugenge Nyarugenge Nyarugenge Remera Nyamirambo Nyarugenge Remera R	Kigali City	Nyarugenge Nyarugenge (Sasabo Gasabo Nyarugenge (Sasabo Myarugenge (Sasabo Myarugenge (Sasabo Myarugenge (Sasabo Myarugenge Nyarugenge (Sasabo Myarugenge (Sasabo Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge Myarugenge Myarugenge Myarugenge Myarugenge Myarugenge (Sasabo Myarugenge	Kigali Kimisagara Mageregere Kimironko Kimironko Kimironko Kimironko Kigali Rusororo Rusororo Rusororo Rusororo Rusororo Rusororo Kimisagara Rugarika Kimisagara Rugarika Kimisagara Rugarika Kimisagara Rugarika Rimisagara Rugarika Rimisagara Rugarika Gatenga Gikondo Nyarugenge Nyarugenge Rusororo I Muyumbu Bumbogo Bumbogo Bumbogo Bumbogo Bumbogo Bumbogo Bumbogo Rugarika Rugarika Rugarika Gatenga Kigali	Nyabugooc Katabaro Katabaro Katabaro Kavumu Kibagabaga Kibagabaga Kibagabaga Kibagabaga Kibagabaga Ruriba Nyagahinga Nyagahinga Nyagahinga Kimisagara Kiniyaga	Karama inganzo Mubura Rugero Mubura Rugero Rugero Rugero Rugero Rugero Rigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kimisagara Ki	Chail   Chai	Storage   Stor	1000 Rectangular	Semi-ground Semi-ground Ground Ground Elevated Ground Elevated Ground Semi-ground Semi-ground Semi-ground Ground	Concrete	Chulin	11   < Null>	Null   Acc	Top	om	Null>	SAUII   SAUI	CAUID-   C	-1.983636 30.023131 -1.98562 30.04788 -1.98562 30.04788 -1.98363 30.04784 -1.98363 30.04784 -1.987363 30.19917 -1.977387 30.19833 -1.977496 30.19917 -1.977496 30.19913 -1.977496 30.19917 -1.977496 30.19933 -1.944510 30.04670 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.944502 30.04679 -1.94502 30.04679 -1.94502 30.04679 -1.94502 30.04679 -1.956691 30.06991 -1.97502 30.05991 -1.966691 30.05991 -1.97502 30.05991 -1.96691 30.05991 -1.96791 30.05901 -1.96791 3	1,562	and it have octagon f*
O 100 O 144 O 144 O 66 O 66 O 166 O 166 O 166 O 166 O 166 O 167 O	6 Katabaro 6 Karumu 1 Kibagabaga 1 Kibagabaga Mwendo-Rwesero 0 Kigarama 9 Kigarama 9 Kigarama 9 Kigarama 1 Kibagara 1 Kibaisagara 1 Kimisagara 1 Kimisagara 6 Kimisagara 6 Kimisagara 1 Kimisagara 1 Kimisagara 1 Kimisagara 8 Kimyamb 1 Kimisagara 1 Kimisagara 8 Kimyamb 1 Kimisagara 9 Kimyamb 1 Kimisagara 1 Kimisagara 1 Kimisagara 8 Kimyamb 1 Kimyama 1 Kimyama 1 Kimyama 2 Kimyamb 1 Kimyama 1 Mason des jeune kabuga 1 Masoro bas 2 Kimyamama 1 Masoro bas 3 Masoro bas 3 Masoro bas 3 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro bas 9 Masoro bas 1 Masoro ba	Rusororo Rus	1110301RE1  KIMAGITP11RE200  110502RE2  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  KIMAGIRE1  RUSM/RE5  RUSM/RE5  RUSM/RE6  RUSM/RE6  RUSM/RE6  RUSM/RE7  KIMAGITO11RE204  KIMAGITO11RE204  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE202  KIMAGITO11RE1  RUSMARE1  NDERRE1  NDERRE1  NDERRE1  NDERRE1  NOERRE1  KACZCZCIRE01  110502RE1  NOACZECTRE01  110502RE1  NOACZECTRE01  KANN/RE3  KANN/RE3  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KANN/RE1  KIMAGITO11RE3	Nyarugenge Nyarugenge Nyamirambo Kanombe Kanombe Kanombe Kanombe Kanombe Kanombe Kanombe Kanombe Kanombe Inyarugenge Nyarugenge	Kigali City	Nyarugenge Nyarugenge Nyarugenge Gasabo Gasabo Gasabo Gasabo Nyarugenge Gasabo Nyarugenge Gasabo Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Nyarugenge Kamonyi Gasabo Myarugenge Kamonyi Gasabo Myarugenge Nyarugenge	Kigali Kimisagara Mageregere Kimironko Kimironko Kimironko Kimironko Kigali Rusororo Rusororo Rusororo Rusororo Rusororo Kingali Kimisagara Ruganka Kinyinya Kinyinya Kigali	Nyabugooc Katabaro Katabaro Katabaro Kavumu Kibagabaga Kibagabaga Kibagabaga Kibagabaga Kibagabaga Ruriba Nyagahinga Nyagahinga Nyagahinga Kimisagara Kigali Kigal	Karama inganzo Mubura Rugero Mubura Rugero Rugero Rugero Rugero Rugero Rugero Rigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kigarama Kimisagara Kareha Kayenzi Akakaza Akakaza Akakaza Akakaza Akakaza Kimisaga Kimisagara Kimisa	Chail   Chai	Storage   Stor	1000 Rectangular	Semi-ground Ground Elevated Ground Elevated Ground Elevated Ground Semi-ground Semi-ground Semi-ground Ground Elevated Elevated Elevated Elevated Elevated	Concrete Concrete Steel Concrete Steel Concrete Steel Steel Steel Steel Steel Steel Steel Concrete Steel Steel Steel	Chail   Chai	11   < Null>	Null   Acc	Top	om	Null>	SNUII   SNUI	CAUID-   C	-1.9863636 30.02331 -1.985524 30.04748 -1.985525 30.04748 -1.985625 30.04743 -1.981619 30.11246 -1.983639 30.02417 -1.977384 30.19917 -1.977384 30.19917 -1.977384 30.19917 -1.977384 30.19917 -1.977483 30.1992 -1.944502 30.046514 -1.944502 30.046514 -1.944502 30.046514 -1.944503 30.046514 -1.944503 30.046514 -1.944503 30.046514 -1.944503 30.046514 -1.944503 30.046514 -1.944503 30.046514 -1.94503 30.046514 -1.94503 30.046514 -1.94503 30.046514 -1.956691 30.05901 -1.976691 30.05901 -1.976691 30.05901 -1.97691 30.05901 -1.97692 30.05901 -1.97692 30.05901 -1.97693 30.05901 -1.97693 30.05901 -1.97693 30.05901 -1.940217 30.05901 -1.940217 30.05901 -1.940217 30.05901 -1.940217 30.00503 -1.940217 30.00503 -1.940217 30.00503 -1.940217 30.00503 -1.940217 30.00503 -1.940217 30.00503 -1.940217 30.00503 -1.940219 3	1,562   Null>   1,523   Null>   1,524   Null>   1,524   Null>   1,464   Null>   1,464   Null>   1,463   Null>   1,464   Null>   1,464   Null>   1,465   Null>   1,465   Null>   1,465   Null>   1,465   Null>   1,465   Null>   1,665   Null>   1,665   Null>   1,665   Null>   1,666   Null>   1,667   Null>   1,667   Null>   1,668   Null>   1,666   Null>   1,666   Null>   1,666   Null>   1,666   Null>   1,666   Null>   1,666   Null>   1,667   Null	and it have octagon f*

#### Reservoir List in Kigali City

	50 Rebero carrier		KIGX12RE3		Kigali City	Kicukiro	Kigarama	Bwerankori	Nyenyeri	KK 31 Av	Storage	50 Circular	Semiground	Stones	<null></null>	5	0	2 Active	Top		1 No <null></null>		30.06905 1,630 <null></null>
0	24 Rebero kuri Radari	Radar Steel tank 1	GATZ12RE1	Gikondo	Kigali City	Kicukiro	Kigarama	Bwerankori	Nyenyeri	<null></null>	Storage	250 Other	Elevated	Concrete	<null></null>	0	2	3 Active	Тор	<null></null>	No		30.064356 1,809 <null></null>
0 1	112 Remera		RET4RE1	Remera	Kigali City	Gasabo	Remera	Rukiri li	Amahoro	<null></null>	Storage	400 Circular	Ground	Steel	<null></null>	12	0	4 Active	Тор		4 No	160 <null> -1.954136</null>	30.115313 1,520 <null></null>
1	114 Rubona	Rubona (Runda)	RUNDO4RE1	Nyarugenge	Southern	Kamonyi	Runda	Muganza	Rubona	<null></null>	Storage	50 Circular	Ground	Stones	<null></null>	8	1	3 Active	Top		2 Yes	90 <null> -1.951292</null>	
0	44 Rubona	Rugarama	NYE4RE1	Nyamirambo	Kigali City	Nyarugenge	Nyamirambo	Rugarama	Rubona	KN 260 St	Storage	100 Rectangular	Semiground	Stones	<null></null>	6	0	3 Active	Тор		2 No <null></null>	<null> -1.992128</null>	30.039239 1,623 <null></null>
0	72 Rugari	Rugari_Regie	KANM3RE1					Nonko	Rugali	KK 180 St	Kiosk reservoir	5 Circular	Ground	Stones	<null></null>	3	0	2 Active	Тор		1 No	1 <null> -1.976475</null>	30.151369 1,480 <null></null>
0	19 Rugendabari		110501RE4	Nyamirambo	Kigali City	Nyarugenge	Mageregere	Kankuba	Rugendabari	<null></null>	Storage	100 Circular	Ground	Concrete	<null></null>	<null></null>	<null></null>	<null> Active</null>	Тор	<null></null>	Yes <null></null>	<null> -2.026638</null>	30.032799 1,459 <null></null>
0	15 Rusheshe		MASS6RE1	Kanombe	Kigali City	Kicukiro	Masaka	Rusheshe	Mubano	<null></null>	Kiosk reservoir	10 Circular	Ground	Concrete	<null></null>	4	0	2 Active	Тор		1 No	32 <null> -2.032717</null>	30.192884 1,404 <null></null>
0 1	103 Ruyenzi	→No.117	RUNDP6RE2	Nyarugenge	Southern	Kamonyi	Runda	Ruyenzi	Nyabitare	<null></null>	Storage	50 Circular	Ground	Stones	<null></null>	4	0	3 Active	Тор		2 No	75 <null> -1.955911</null>	29.984895 1,576 <null></null>
0	97 Ruyenzi	Ruyenzi 1	RUNDP6RE1	Nyarugenge	Southern	Kamonyi	Runda	Ruyenzi	Nyagacaca	<null></null>	Storage	400 Circular	Semiground	Concrete	<null></null>	13	0	4 Active	Тор		3 No	250 <null> -1.960488</null>	29.985652 1,508 <null></null>
	36 Rwandatel	Nyanza Down Hill	GATY14RE1		Kigali City		Kagarama	Rukatsa	Nyanza	<null></null>	Storage	75 Circular	Ground	Stones	<null></null>	10	2	2 Active	Тор		2 Yes	100 <null> -1.998404</null>	30.099477 1,650 <null></null>
0 1	175 Rwankuba		121002RE1	Remera	Kigali City	Gasabo	Kinyinya	Gasharu	Rwankuba	<null></null>	Storage	250 Circular	Ground	Concrete	2019	Null>	<null></null>	3 Active	Bottom	<null></null>	Yes	160 <null> -1.892765</null>	30.103381 1,473 <null></null>
0	74 Rwezamenyo	Golf4-Nyakabanda P.S.	RWC5RE3	Nyamirambo				Kabuguru li	Mutara	KN 190 St	Storage	600 Octagonal prism	Ground	Concrete	<null></null>	10	0	6 Active	Тор		6 No		30.048528 1,573 <null></null>
0	82 Rwezamenyo	→No.74	RWC5RE1	Nyamirambo	Kigali City	Nyarugenge	Rwezamenyo	Rwezamenyo I	Abatarushwa	KN 173 St	Kiosk reservoir	10 Circular	Ground	Steel	<null></null>	2	0	3 Active	Тор		3 No	0 <null> -1.971238</null>	30.053939 1,519 Plastic material
0	75 Rwezamenyo	Golf4-Nyakabanda	RWC5RE2	Nyamirambo	Kigali City	Nyarugenge	Rwezamenyo	Kabuguru li	Mutara	KN 190 St	Storage	600 Octagonal prism	Ground	Concrete	<null></null>	10	0	6 Active	Top		6 No	200 <null> -1.975459</null>	30.048499 1,572 <null></null>
0	99 Rwinyange	Rwinyange	NYARUK2RE2				Nyarugunga	Rwimbogo	Rwinyange	KK 111 St	Kiosk reservoir	10 Circular	Ground	Stones	<null></null>	4	1	2 Active	Тор		2 Yes	40 <null> -1.959012</null>	30.140309 1,456 <null></null>
Ō	90 Ryabaheshawa		MUYL11RE1			Rwamagana		Akinyambo	Ryabaheshwa	<null></null>	Storage	400 Circular	Ground	Concrete	<null></null>	12	0	7 Active	Тор		6 Yes	200 <null> -1.967497</null>	30.25747 1,608 <null></null>
0	45 Sheli		RUGAT3RE1		Southern		Rugarika	Sheli	Gatovu	<null></null>	Unbalanced reservoir	10 Circular	Ground	Concrete	<null></null>	3	<null></null>	3 Active	Top		2 Yes	90 <null> -1.991988</null>	29.948406 1,559 <null></null>
Ō	54 Sheli		RUGAS3RE1	Nyarugenge	Southern	Kamonyi	Rugarika	Sheli	Gatovu	<null></null>	Storage	2 Rectangular	Ground	Concrete	<null></null>	<null></null>	<null></null>	2 Active	Top	<null></null>	Yes	63 <null> -1.98708</null>	29.950716 1,468 <null></null>
Ö	47 Umudugudu wa bwiza	Muyange	NIBX15RE3		Kigali City		Kagarama	Kanserege	Bwiza	KK 397 St	Kiosk reservoir	10 Circular	Ground	<null></null>	<null></null>	2	<null></null>	2 Active	Top		2 No <null></null>	<null> -1.991049</null>	30.113287 1,469 Tank not reservoir
	148 UTEXRWA	Vision 2020	KACZ4E3RE01		Kigali City		Kinyinya	Gacuriro	Estate 2020	KG 403 St	Storage	150 Rectangular	Ground	<null></null>	<null></null>	<null></null>	0	6 Active	Тор	<null></null>	No <null></null>	<null> -1.928194</null>	30.078609 1,385 This Reservoire is useless
1	184 Yanze		NYARRE3	Nyarugenge			Kanyinya	Nyamweru	Gatare	<null></null>	Storage	750 Rectangular	Semiground	Concrete	<null></null>	8	3	8 Active	Bottom		1 No	600 <null> -1.919047</null>	30.022198 1,457 <null></null>
1	183 Yanze		NYARRE4	Nyarugenge				Nyamweru	Gatare	<null></null>	Storage	750 Rectangular	Semiground	Concrete	<null></null>	<null></null>	0	8 Active	Bottom		2 No	600 <null> -1.919123</null>	30.022227 1,457 <null></null>
1	182 Yanze		NYARRE5	Nyarugenge				Nvamweru	Gatare	<null></null>	Storage	750 Rectangular	Semiground	Concrete	<null></null>	<null></null>	3	8 Active	Bottom		2 No	600 <null> -1.919224</null>	30.022266 1.457 <null></null>
	I81 Yanze		NYARRE6	Nyarugenge				Nyamweru	Gatare	<null></null>	Storage	750 Rectangular	Semiground	Concrete	<null></null>	8	3	8 Active	Bottom		2 No	600 <null> -1.919317</null>	
	58 Kigali		NYAMIRE1	Nyamirambo				Ruriba	Tubungo	<null></null>	Unbalanced reservoir	50 Circular	Semiground	Concrete	<null></null>	6	0	3 Active	<null></null>	<null></null>	No <null></null>	<null> -1.983639</null>	30.024173 1,595 The reservoir construction works still operating
0	18 Akarambi		110503RE5				Mageragere	Mwendo	Karambi	<null></null>	<null></null>	10 Circular	Ground	Stones	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.028582</null>	30.069631 1,532 <null></null>
0	9 Burema		110503RE3	Nyamirambo				Mataba	Burema	<null></null>	<null></null>	50 Circular	Ground	Stones	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>		30.070455 1,483 <null></null>
Ō	93 Karama Primary	Karama PS	110301RE5	Nyamirambo				Kigali	Ryasharangabo	<null></null>	Break pressure	100 Circular	Ground	Concrete	<null></null>	<null></null>	<null></null>	<null> Active</null>	Top	<null></null>	Yes	160 <null> -1.965752</null>	30.028787 1,643 <null></null>
0	14 Karembure		130103RE1			Kicukiro		Karembure	Kabeza	<null></null>	<null></null>	25 Circular	Ground	Stones	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.034666</null>	30.080365 1,432 <null></null>
0	2 Kwamuganga		110506RE2	Nyamirambo				Nyarurenzi	Iterambere	<null></null>	<null></null>	10 Circular	Ground	<null></null>	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.05023</null>	30.052245 1,382 <null></null>
0	8 Mata	Mataba	110503RE4	Nyamirambo				Mataba	Kabeza	<null></null>	<null></null>	100 Circular	Ground	Stones	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.038035</null>	30.078906 1,377 <null></null>
0 1	185 Mbandazi		<null></null>	Kanombe	Kigali City	Gasabo	Rusororo	Mbandazi	Samuduha		Storage	250 Circular	Ground	Concrete	2019	9		1 Active	Тор			Yes -1.926178	-1.926178 1,465
0	3 Nyarurenzi	Nyarurenzi(Amahoro Village)	110506RE1	Nyamirambo				Nyarurenzi	Nyarurenzi	<null></null>	<null></null>	100 Circular	Ground	<null></null>	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.045755</null>	30.053377 1,454 <null></null>
	130 Nzove		110202RE3			Nyarugenge		Nzove	Ruyenzi	<null></null>	Storage	1000 Rectangular	Semi-ground	Concrete	<null></null>			<null> Active</null>	Тор	<null></null>	<null> <null></null></null>		30.001452 1,366 <null></null>
1	132 Nzove I		110202RE4	Nyarugenge	Kigali City	Nyarugenge	Kanyinya	Nzove	Ruyenzi	<null></null>	Storage	1000 Rectangular	Ground	Concrete	<null></null>	18	<null></null>	<null> Active</null>	Top	<null></null>	No <null></null>	<null> -1.941967</null>	30.0014 1,370 <null></null>
0	13 Rushyubi	→No.9	110503RE2			Nyarugenge		Mataba	Burema	<null></null>	Storage	50 Circular	Ground	<null></null>	<null></null>	<null></null>	<null></null>	<null> Active</null>	<null></null>	<null></null>	<null> <null></null></null>	<null> -2.036055</null>	30.06764 1,505 <null></null>
0 1	133 Skol		110202RE5	Nyarugenge	Kigali City	Nyarugenge	Kanyinya	Nzove	Ruyenzi	<null></null>	Storage	100 Parallelepiped	Semi-ground	Concrete	<null></null>	<null></null>	<null></null>	<null> Active</null>	Bottom	<null></null>	No		30.002562 1,387 <null></null>
0	16 Tete	→No.9	110503RE1	Nyamirambo	Kigali City	Nyarugenge	Mageregere	Mataba	Burema	<null></null>	Storage	150 Circular	Ground	Stones	<null></null>	<null></null>	<null></null>	<null> Active</null>	Тор	<null></null>	Yes <null></null>	<null> -2.031215</null>	30.063887 1,584 <null></null>
	143 Vision City		<null></null>		Kigali City		Kinyinya	Gacuriro	Estate 2020	<null></null>	<null></null>		Underground	Concrete	<null></null>		<null></null>			<null></null>	<null> <null></null></null>		30.082106 1,402 <null></null>
	144 Vision City		<null></null>	Kacyiru	Kigali City	Gasabo	Kinyinya	Gacuriro	Estate 2020	<null></null>	<null></null>		Underground	Concrete	<null></null>	<null></null>	<null></null>	<null> Inactive</null>	Тор	<null></null>	<null> <null></null></null>		30.082136 1,404 <null></null>
1	152 Vision City I		121001RE1		Kigali City		Kinyinya	Gacuriro	Estate 2020	<null></null>	Storage	210 Parallelepiped	Elevated	steel	<null></null>	<null></null>	<null></null>	<null> Active</null>	Тор	<null></null>	Yes	225 <null> -1.925722</null>	
1	153 Vision City I		121001RE2	Kacyiru	Kigali City	Gasabo	Kinyinya	Gacuriro	Estate 2020	<null></null>	Storage	210 Parallelepiped	Elevated	steel	<null></null>			<null> Active</null>	Top	<null></null>	Yes	225 <null> -1.925632</null>	
1	150 Vision City II		121001RE3		Kigali City		Kinyinya	Gacuriro	Estate 2020	<null></null>	Storage	1400 Parallelepiped	Underground	Concrete	<null></null>	<null></null>	<null></null>	<null> Active</null>	Тор	<null></null>	Yes		30.08768 1,475 <null></null>
1	151 Vision City II		121001RE4	Kacyiru	Kigali City	Gasabo	Kinyinya	Gacuriro	Estate 2020	<null></null>	Storage	1400 Parallelepiped	Underground	Concrete	<null></null>	<null></null>	<null></null>	<null> Active</null>	Top	<null></null>	<null></null>	225 <null> -1.926293</null>	30.087771 1,475 <null></null>
	Karama	→No.98		Nyamirambo							BPT	100 Circular	Ground	Concrete	2019	9		Active					
	Rebero Rujugiro			Gikondo							BPT	12 Circular	Ground	Concrete									
	Rwimbogo	→No.99		Kanombe																			
	Masaka Mbabe - Sangano			Kanombe							Storage	Circular	Ground	Stones									
	Gatovu			Nyamirambo							Storage	200 Circular	Ground	Concrete	2017	7							
	Camp Militaire Hill			Nyamirambo								30 Circular	Ground	Stones									
	Nyarurenzi(Iterambere)			Nyamirambo							Storage	90 Circular	Ground	Stones									
	Camp Militaire Mountain			Nyamirambo							Storage	25 Circular	Ground	Stones									
	Station Kajandi			Nyamirambo							Storage	Circular	Underground	Stones									
	Rugendabari Model Village			Nyamirambo							Storage	100 Circular	Semiground	Concrete		1							
	Miduha			Nyamirambo							Storage	250 Circular	Ground	Concrete	2019	9							
	•	•		. ,	•	•	•												-				

# **Summary of Reservoir Survey**

# Summary of Reservoir Survey

INO	ID Code	Name	Note	Function of	Capacity	y Distribution Method	Operational	Operator	Wall Leakage	Bypass Operation	Water level movement	Overflow	Float Valve DN	Inlet Valve	Issue,Note	Site Survey Day
73	KANM2RE2	Abarezi Samuduha		Reservoir Kiosk Reservoir	25	Gravity	Operational	No operator	Flowing	Nothing	-	-	No installation	Installation	reservoir used by a local	05/06/2020
	KACZ5H3RE01	Amajyambere	Golf 2	Storage	1000	Gravity	Operational	2 shift in a day	Nothing	-	Proper movment	-	No installation	Malfunction	•	03/06/2020
59 60	KANN3RE2 KANN3RE1	Antenna Antenna		Storage Storage	50 50	Gravity Gravity	Abandoned Abandoned	No operator No operator	Nothing Nothing	Nothing Nothina	Always no water Always no water	Nothing Nothing	No installation No installation	Installation Installation		05/06/2020 05/06/2020
49	KANN2RE1	Beninka		Storage	60	Gravity	Operational	No operator	Nothing	Notiling	Proper movment	- INOUILING	No installation	Installation	disconnected from WASAC network but uses WASAC water.	05/06/2020
178	BUL6RE1	Bumbogo Central st Leonard		Storage	400	Gravity	Operational	1 person	Nothing	Sometime	Always low Level	Nothing	No installation	Installation		02/06/2020
34 52	KANO3RE1 NIBX16RE1	Byimana Byimana		Kiosk Reservoir Storage	25 150	Gravity Gravity	Abandoned Operational	No operator 1 person	Nothing Nothing	Nothing Nothing	Always no water Proper movment	Nothing No data	No installation No installation	Installation No installation	Check Valves not working	05/06/2020 28/9/2020
116	NDERJ7RE1	Cvaruzinge		Storage	450	Gravity	Operational	1 person	Nothing	Sometime	Always low Level	-	Installation 150	Installation	Always low Level(during dry season)	04/06/2020
1	MASV7RE1	Cyeru		Storage	6	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	No data	No installation	Installation	Constructed by SOGEA, serves as storage and BPT	
33	MASO7RE1	Cyimo		Storage	60	Gravity	Abandoned	No operator	-	Always	Always no water	-	Malfunction 100	Installation		04/06/2020
29 163	MASP8RE2 KACZ2F2RE01	Cyimo Fawe Girls School	Masaka Up Hill	Storage Storage	15 250	Gravity Gravity	Operational Operational	No operator No operator	Nothing Nothing	Nothing ometimes(for cleaning	Proper movment Proper movment	-	No installation  Malfunction 100	Installation		05/06/2020 03/06/2020
119	NDES7RE1	Free zone		Storage	500	Gravity	Operational	2 shift in a week	Nothing	Sometime	Proper movment	7times/week	Installation 150	Installation	no water level gauge or indicator	01/06/2020
118	NDES7RE2	Free zone	Fire hydrant system	Storage	500	Gravity	Not Operationnal	2 shift in a week	Nothing	Sometime	Proper movment	Nothing	Installation 150	Installation	management of RDB	01/06/2020
85	MUYL11RE2	Gatsata	Muyumbu Gatuza	BPT	6.5	Gravity	Not Operationnal	No operator	Nothing	( in case of fire) Always	Always no water	No data	No installation	Installation	it was bypassed by increasing pressure in the network	
134	RUNDN4RE1	Gibara	iviuyumbu Gatuza	Storage	450		Operational	1 person	Nothing	Nothing	Proper movment	No data	No installation	Installation	it was bypassed by increasing pressure in the network	
165	JALJ10RE1	Gihogwe		Storage	120	Gravity	Abandoned	No operator	Nothing	Always	Always no water	Nothing	No installation	No installation		11/06/2020
167	JALJ10RE3 MASO9RE1	Gihogwe	entre de Sante	Storage	240	Gravity	Operational	2 shift in a day	Nothing	Sometimes	Proper movment	Nothing	No installation	Installation		11/06/2020
39 115	RET4RE3	Gihuke Golf 8	Golf 8 Rwahama	Storage	18 1400	Gravity Pumping	Abandoned Operational	2 shift in a day	Nothing	Sometime	Always low Level	Nothing	No installation Malfunction 250	No installation Installation		02/06/2020
113	RET4RE2	Golf 8	Golf 8 Rwahama	Storage	600	Pumping	Operational	2 shift in a day	Nothing	Sometime	Always low Level	Nothing	No installation	Installation		02/06/2020
98	KIGAP9RE1	Karama		Storage	420	Pumping	Operational	1 person	Nothing	Nothing	Proper movment	No data	No installation	Installation		00/00/000
77 172	KANM2RE1 JABI11RE2	Intwari Jabana		Kiosk Reservoir Storage	70 300	Gravity Gravity	Operational Operational	No operator 1 person	Flowing Nothing	Nothing Always	Proper movment	Nothing Nothing	No installation  Malfunction 80	Installation Installation	it is under management of a local group no water	08/06/2020 11/06/2020
169	JADIT INCZ	Jali	Jali Bas	Storage	200	Gravity	Operational	1 person	Nothing	Nothing	Proper movment	No data	No installation	No installation	110 Water	11/00/2020
177	JALH8RE1	Jali	Camp Militaire 1	Storage	65	Pumping	Operational	No operator	Oozed	Nothing	Proper movment	-	No installation	Installation	repair of support	10/06/2020
179	JALG8RE1	Jali	Camp Militaire 2	Storage	110	Gravity	Operational	1 person	Nothing	Nothing	Always low Level	Nothing	Installation 150	Installation		10/06/2020
171 170	JALJ9RE1 JALJ9RE2	Jali Jali	Jali EP	Storage Kiosk Reservoir	15 5	Pumping Pumping	Operational Abandoned	No operator No operator	Nothing	Nothing Always	Proper movment	Nothing	No installation No installation	Malfunction No installation		10/06/2020 10/06/2020
170	120607RE1	Jali Haut	Pump station	Storage	10	Gravity	Operational	2 shift in a day	- Nothing	Nothing	Proper movment	- No data	No installation  No installation	No installation  No installation	not needed FV, it is a pumping station	10/00/2020
91	RUNDQ3RE1	Kabagesera		BPT	30	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	No data	Installation 50	Installation	, p	
84	KANL1RE2	Kabeza		Kiosk Reservoir	40	Gravity	Operational	1 person	Nothing	Nothing	Always low Level	Nothing	No installation	Installation	sometimes 14 days without water	-
166 137	NYARRE1 120703RE1	Kabizoza Kacyiru Public Library		Storage Storage	300 350	Pumping Gravity	Operational Abandoned	1 person	Nothing Flowing	Nothing Always	Proper movment Always no water	Nothing	No installation Malfunction 80	Installation Malfunction	there is a small leak at the bottom of the reservoir where the drain pipe is connected.	10/06/2020
137	MASS7RE1	Kacyiru Public Library  Kagese	+	Storage Kiosk Reservoir	12	Gravity	Abandoned Abandoned	No operator No operator	Flowing Oozed	Nothing	Always no water Always no water	- No data	Malfunction 80 No installation	Malfunction No installation		03/06/2020
76	NYARUM5RE1	Kamashashi	Sekimondo Village	Storage	250	Gravity	Abandoned	No operator	Nothing	Always	Always no water	Nothing	Malfunction 80	Installation	it was overflowing everyday	05/06/2020
168	NYARRE2	Kamuhoza		Storage	280	Gravity	Operational	1 person	Nothing	Always	Always low Level	Nothing	Installation 100	Installation	no water	10/06/2020
	110501RE1 110501RE2	Kankuba I Kankuba II			1											
20	MASR7RE1	Kanvetabi		Kiosk Reservoir	15	Gravity	Operational	No operator	Flowing	Nothina	Proper movment	No data	No installation	No installation	The reservoir was closed, on the day of our visit.	
88	MUYL12RE2	Kanyinya	Kanyinya II	Storage	6	Gravity	Operational	No operator	Nothing	Nothing	Always low level	No data	Malfunction	Installation	The tank is not covered and not in use	
147	KANM8RE1	Kanyinya		Storage	280	Pumping	Operational	1 person	Nothing	Nothing	Proper movment	Nothing	No installation	Installation	no water	10/06/2020
83 46	MUYL12RE1 KANN4RE1	Kanyinya Karama	Kanyinya I Rukundo Village	BPT Storage	6 20	Gravity Gravity	Operational Abandoned	No operator	Nothing Nothing	Nothing Always	Proper movment Always no water	No data Nothing	No installation No installation	Installation Installation		05/06/2020
6	110502RE2		†	<u> </u>	50	1	i	No operator		-		No data	Installation	Installation	Due to the height of the recovery it averflow before the fleater can close	30/9/2020
Ů		Kavumu	Ayabatanga	Storage	+	Gravity	Operational	No operator	Nothing	Nothing	Proper movment				Due to the height of the reservoir, it overflow before the floater can close	30/9/2020
141	KIMQ4RE1	Kibagabaga		Storage	500	Gravity	Operational	1 person	Nothing	Nothing	Proper movment	No data	Installation	Installation		4.440/2020
140 70	KIMQ4RE2 RUSM7RE5	Kibagabaga		Storage	500 250	Gravity	Operational	1 person	Nothing	Nothing	Proper movment	No data	Installation	Installation	not in upo	14/10/2020
69	RUSM/RE5 RUSM/RE4	Kigarama Kigarama		Storage Storage	250	Gravity Gravity	Not Operationnal Operational	1 person	Nothing Flowing	Nothing Nothing	Always no water Proper movment	Nothing -	No installation No installation	Installation Installation	not in use	04/06/2020 04/06/2020
68	RUSM7RE2	Kigarama		Storage	250	Gravity	Abandoned	1 person	Flowing	Nothing	Proper movment	-	No installation	Installation		04/06/2020
67	RUSM7RE3	Kigarama		Storage	250	Gravity	Not Operationnal		Nothing	Nothing	Always no water	Nothing	No installation	Installation	not in use	04/06/2020
164	BUO5RE1	Kinyinya		Storage	400	Gravity	Operational	2 shift in a day	Nothing		Always low Level	Nothing	Installation 150	Installation		02/06/2020
63 42	NYD4RE1 KIGY11RE1	Kivugiza Kmisange		Kiosk Reservoir Storage	25 30	Gravity Pumping	Operational Operational	No operator 2 shift in a day	Nothing Nothing	- Nothing	Proper movment Proper movment	Nothing Nothing	No installation No installation	Installation Malfunction		28/05/2020 29/05/2020
66	KICW14RE2	kumunyinya	0 157		600	Gravity			Nothing	-	Proper movment	1time/month	No installation	Leaking		29/05/2020
53			Golf 7	Storage	000	Gravity	Operational	2 shift in a day								29/03/2020
	KIGX12RE1	Kuri petit prince	Golf /							Nothing			No installation	Installation	If a floater is installed, an intermediary valve is required, higher pressure when floater	
	KIGX12RE1	Kuri petit prince	Golf /	BPT	120	Gravity	Operational	No operator	Nothing	Nothing	Always low Level	No data	No installation	Installation	If a floater is installed, an intermediary valve is required, higher pressure when floater closes (Vanne d'equilibre est requise)	28/10/2020
/ 81	110502RE3	Mageragera RCS	GOIT /	BPT Storage	120 180	Gravity Gravity	Operational Operational	No operator 2 shift in a day	Nothing Nothing	Nothing			No installation	Installation	closes (Vanne d'equilibre est requise)	28/10/2020
81 87		• •	Amarembo(Muyumbu)	BPT	120	Gravity	Operational	No operator	Nothing	ű	Always low Level	No data		Installation		
87	110502RE3 RUSM9RE1 MUYL10RE1	Mageragera RCS Maison des jeune kabuga Marembo		BPT Storage Storage BPT	120 180 120 10	Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned	No operator 2 shift in a day No operator No operator	Nothing Nothing Nothing Nothing	Nothing Always Always Sometime	Always low Level Proper movment - Always no water	No data No data	No installation Malfunction 100 No installation	Installation - Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.	28/10/2020
87 160	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi		BPT Storage Storage BPT Storage	120 180 120 10 200	Gravity Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week	Nothing Nothing Nothing Nothing Flowing	Nothing Always Always Sometime (Cleaning)	Always low Level Proper movment - Always no water Proper movment	No data No data	No installation  Malfunction 100  No installation  No installation	Installation - Installation Leaking	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting	28/10/2020 04/06/2020 02/06/2020
87	110502RE3 RUSM9RE1 MUYL10RE1	Mageragera RCS Maison des jeune kabuga Marembo		Storage Storage PPT Storage Storage Storage	120 180 120 10 200	Gravity Gravity Gravity Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned	No operator 2 shift in a day No operator No operator 2 shift in a week 2 shift in a day	Nothing Nothing Nothing Nothing Flowing Nothing	Nothing Always Always Sometime (Cleaning) Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level	No data  No data  No data  No data  -  No data  -	No installation Malfunction 100 No installation	Installation - Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.	28/10/2020 04/06/2020 02/06/2020 01/06/2020
87 160 138	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas		BPT Storage Storage BPT Storage	120 180 120 10 200	Gravity Gravity Gravity Gravity Gravity Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Operational Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week	Nothing Nothing Nothing Nothing Flowing	Nothing Always Always Sometime (Cleaning)	Always low Level Proper movment - Always no water Proper movment	No data No data	No installation  Malfunction 100  No installation  No installation  No installation	Installation Installation Leaking Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.	28/10/2020 04/06/2020 02/06/2020
87 160 138 139 78	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE1 NDER6RE2 NYAKC4RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut	Amarembo(Muyumbu) Rwampara(Indatwa	BPT Storage Storage ) BPT Storage Storage Storage Storage Storage	120 180 120 10 200 1000 1000 400	Gravity	Operational Operational Abandoned Abandoned Operational Operational Operational Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week  2 shift in a day  2 shift in a day  2 shift in a day	Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment	No data  No data  No data  No data  No data  Nothing No data	No installation  Malfunction 100  No installation  No installation  No installation  No installation  No installation  No installation	Installation - Installation Leaking Malfunction Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020
87 160 138 139 78 61	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYD5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena	Amarembo(Muyumbu)	BPT Storage Storage BPT Storage Storage Storage Storage Storage Storage Storage	120 180 120 10 200 1000 1000 400 150	Gravity	Operational Operational Abandoned Abandoned Operational Operational Operational Operational Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week  2 shift in a day	Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Nothing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment	No data  No data  No data  No data  No data  No data	No installation  Malfunction 100  No installation	Installation - Installation Leaking Malfunction Installation No installation Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020
87 160 138 139 78 61 48	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto	Amarembo(Muyumbu) Rwampara(Indatwa	BPT Storage Storage BPT Storage Storage Storage Storage Storage Storage Storage Storage	120 180 120 10 200 1000 1000 400 150 50	Gravity	Operational Operational Abandoned Abandoned Operational Operational Operational Operational Operational Operational Not Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week  2 shift in a day  2 shift in a day  2 shift in a day  No operator	Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water	No data  No data  No data  No data  No data  No data  Itime/week	No installation  Malfunction 100  No installation  Malfunction 80	Installation - Installation Leaking Malfunction Installation No installation Malfunction Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting  it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020
87 160 138 139 78 61 48 110	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUGAT2RE1 RUNDP5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro kas Mont Kigali Haut Mumena Nkoto Musebeya	Amarembo(Muyumbu) Rwampara(Indatwa	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 1000 400 150 50	Gravity	Operational Operational Abandoned Abandoned Operational Operational Operational Operational Operational Operational Operational Operational Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Nothing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always low Level	No data  No data  No data  No data  No data  Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation 80	Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020
87 160 138 139 78 61 48 110	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa	Amarembo(Muyumbu)  Rwampara(Indatwa village)	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 1000 400 150 50 12	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Flowing Flowing Flowing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always low Level Proper movment	No data No data No data No data No data No data Itime/week Nothing	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020
87 160 138 139 78 61 48 110	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama	Amarembo(Muyumbu) Rwampara(Indatwa	BPT Storage Storage BPT Storage Kiosk Reservoir	120 180 120 10 200 1000 1000 400 150 50 12 250 40	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Nothing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always low Level Proper movment Proper movment	No data No data No data No data No data Nothing No data 1time/week Nothing No data	No installation  Malfunction 100 No installation Malfunction 80 Installation No installation No installation	Installation  Installation  Leaking  Malfunction Installation  No installation  Malfunction Installation  Installation  Malfunction  Malfunction  Installation  Malfunction  Malfunction  Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020
87 160 138 139 78 61 48 110	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa	Amarembo(Muyumbu)  Rwampara(Indatwa village)	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 1000 400 150 50 12	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator No operator 1 person	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Flowing Flowing Flowing Flowing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always low Level Proper movment	No data No data No data No data No data No data Itime/week Nothing	No installation	Installation  Installation  Leaking  Malfunction Installation  No installation  Malfunction Installation  Installation  Malfunction  Malfunction  Installation  Malfunction  Malfunction  Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020
87 160 138 139 78 61 48 110 101 21 4	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDP5RE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 110502RE1 RUNDOSRE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 1000 400 150 50 12 250 40 200 50	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator No operator 1 person No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Flowing Flowing Flowing Flowing Flowing Nothing Flowing Oozed	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Always low Level	No data Nothing No data Nothing No data Nothing	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Malfunction Malfunction Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 09/06/2020
87 160 138 139 78 61 48 110 101 21	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 MASRSRE1 110502RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo	Amarembo(Muyumbu)  Rwampara(Indatwa village)	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 1000 400 150 50 12 250 40 200	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator No operator 1 person	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Flowing Flowing Flowing Flowing Flowing Nothing Oozed	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Always no water Always no water Always now Level Proper movment Proper movment Proper movment Proper movment	No data Nothing No data Nothing No data Nothing	No installation  Malfunction 100 No installation Malfunction 80 Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Malfunction Installation Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 05/06/2020
87 160 138 139 78 61 48 110 101 21 4	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDP5RE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 110502RE1 RUNDOSRE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 1000 400 150 50 12 250 40 200 50	Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator No operator 1 person No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Flowing Flowing Flowing Flowing Flowing Nothing Oozed	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Always low Level	No data Nothing No data Nothing No data Nothing	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Malfunction Malfunction Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 09/06/2020
87 160 138 139 78 61 48 110 101 21 4 117 71	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 400 150 50 12 250 40 200 50 320	Gravity Pumping Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Flowing Nothing Flowing Nothing Nothing Flowing Nothing Nothing Flowing Nothing Nothing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Always Always Always  Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Proper movment Always no water Always no water Always no water Always low Level Proper movment Proper movment Proper movment Always no water Proper movment Always no water	No data Nothing No data Nothing No data Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 09/06/2020 29/9/2020 28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyanza	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 400 150 50 12 250 40 200 50 320 450	Gravity Pumping Gravity Pumping Gravity Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person	Nothing Nothing Nothing Nothing Nothing Flowing Nothing Nothing Nothing Flowing Flowing Flowing Nothing Flowing Nothing Nothing Flowing Nothing Nothing Nothing Nothing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Always Always Always Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Proper movment Always no water Always no water Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Proper movment Always no water Proper movment Proper movment Proper movment	No data Nothing No data Nothing No data Nothing No data Nothing	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 05/06/2020 29/9/2020 28/9/2020 30/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyanza Nyarumanga Nyarurama ku kigega1	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2	BPT Storage Storage BPT Storage BPT Storage Storage	120 180 120 10 200 1000 1000 150 50 12 250 40 200 50 320 450 250 100	Gravity Pumping Gravity Pumping Gravity Pumping Pumping Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 1 person  1 person 1 person 1 person	Nothing Flowing Flowing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing Always Nothing Always Nothing Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Always no water Proper movment Always no water Proper movment Always low Level Proper movment	No data  1time/week Nothing No data Nothing No data Nothing No thing No data Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 09/06/2020 29/9/2020 28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyanza Nyarumanga Nyarurama ku kigega1 Nzove	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarumanga I  Skol	BPT Storage Storage BPT Storage	120 180 120 10 200 1000 1000 400 150 12 250 40 450 250 450 250 300	Gravity Pumping Gravity Pumping Pumping Pumping Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day 2 shift in a day 2 shift in a day No operator No operator No operator No operator 1 person	Nothing Flowing Flowing Nothing Flowing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Always Always  - Nothing Nothing Always Always Always - Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Always no water Always no water Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Proper movment Proper movment	No data Nothing	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation Installation Malfunction Installation Installation Malfunction Malfunction	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 05/06/2020 29/9/2020 28/9/2020 30/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyanza Nyarumanga Nyarurama ku kigega1	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2	BPT Storage Storage BPT Storage BPT Storage Storage	120 180 120 10 200 1000 1000 150 50 12 250 40 200 50 320 450 250 100	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Pumping Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 1 person  1 person 1 person 1 person	Nothing Flowing Flowing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing Always Nothing Always Nothing Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Always no water Proper movment Always no water Proper movment Always low Level Proper movment	No data  1time/week Nothing No data Nothing No data Nothing No thing No data Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management	28/10/2020 04/06/2020 02/06/2020 01/06/2020 01/06/2020 29/05/2020 09/06/2020 09/06/2020 05/06/2020 29/9/2020 28/9/2020 30/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 MASO8RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarumanga Nyarumanga Nyarumanga Nyarumanga Nyarumanga Nyarumanga Nyarumanga Ryzove Real estate Rebero	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 100 300 300 300 150	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person  No operator 1 person 1 person 1 person 1 person No operator	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Nothing Always Nothing Always Nothing Nothing Nothing Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always no water Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Proper movment Proper movment Proper movment Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Always no water	No data Nothing No data Nothing No data Nothing No data No data No data No data No data No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation Installation Installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  30/9/2020  30/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 MASO8RE1 GATZ12RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarumanga Nyarumanga Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 115 250	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Pumping Pumping Gravity Gravity Gravity Gravity Gravity Pumping	Operational Operational Abandoned Abandoned Operational Removed Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person  No operator 1 person 1 person 1 person 1 person 1 person 1 person No operator 1 person 1 person 1 person No operator 1 person 1 person No operator No operator 1 person 1 person No operator No operator No operator	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  Nothing Nothing Always	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Proper movment Proper movment Proper movment Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Always no water Proper movment	No data Nothing No data Nothing No data Nothing No data Nothing No data No data No data No data No data No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation No installation No installation Installation	used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 MASRSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASO8RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RASO8RE1 GATZ12RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyanza Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 400 150 50 12 250 40 200 450 100 300 250 15 250 200	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Pumping Pumping Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person  No operator 1 person No operator No operator No operator No operator No operator	Nothing Flowing Flowing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing Always Nothing Always Always  - Nothing Nothing Nothing Always Always - Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Always no water Proper movment Always low Level Proper movment	No data Itime/week Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation Malfunction Malfunction Installation No installation No installation Installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  05/06/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  28/9/2020  01/06/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 MASO8RE1 GATZ12RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarumanga Nyarumanga Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 115 250	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Pumping Pumping Gravity Gravity Gravity Gravity Gravity Pumping	Operational Operational Abandoned Abandoned Operational Removed Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person  No operator 1 person 1 person 1 person 1 person 1 person 1 person No operator 1 person 1 person 1 person No operator 1 person 1 person No operator No operator 1 person 1 person No operator No operator No operator	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  Nothing Nothing Always	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Proper movment Proper movment Proper movment Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Always no water Proper movment	No data Nothing No data Nothing No data Nothing No data Nothing No data No data No data No data No data No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation No installation No installation Installation	used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDER6SE2 NYAKC4RE1 NYDSRE1 RUNDPSRE1 NDERKSRE1 MASRSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 GATZ12RE1 RET4RE1 NYE4RE1 NYE4RE1 NYE4RE1 KANM3RE1 LKANM3RE1 LKANM3RE1 LINSOURE4	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 400 150 50 12 250 40 200 450 100 300 250 15 250 250 6 6 100	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity	Operational Operational Abandoned Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator	Nothing Flowing Flowing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  - Nothing	Always low Level Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation No installation Installation Installation Installation No installation Installation Installation Installation Installation Installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Malfunction Malfunction Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  01/06/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDPSRE1 NDERK5RE1 H0502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RET4RE1 RET4RE1 NYE4RE1 KANM3RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 15 250 200 50 6	Gravity Fumping Pumping Pumping Pumping Fumping Gravity Fumping Gravity Gravity Fumping Gravity Fumping Gravity Fumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person  No operator 2 shift in a day No operator 1 person No operator No operator 1 person 1 person No operator	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always no water Proper movment Always low Level Proper movment Always no water Proper movment Proper movment Always no water Always no water Proper movment Always no water	No data Nothing No data Nothing No data Nothing No data Nothing No data No fata No data No data No data No fata No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation Installation Malfunction 200 400 Installation Installation Installation Installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDER6SE2 NYAKC4RE1 NYDSRE1 RUNDPSRE1 NDERKSRE1 MASRSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 GATZ12RE1 RET4RE1 NYE4RE1 NYE4RE1 NYE4RE1 KANM3RE1 LKANM3RE1 LKANM3RE1 LINSOURE4	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 400 150 50 12 250 40 250 320 450 100 300 250 15 250 200 6 6 100	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity	Operational Operational Abandoned Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator	Nothing Flowing Flowing Nothing	Nothing Always Always Sometime (Cleaning) Nothing Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  - Nothing	Always low Level Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation No installation Installation Installation Installation No installation Installation Installation Installation Installation Installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Malfunction Malfunction Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management  Bypass when requested by the branch	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 4 72 19 15 97	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDPSRE1 NDERK5RE1 H0502RE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 ATABLES GAHZ14RE1 L10501RE3 GATAA12RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RET4RE1 RET4RE1 RYE4RE1 KANM3RE1 L10501RE4 MASS6RE1 RUNDOFRE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi  Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarumanga Nyarumanga Nyarumanga Nyarumanga Nyarumanga Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusenbe	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 15 250 200 50 6 100 50 400	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity Gravity Gravity Gravity Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Operational Abandoned Operational Operational Operational Operational Operational Operational Operational Abandoned Operational Abandoned Operational Operational Operational Operational Operational Operational Operational Operational	No operator  2 shift in a day  No operator  No operator  2 shift in a week  2 shift in a day  No operator  No operator  1 person  No operator  2 shift in a day  No operator  1 person  No operator  1 person  1 person  No operator  1 person  No operator	Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always Always Always Always Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Proper movment Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Always no water	No data Itime/week Nothing No data Nothing No data Nothing No data Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation Installation Installation Installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation No installation Installation No installation No installation No installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  30/9/2020  30/9/2020  30/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97	110502RE3 RUSM9RE1 MUYL10RE1 BUP5RE1 NDER6RE2 NYAKC4RE1 NYD5RE1 RUGAT2RE1 RUNDP5RE1 NDERK5RE1 MASR5RE1 H10502RE1 RUNDOSRE1 RUNDOSRE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RET4RE1 RET4RE1 NYE4RE1 KANM3RE1 H10501RE4 MASS6RE1 RUNDOSRE1 RUNDOSRE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RET4RE1 RET4RE1 RYE4RE1 KANM3RE1 RUSM7RE1 RUSM7RE1 RET4RE1 RET4RE1 RYE4RE1 RYE4RE1 RUNDP6RE1 RUNDP6RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarumanga Nyarumanga Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusenzi Ruyenzi Reyenzi Reyenzi Reyenzi Reyenzi	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 120 100 1000 400 150 12 250 40 200 50 320 450 250 15 250 200 50 6 100 50 400 250 400 250	Gravity Pumping Gravity Pumping Pumping Pumping Fumping Gravity Gravity Gravity Gravity Gravity Gravity Pumping Gravity Gravity Fumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity	Operational Operational Abandoned Abandoned Abandoned Operational Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator 1 person 1 person No operator	Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always  Always  Always  Always  Always  Always  Always  Always  Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Always no water Always no water Always low Level Proper movment Always no water Proper movment Always no water Proper movment Proper movment Always no water Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment	No data Itime/week Nothing No data Nothing No data Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation Installation No installation Installation Installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation No installation Installation No installation No installation No installation No installation No installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water	28/10/2020  04/06/2020  02/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  09/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  30/9/2020  01/06/2020  28/05/2020  30/9/2020  03/06/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97 175 74	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 MASRSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 RUSM7RE1 RET4RE1 NYE4RE1 NYE4RE1 NYE4RE1 RET4RE1 NYE4RE1 RUSM7RE1 RET4RE1 RUSM7RE1 RUSM	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusheshe Ruyenzi Rwankuba Rwezamenyo	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 400 150 50 12 250 40 200 50 100 300 250 15 250 200 50 6 100 50 400 250 6 600	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity Gravity Gravity Gravity Fumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Gravity Gravity Gravity Fumping Gravity Gravity Gravity Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator 1 person No operator 2 shift in a day No operator 1 person No operator 2 shift in a day	Nothing Flowing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  Always  - Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Always no water Always low Level Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Always no water Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Always no water Proper movment Proper movment Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation Installation No installation No installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  The reservoir is new and Still under Reserve Force Management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC  Under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water  except in case the operators are not around	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  09/06/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  30/9/2020  30/9/2020  30/9/2020  28/9/2020  01/06/2020  28/9/2020  03/06/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97 175 74 75	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 NOBERKSRE1 110502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASO8RE1 GATZ12RE1 RET4RE1 NYE4RE1 NYE4RE1 RET4RE1 NYE4RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RET4RE1 NYE4RE1 RUSM7RE1 RUS	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusheshe Ruyenzi Rwankuba Rwezamenyo Rwezamenyo Rwezamenyo	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 120 100 200 1000 1000 400 150 50 12 250 40 200 50 320 250 15 250 100 300 50 6 6 6 6 6 600	Gravity Pumping Gravity Pumping Pumping Pumping Gravity Gravity Gravity Gravity Pumping Gravity Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Gravity Fumping Gravity Gravity Pumping Gravity Gravity Pumping	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator 2 shift in a day 2 shift in a day	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always  Always  Always  Always  Always  Always  Always  Always  Nothing	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation Installation No installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  Under reserve force management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water except in case the operators are not around except in case the operators are not around except in case the operators are not around	28/10/2020  04/06/2020  01/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  30/9/2020  30/9/2020  01/06/2020  28/05/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97 175 74 75 99	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 NOBERKSRE1 NOBERKSRE1 NOBERKSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 RUSM7RE1 MASOBRE1 RET4RE1 NYE4RE1 NYE4RE1 NYE4RE1 NYE4RE1 RUSM7RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusheshe Ruyenzi Rwankuba Rwezamenyo Rwezamenyo Rwissizi	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 180 120 100 200 1000 400 150 50 12 250 40 200 50 320 450 100 300 50 6 100 50 400 250 400 250 300 300 300	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity	Operational Operational Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator 1 person No operator 2 shift in a day No operator 1 person No operator 2 shift in a day	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  Nothing N	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Always no water Always no water Always no water Always no water Proper movment Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Always no water Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Always no water Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation Malfunction 100 No installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  Under reserve force management  The reservoir abandoned by WASAC under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water  except in case the operators are not around except in case the operators are not operational. Water tap need rehabilitation, needed are 6 taps(3)4")	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  28/9/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97 175 74 75	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NYDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 MASR5RE1 H10502RE1 RUNDOSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 RUSM7RE1 RUSM7RE1 RET4RE1 NYE4RE1 RET4RE1 RUSM7RE1 RUSM7RE1 RUSM7RE1 RET4RE1 RUSM7RE1 RUNDP6RE1 121002RE1 RWC5RE3 RWC5RE2 NYARUK2RE2	Mageragera RCS Maison des jeune kabuga Marembo Masizi  Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugerdabari Rusheshe Ruyenzi Rwankuba Rewezamenyo Rewinyange Ryabahesha	Amarembo(Muyumbu)  Rwampara(Indatwa village)  Ngara  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarumanga I  Nyarumanga I  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie  Ruyenzi 1  Rwinyange	BPT Storage Storage BPT Storage	120 180 120 100 1000 1000 1000 400 150 12 250 250 450 250 450 250 15 250 66 100 50 400 250 600 600 30	Gravity Pumping Pumping Pumping Pumping Gravity Gravity Gravity Gravity Pumping Gravity Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Pumping Gravity Gravity Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity Gravity Gravity Gravity Gravity Gravity	Operational Operational Abandoned Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator No operator 1 person No operator 2 shift in a day No operator 1 person 2 shift in a day No operator 2 shift in a day No operator 1 person 2 shift in a day No operator 1 person 1 person 1 person	Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Always Always Always Always Always Always Sometime Nothing Nothing Nothing Nothing Nothing Nothing Nothing Sometimes Sometimes Always Always Always Always Always Always Always Sometimes Sometimes Sometimes	Always low Level Proper movment - Always no water Proper movment Always low Level Proper movment Always low Level Proper movment Always low Level Proper movment Proper movment Proper movment Always no water Always no water Proper movment Always no water Proper movment Always low Level Proper movment Always no water Proper movment Always no water Always no water Always no water Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Always no water Proper movment	No data Nothing No data Nothing No data	No installation Malfunction 100 No installation Malfunction 80 Installation No installation No installation No installation No installation Installation No installation No installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Installation Malfunction Installation Installation Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation Installation Installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  Under reserve force management  Under reserve force management  disconnected from WASAC network but used  Reservoir abandoned by WASAC Under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water except in case the operators are not around except in case the operators are not around Leaking on walls and some valves are not operational.	28/10/2020  04/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  09/06/2020  09/06/2020  29/9/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  01/06/2020  28/05/2020  28/05/2020  03/06/2020  28/05/2020  04/06/2020
87 160 138 139 78 61 48 110 101 21 4 117 71 28 5 22 135 62 37 24 112 44 72 19 15 97 175 74 75 99	110502RE3 RUSM9RE1 MUYL10RE1 BUPSRE1 NDER6RE2 NYAKC4RE1 NVDSRE1 RUGAT2RE1 RUNDPSRE1 NDERKSRE1 NDERKSRE1 NDERKSRE1 NOBERKSRE1 NOBERKSRE1 NOBERKSRE1 NYAKC4RE2 GAHZ14RE1 110501RE3 GATAA12RE1 RUSM7RE1 MASOBRE1 RUSM7RE1 MASOBRE1 RET4RE1 NYE4RE1 NYE4RE1 NYE4RE1 NYE4RE1 RUSM7RE1	Mageragera RCS Maison des jeune kabuga Marembo Masizi Masoro bas Masoro bas Masoro bas Mont Kigali Haut Mumena Nkoto Musebeya Nezerwa Ngarama Ntungamo Nyabitare Golf Make - Nyakabanda Nyarurama ku kigega1 Nzove Real estate Rebero Rebero kuri radari Remera Rubona Rugari Rugendabari Rusheshe Ruyenzi Rwankuba Rwezamenyo Rwezamenyo Rwissizi	Amarembo(Muyumbu)  Rwampara(Indatwa villaqe)  Ngara  Mont Kigali Bas  Nyanza Up Hill  Nyarurama2  Skol  REAL ASTADY  Rebero Gako  Radar Steel tank 1  Rugari_Regie	BPT Storage Storage BPT Storage	120 180 180 120 100 200 1000 400 150 50 12 250 40 200 50 320 450 100 300 50 6 100 50 400 250 400 250 300 300 300	Gravity Pumping Gravity Pumping Pumping Pumping Pumping Gravity Gravity Fumping Gravity Gravity Pumping Gravity Gravity Pumping Gravity	Operational Operational Abandoned Abandoned Abandoned Operational	No operator  2 shift in a day No operator No operator 2 shift in a week 2 shift in a day No operator No operator 1 person No operator 2 shift in a day No operator 1 person No operator 1 person No operator 1 person No operator 2 shift in a day No operator 1 person No operator 2 shift in a day 1 person	Nothing Flowing Nothing Flowing Nothing	Nothing Always Always Always Sometime (Cleaning) Nothing Nothing Nothing Always Nothing Always Nothing Always Always Always  Nothing N	Always low Level Proper movment - Always no water Proper movment Always low Level Always low Level Proper movment Always no water Always no water Always no water Always no water Proper movment Proper movment Proper movment Always no water Always low Level Proper movment Proper movment Always no water Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Proper movment Proper movment Proper movment Proper movment Proper movment Always no water Proper movment Always no water Proper movment	No data No data No data No data No data No data Itime/week Nothing No data	No installation Malfunction 100 No installation Installation Installation No installation	Installation Leaking Malfunction Installation No installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Malfunction Installation Installation Installation Installation Installation No installation No installation No installation	closes (Vanne d'equilibre est requise)  used by Plice for rain water harvesting it was bypassed in order to increase pressure in the network.  no water, rain water entering during rainy period  2 Adaptors DN100+Valve DN100 leaking and need replacement.  it was bypassed by WASAC in order to increase the pressure in the network.  overflow connected to the outlet pipe the reservoir is under local people management  Under reserve force management  The reservoir abandoned by WASAC under reserve force management  Bypass when requested by the branch One inlet DN200 valve leaking no water  except in case the operators are not around except in case the operators are not operational. Water tap need rehabilitation, needed are 6 taps(3)4")	28/10/2020  04/06/2020  02/06/2020  01/06/2020  01/06/2020  29/05/2020  09/06/2020  05/06/2020  29/9/2020  28/9/2020  28/9/2020  28/9/2020  28/9/2020  30/9/2020  28/9/2020  30/9/2020  28/9/2020  28/9/2020  28/9/2020

## Summary of Reservoir Survey

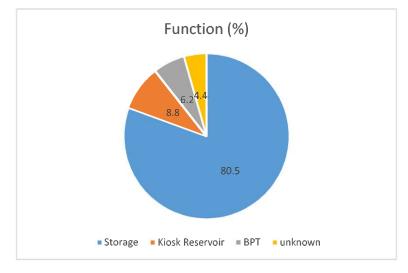
47	NIBX15RE3	Muyange A		Storage	30	Gravity	Abandoned	No operator	Oozed	Nothing	Always no water	Nothing	Installation 50	No installation	use it as support for Plastic tanks installed on top of reservoir	29/05/2020
47	NIBX15RE3	Muyange B		Storage	30	Gravity	Abandoned	No operator	Nothing	Nothing	Always no water	Nothing	No installation	Installation	use it as support for Plastic tanks installed on top of reservoir	29/05/2020
148	KACZ4E3RE01	UTEXRWA	Vision 2020	Storage	80	Pumping	Abandoned	No operator	Nothing	Nothing	Always no water	No data	No installation	No installation		29/10/2020
18	110503RE5	Akarambi		Storage	15	Pumping	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Malfunction 50	No installation	Reservoir Cover stolen.	30/09/2020
185		Mbandazi		Storage	250	Gravity	Operational	1 person	Nothing	Nothing	Always low Level	No data	Malfunction	No installation		
9	110503RE3	Burema	Tete	Storage	180	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	-	No installation	No installation	No functional issue, the reservoir look new and accessories are operational No Need float Valve	30/9/2020
93	110301RE5	Karama Primary	Karama PS	BPT	100	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Installation 150	Installation		29/9/2020
2	110506RE2	Kwamuganga	Nyarurenzi Kwa Muganga	Storage	12	Gravity	Not Operationnal	No operator	Nothing	•	Always no water	No data	No installation	Installation	Since its inauguration, it was never used	30/9/2020
		Mataba		Storage	50	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Malfunction 80	No installation	Johnson joint leaking, and non functioning Floater valve	30/9/2020
8	110503RE4	Mata		Storage	100		Operational	2 shift in a day	Flowing	Nothing	Proper movment	No data	No installation	Malfunction		
		Rebero Rujugiro		Storage	12	Gravity	Operational	No operator	Nothing	Nothing	Always low Level	No data	No installation	Installation	If a floater is installed, an intermediary valve is required, higher pressure when floater closes	28/9/2020
		Masaka Mbabe - Sangano			-	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	No data	No installation	Installation		
		Nyarurenzi Amahoro	Nyarurenzi Amahoro	Storage	18	Pumping	Operational	No operator	Nothing	Nothing	Proper movment	No data	No installation	Installation		30/9/2020
		Gatovu	Ntungamo	Storage	200	Pumping	Operational	1 person	Nothing	Nothing	Proper movment	Nothing	Installation 150	Installation		30/9/2020
		Camp Militaire Hill		Storage	25	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Malfunction 50	Malfunction		
		Akarambi		Storage	30	Pumping	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Malfunction	No installation		30/9/2020
		Nyarurenzi	Nyarurenzi Iterambere	Storage	90	Pumping	Operational	No operator	Oozed	Nothing	Always low Level	No data	No installation	No installation		30/9/2020
		Camp Militaire Mountain	Karembure	Storage	25	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	Nothing	Malfunction 50	No installation		30/9/2020
		Station Kajandi		Storage	-	Gravity	Operational	2 shift in a day	Flowing	Nothing	Proper movment	No data	No installation	-	No enough water from the connected source, more sources are available WASAC can use them	30/9/2020
		Rugendabari Model Village		Storage	100	Gravity	Operational	No operator	Nothing	Nothing	Proper movment	No data	No installation	Installation		
•		Miduha		Storage	250	Pumping	Operational	1 person	Nothing	Nothing	Proper movment	No data	No installation	Installation	Under reserve force management	

#### · Function of Reservoir

(%)

		(,,,,
Storage	91	80.5
Kiosk Reservoir	10	8.8
BPT	7	6.2
unknown	5	4.4

113

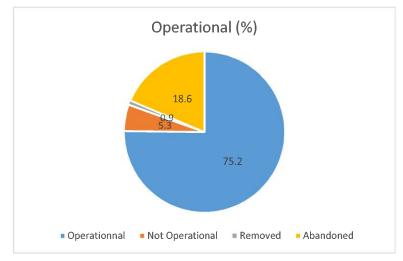


### · Operational

(%)

Operationnal	85	75.2
Not Operational	6	5.3
Removed	1	0.9
Abandoned	21	18.6

113

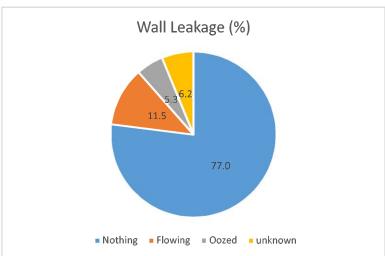


#### · Wall Leakage

(%)

			(,,,,
Nothing	8	37	77.0
Flowing	1	.3	11.5
Oozed		6	5.3
unknown		7	6.2

113

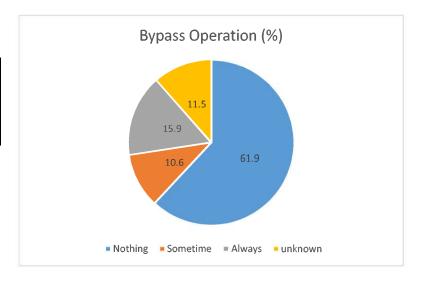


#### · Bypass Operation

(%)

		(,,,,
Nothing	70	61.9
Sometime	12	10.6
Always	18	15.9
unknown	13	11.5

113

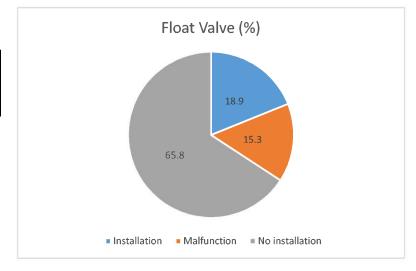


#### Float Valve

(%)

		(,,,
Installation	21	18.9
Malfunction	17	15.3
No installation	73	65.8

111

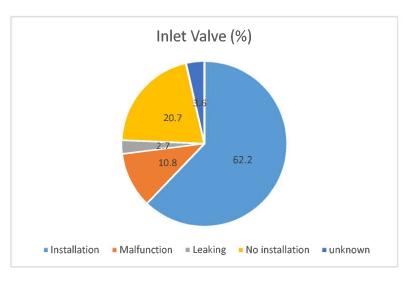


#### · Inlet Valve

(%)

		(,0)
Installation	69	62.2
Malfunction	12	10.8
Leaking	3	2.7
No installation	23	20.7
unknown	4	3.6

111

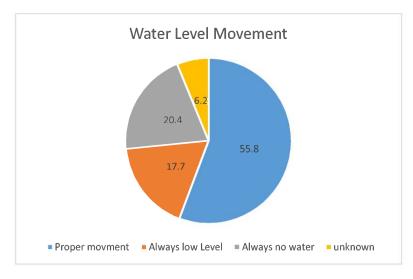


#### · Water level movement

(%)

		(70)
Proper movment	63	55.8
Always low Level	20	17.7
Always no water	23	20.4
unknown	7	6.2

113



# Survey Result Data

**GIKONDO BRANCH** 

KACYIRU BRANCH

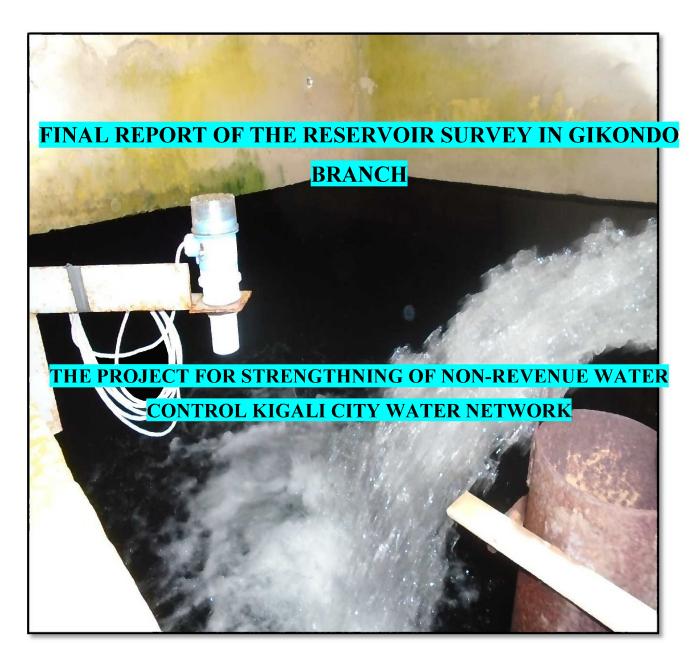
**KANOMBE BRANCH** 

NYAMIRAMBO BRANCH

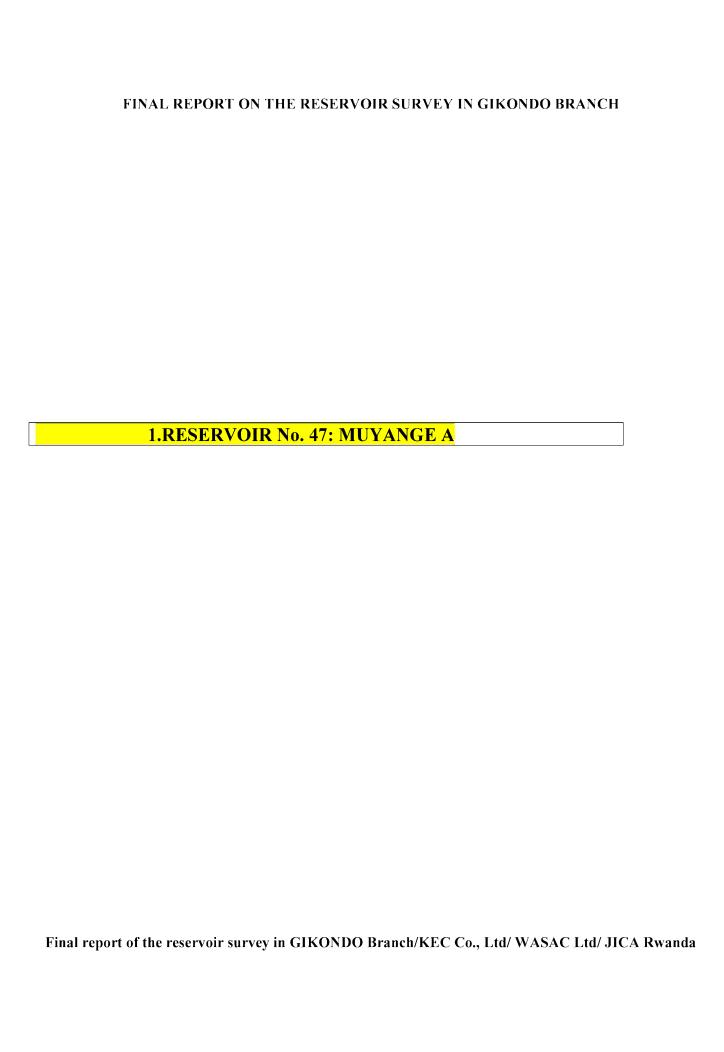
**NYARUGENGE BRANCH** 

**REMERA BRANCH** 

# THE REPUBLIC OF RWANDA KIGALI CITY



Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda



**BRANCH: GIKONDO** 

Reservoir: Muyange

No.: 47 (a)

#### I. Status and Functionality issues description

The Reservoir was constructed by the District, handed over to locals for management, it receives water from Golf 7- Ku Munyinya, it was meant to serve nearby locals, after connecting it, they realized it was leaking heavily and decided to abandon it an use it as support for Plastic tanks installed on top of it.

In order to use it, an inlet manhole is needed and replacement of installed accessories is needed.

The installed floater valve will need replacement or some repairing works.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Construction of inlet manhole for in Valve or modification of inlet pipe direction.</li> <li>Replacement of drainage valves</li> <li>Re-plastering the tank to remove cracks and make it waterproof.</li> <li>Repairing the Installed floater valve</li> </ul>	<ul> <li>1 inlet Valve DN50</li> <li>1 Floater valve DN50</li> <li>Fencing the area</li> <li>Drainage canal</li> <li>Construction works for inlet manhole</li> </ul>

#### **II. Description Photos**



Floater Valve need Repairing or replacement



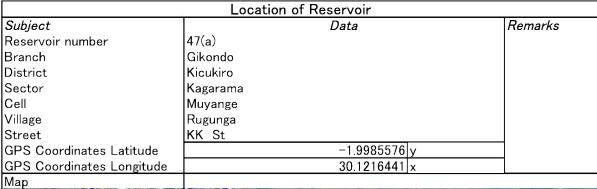
Outlet manhole need rehabilitation, cover and pipe reconnection



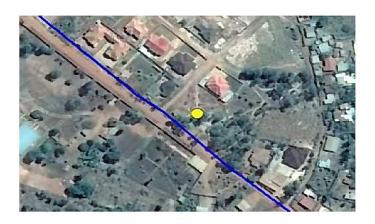
Inlet pipe needs a manhole and a valve.



The whole reservoir needs general rehabilitation.







# **Attachement-3 Reservoir Survey Sheet**

Date: 29/05/2020

No.	Item	Details	
A: General			
1	Number of Reservoir	47(a)	
2	Name of Reservoir	Muyange (Umudugudu wa bwiza)	
3	ID Code	NIBX15RE3	
4	Ward	Sector: Kagarama, District: Kickiro, Cell: Muyange, Village: Rugunga	
5	Branch Office	Gikondo	
6	Location	Latitude: -1.9985576, Altitude: 30.1216441, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	year	
9	Storage Capacity	30 m3	
10	Service area of the Reservoir		
B: 0	Operational Condition		
1	Operational Condition	Abandoned	
2	Operator Assignment	No operator	
	Action against to overflow		
3	Wall Leakage	Flowing, Oozed, Nothing	
4	Overflow observation	times/month,times/week	
	Phenomenon		
	Reason of overflow		
5	Bypass-flow operation	Always/ Nothing, Timing:,	
	Reason of bypass operation		
6	Inflow Condition	Source: Golf 7- Gatenga ku Munyinya	
		Water pressure at inlet:	
		Frequency and time:	
7	Water level movement	Always no water	
8	Issue on Functional Condition	Reservoir has been abandoned and was never used by WASAC.	
C:S	Structure		
1	Form of Reservoir	Circular	
2	Foundation	Ground	
3	Structure Material	Stones	
4	Inside Dimension	DI: 5.40m, H: 2.30m	
5	Remarks/ Issue	There are cracks in and outside, after connection they realized that it was leaking up to 1m of height.	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function: Not in use, we can't confirm it's status, DN: 50
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 50, Top
5	Inlet valve No.1	DN: , Function: (Can't see it because it is underground)
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP, DN: 50
	Outlet pipe No.2	SP/ DIP/ PVC/ Others ( ), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others ( ), DN:
7	Outlet valve No.1	DN: 50, Function: YES
	Outlet valve No.2	DN: , Function:
	Outlet valve No.3	DN: , Function:
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	The tank was built by the District but it was never used by WASAC due to its conditions.  Only it is currently being used by locals to support their tanks (plastics tanks) and it was disconnected.
Other Information:		In order to use it, a manhole for inlet valve is needed.
		Repairing of outlet system is needed.

## **Photo Sheet**

Reservoir Name: Muyange No: 47 (a)



#### **GIKONDO BRANCH**

Reservoir No.: 153 (a)

**Location: MUYANGE** 

Material: Stone masonry

#### **SCHEMATIC DRAWING**

Washout & Overflow

2" SP

Towards Muyange network

2" SP

-1
From Golf 7 ku Munyinya

2" SP

Cap.: 30m3

Dia: 5.40m

H: 2.30m

#### **LEGEND**

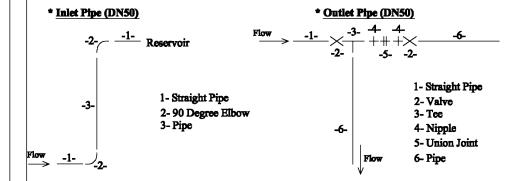
1, 2 - Valve DN 50

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#### **GIKONDO BRANCH**

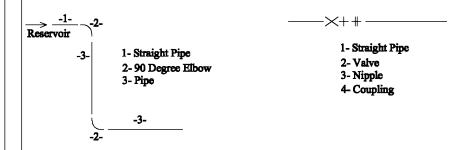
Reservoir No.: 153 (a)

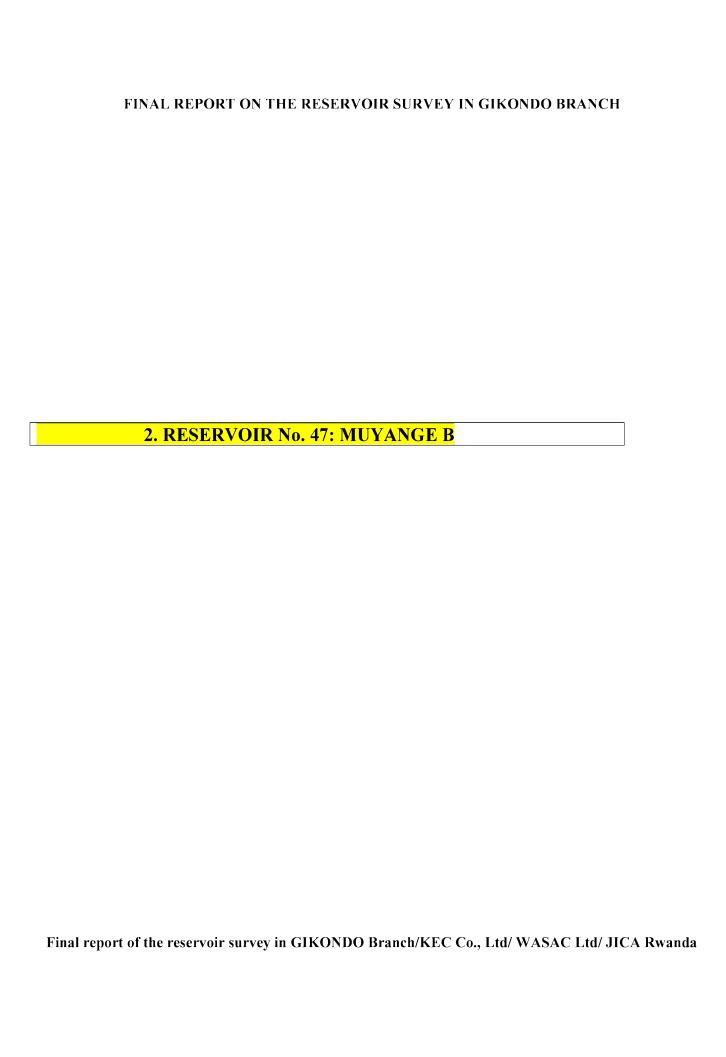
Reservoir Name: MUYANGE



#### \* Overflow DN50

#### \* Overflow DN50





**BRANCH: GIKONDO** 

Reservoir: Muyange

No.: 47 (b)

#### I. Status and Functionality issues description

The Reservoir was constructed by the District, handed over to locals for management, it receives water from Golf 7- Ku Munyinya, it was meant to serve nearby locals and Public Water Tap, after connecting it, they realized it was leaking heavily and decided to abandon it and use it as support for Plastic tanks installed on top of it.

In order to use it, a full re-plastering is needed.

#### II. Required Action and Requirements

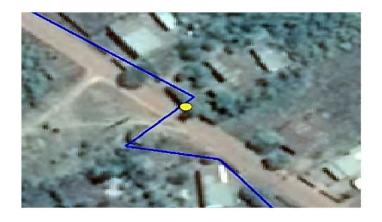
Action	Requirements
Cover for inlet manhole.	• 1 Floater valve DN50
Outlet reconnection	• Pipe DN50
Replacement of drainage valves	Outlet valve DN50
Re-plastering the tank to remove cracks and make	Fencing the area
it waterproof.	Drainage canal
Reinstallation of floater valve	Manhole cover

### **II. Description Photos**



Location of Reservoir				
Subject	Data	Remarks		
Reservoir number	47(b)			
Branch	Gikondo			
District	Kicukiro			
Sector	Kagarama			
Cell	Muyange			
Village	Muyange			
Street	KK St			
GPS Coordinates Latitude	-2.0052269	у		
GPS Coordinates Longitude	30.1289513	x		
NA.				





# **Attachement-3 Reservoir Survey Sheet**

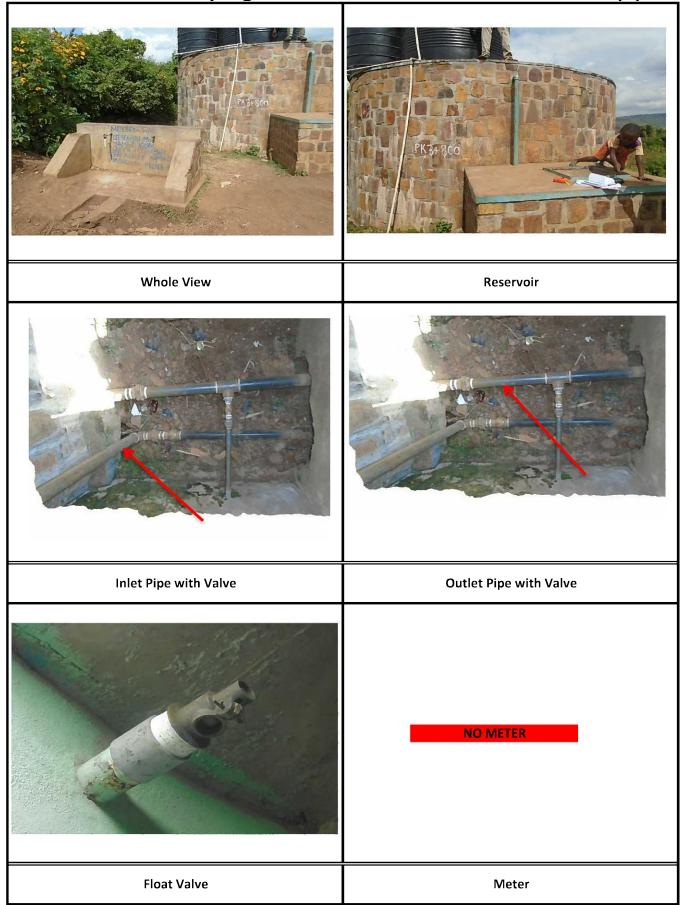
Date: 29/05/2020

No.	Item	Details	
A: General			
1	Number of Reservoir	47(b)	
2	Name of Reservoir	Muyange (Umudugudu wa bwiza)	
3	ID Code	NIBX15RE3	
4	Ward	Sector: Kagarama, District: Kicukiro , Cell: Muyange , Village: Muyange	
5	Branch Office	Gikondo	
6	Location	Latitude: -2.0052269, Altitude: 30.1289513, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	year	
9	Storage Capacity	30 m3	
10	Service area of the Reservoir		
B: (	Operational Condition		
1	Operational Condition	Abandoned	
2	Operator Assignment	No operator	
	Action against to overflow		
3	Wall Leakage	Flowing , Oozed, Nothing	
4	Overflow observation	times/month,times/week	
	Phenomenon		
	Reason of overflow		
5	Bypass-flow operation	Always/ Nothing, Timing:,	
	Reason of bypass operation		
6	Inflow Condition	Source: Golf 7- Gatenga ku Munyinya	
		Water pressure at inlet:	
		Frequency and time:	
7	Water level movement	Always low level,	
8	Issue on Functional Condition	Tank was built by District and was never used by WASAC.	
C:S	Structure		
1	Form of Reservoir	Circular	
2	Foundation	Ground	
3	Structure Material	Stones	
4	Inside Dimension	DI: 5.40m, H: 2.30m	
5	Remarks/ Issue	WASAC found it defective and never used it, it leaks a lot and can't store even 5% of it's capacity.	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 50 (Pipe)
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 50, Top
5	Inlet valve No.1	DN: 50 , Function: N.A
6	Outlet pipe No.1	SP, DN: 50
	Outlet pipe No.2	SP, DN: 51
7	Outlet valve No.1	DN: 50, Function: N.A
	Outlet valve No.2	DN: 50, Function: N.A
8	Overflow Pipe	SP, DN: 50
.9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	For the tank to be used a full replacement is needed because the rehabilitation cost may become expensive compared to constructing a new one.
Other Information:		It is being used by locals for the community plastic tank support, the community opted for the construction of a small BF.

## **Photo Sheet**

Reservoir Name: Muyange No: 47 (b)

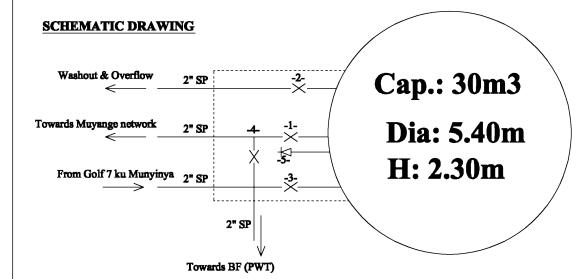


#### **GIKONDO BRANCH**

Reservoir No.: 153 (b)

**Location: MUYANGE** 

Material: Stone masonry



#### LEGEND

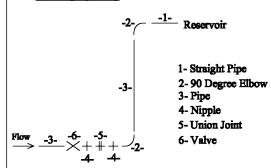
- 1, 2, 3 Valve DN 50
- 4 Tee DN 50
- 5 End cap DN 50 for blocked outlet

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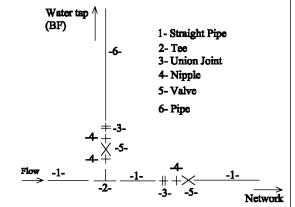
Reservoir No.: 153 (b)

Reservoir Name: MUYANGE

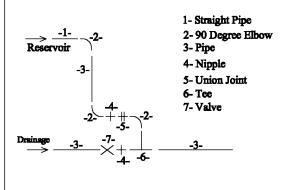
## \* Inlet Pipe (DN50)



# \* Outlet (A) Pipe (DN50)



# \* Overflow & Drainage DN50



#### \* Outlet (B) (Blocked) DN50

Flow -1- +1- -1-



**BRANCH: GIKONDO** 

Reservoir: Golf 7 (Ku Munyinya)

No.: 66

# I. Status and Functionality issues description

The Reservoir receives water from Rwandatel, to avoid overflow the Operator has to call Mont Kigali Pumping Station, when a small delay happens the loss in water is hug, but there is also a possibility of avoiding it by supplying to Kanombe.

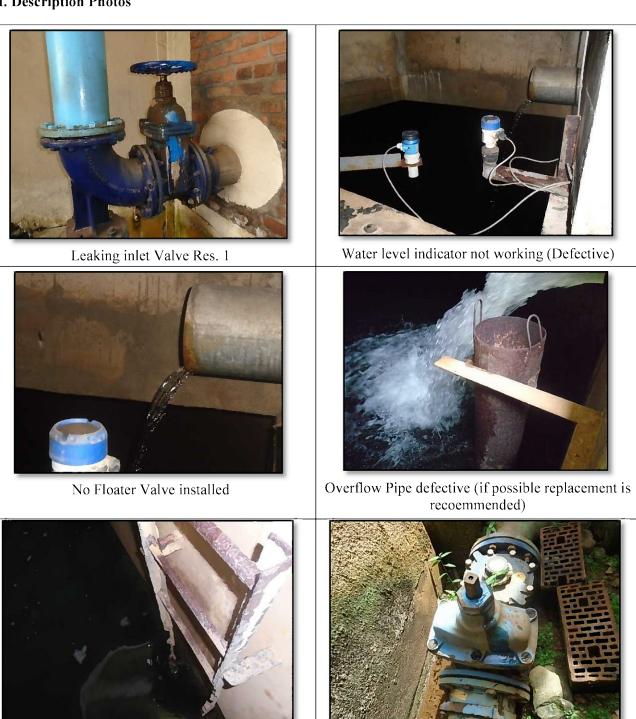
A floater valve is needed, and water level indicator repairing is priority.

The fencing wall has fallen on upper and lower side of the station, this resulted in intrusion by passerby and theft of valve handle and now they have only one piece, if stolen consequences will be bad, meaning that the fence repairing is also a priority.

# II. Required Action and Requirements

Action	Requirements
<ul> <li>Floater Valve installation</li> <li>Water level indicators installation or repairing</li> <li>Replacement of Flow Meter for Reservoir No. 1 and Reservoir No. 2</li> <li>Replacement of Inlet Valve Reservoir No. 1 which leaks</li> <li>Replacement of Outlet Valve Reservoir No. 1</li> </ul>	<ul> <li>2 Floater valves DN200</li> <li>2 water level indicators</li> <li>2 Flow Meter DN200</li> <li>2 Valve DN200</li> <li>1 Valve DN300</li> </ul>

# **II. Description Photos**



Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

Stairs need replacement

Inlet valve Res.2 need replacement



Defective Leaking vertical valve





These fallen part of fence are being used by thieves and intruders



These fallen part of fence are being used by thieves and intruders

Location of Reservoir				
Subject	Data			Remarks
Reservoir number	66			
Branch	Gikondo			
District	Kicukiro			
Sector	Gatenga			
Cell	Nyanza			
Village	Bwiza			
Street	KK 15 Rd			
GPS Coordinates Latitude	-1.985	3279	у	
GPS Coordinates Longitude	30.101	19499	х	
Map		*		





# **Attachement-3 Reservoir Survey Sheet**

Date: 29/05/2020

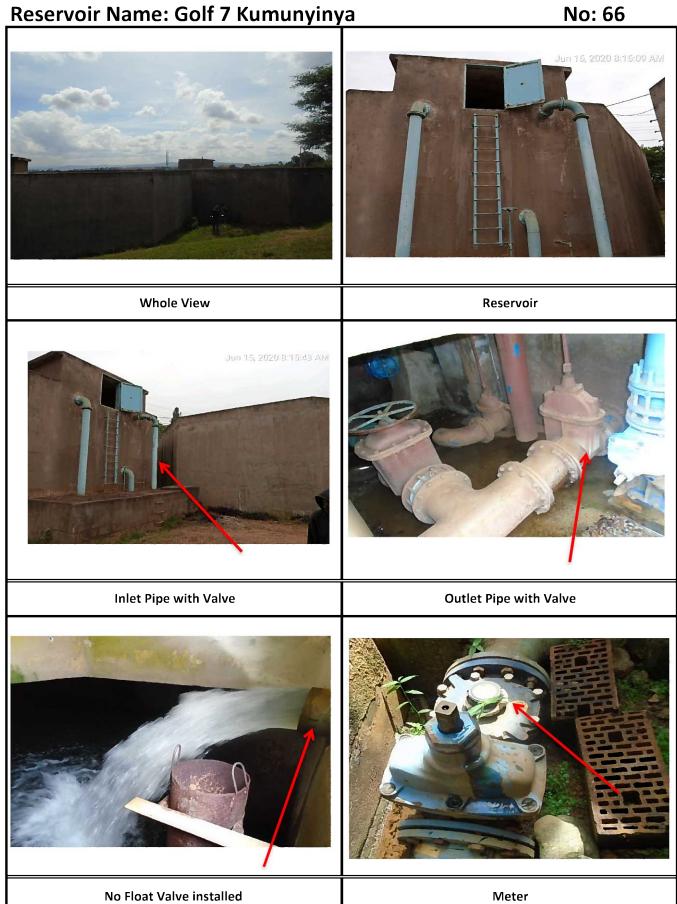
No.	Item	Date: 29/05/2020  Details
=	General	
1	Number of Reservoir	66
2	Name of Reservoir	GOLF 7- Ku Munyinya
3	ID Code	KICW14RE2
4	Ward	District: Kicukiro, Sector: Gatenga, Cell: Nyanza, Village: Bwiza
5	Branch Office	Gikondo
6	Location	Latitude: -1.9853279, Altitude: 30.1019499, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	600m3
10	Service area of the Reservoir	Gatenga-Niboye-Kicukiro
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Calling Rwandatel and Mont Kigali Pumping Station
3	Wall Leakage	Nothing
4	Overflow observation	1 times/month,times/week
	Phenomenon	In case the source (Rwandatel) doesn't close the valve.
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:
	Reason of bypass operation	
6	Inflow Condition	Source: Mont Kigali through Rwandatel area Tanks.
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	1
C:S	Structure	
1	Form of Reservoir	Hexagon
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	a: 7.6m, H: 4.00m
5	Remarks/ Issue	

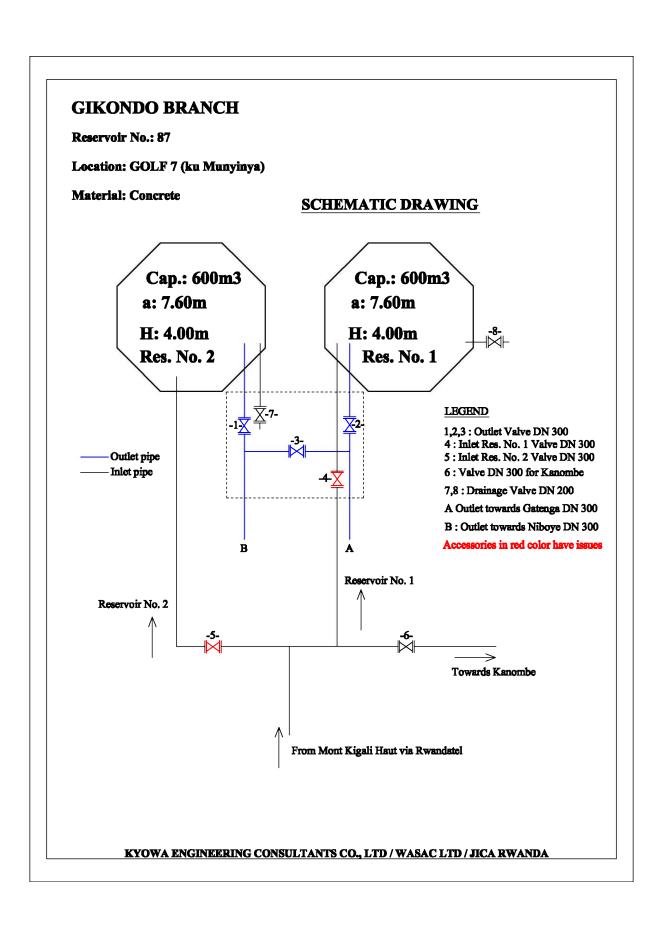
No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation,
2	Water Level Gauge	Malfunction
3	Flow Meter	Mechanical at tank 1 only, DN: 200, PN(bar):,
		Function: at tank 1 it is broken, at tank 1, No installation at tank 2
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 200, Top
	Inlet pipe No.2	SP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: Installed but leaking
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP, DN: 300 reduced to 200
	Outlet pipe No.2	SP/ DIP/ PVC/ Others ( ), DN:
7	Outlet valve No.1	DN: 300, Function: YES
	Outlet valve No.2	DN: 200, Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200 WITH A WORKING Valve
10	Remarks/ Issue	

	Inlet tank 2- Not properly working meter
Other Information:	Inlet tank 1- Meter but not working
Other information.	Inlet tank 1-2 valves leaking on top
	Tank 1: Outlet Valve DN300 defective

# **Photo Sheet**

Reservoir Name: Golf 7 Kumunyinya



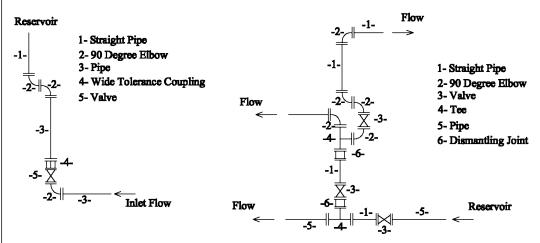


Reservoir No.: 87

Reservoir Name: Ku Munyinya

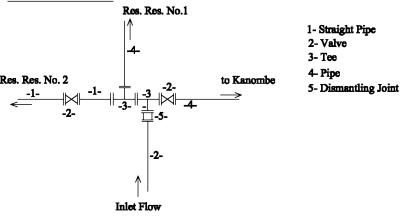
## \* Inlet Pipe Res. No.1 (DN300)

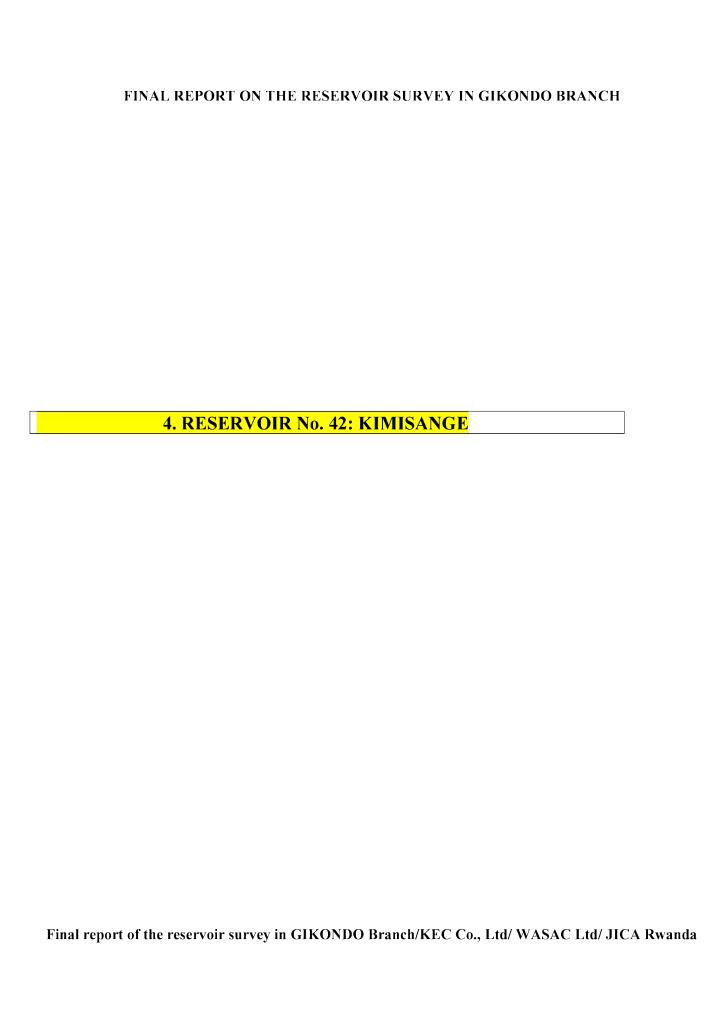
## \* Outlet Pipe Res. No.1(DN300)



#### \* Drainage Res. No.1 DN200

#### \* Inlet Res. No.2 DN300





**BRANCH: GIKONDO** 

Reservoir: Kimisange

No.: 42

# I. Status and Functionality issues description

The Reservoir and the newly constructed one all receive water from Nzove, but this old one also receives water from Rwampara Pumping Station.

No floater valves are installed either on the pipe from Nzove or the 2 pipes from Rwampara and are needed in other to avoid losses through overflowing.

The Manhole for Inlet Valve (Pipe from Nzove) needs a cover or protection for the operator who may need to close the DN300 valve.

# II. Required Action and Requirements

Action	Requirements
<ul> <li>Replacement of Inlet Valve from Nzove DN300</li> <li>Floater Valves installation for inlet pipes from Rwampara.</li> <li>Installation of Inlet Valve for inlet pipes from Rwampara</li> <li>Replacement of Outlet Valve</li> <li>Pressure gauge</li> <li>Cover for Inlet manhole (pipe from Nzove)</li> </ul>	<ul> <li>1 Valve DN300</li> <li>2 Floater valves DN100</li> <li>2 Valve DN100</li> <li>1 Valve DN80</li> <li>1 Pressure Gauge</li> <li>Construction workk</li> </ul>

# **II. Description Photos**



Inlet from Nzove Valve DN300 (Not working)



Inlet from Nzove Pipe DN300 (No floater)



Inlet from Rwampara DN100 (no inlet valve or Floater valve)



Overflow Pipe



Pump with a Pressure Gauge which doesn't work

Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	42	
Branch	Gikondo	
District	Kicukiro	
Sector	Kigarama	
Cell	Nyarurama	
Village	Rebero	
Street	KK 736 St	
GPS Coordinates Latitude	-2.0010641 y	
GPS Coordinates Longitude	30.0588766 x	





# **Attachement-3 Reservoir Survey Sheet**

Date: 29/05/2020

No.	Item	Details
A: (	General	
1	Number of Reservoir	42
2	Name of Reservoir	Kimisange
3	ID Code	KIGY11RE1
4	Ward	Sector: Kigarama, District: Kicukiro, Cell: Nyarurama, Village: Rebero
5	Branch Office	Gikondo
6	Location	Latitude: 2.0010641, Altitude: 30.0588766, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	m3
10	Service area of the Reservoir	Rebero, RDF Defense, Mageragere
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing Valve from Nzove, Call Rwampara for Pump Switch off.
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Rwampara and Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	า
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.9m / L: × B: , H: 2.00m
5	Remarks/ Issue	

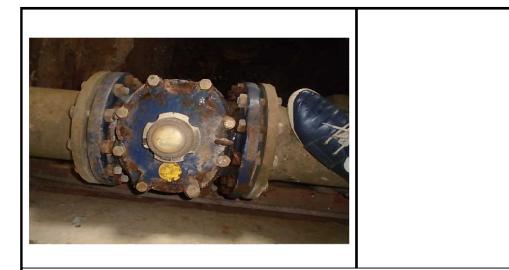
No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 80 & 150 in the pumping station, PN(bar): N/A,
		Function: YES
		Location: Outlet Pipe (INSIDE Pump house)
4	Inlet pipe No.1	SP, DN: 300, Roof (From Nzove WTP)
	Inlet pipe No.2	SP, DN: 100, Top (From Rwampara WTP)
5	Inlet valve No.1	DN: 300, Function: Not closing (on pipe from Nzove)
6	Outlet pipe No.1	SP, DN: 80
	Outlet pipe No.2	SP, DN: 100
	Outlet pipe No.3	SP, DN: 80
7	Outlet valve No.1	DN: 80, Function: YES
	Outlet valve No.2	DN: 100, Function: YES
	Outlet valve No.3	DN: 80, Function: YES
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 80
10	Remarks/ Issue	1 Outlet Valve DN80 is not FULLY operational, need replacement.

Other Information:

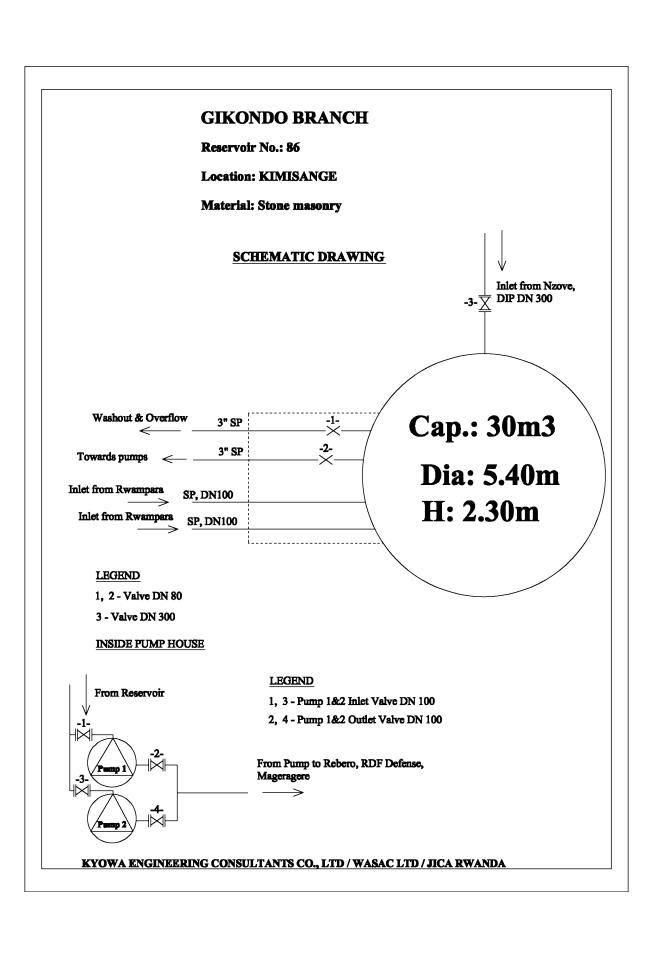
# **Photo Sheet**

Reservoir Name: Kimisange No: 42





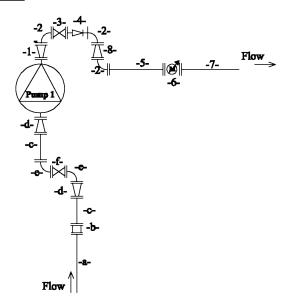
Meter DN150



Reservoir No.: 86

Reservoir Name: Kimisange Pumping Station

#### \* Pump No. 1



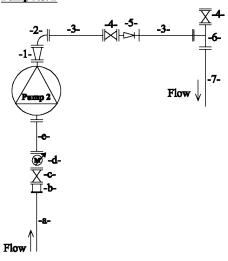
#### \* Discharge Pipe Res. No.1(DN200/100)

- 1- Reduced Cone DN100/50
- 2-90 Degree Elbow
- 3-Valve
- 4- Check Valve
- 5- Straight pipe
- 6- Water Meter DN200
- 7- Pipe
- 8- Reduced Cone DN200/100

#### \* Suction SP DN100/80

- a-Pipe
- b- Dismantling Joint
- c- Straight pipe
- d-Reduced Cone DN100/80
- e- 90 Degree Elbow
- f- Valve

#### \* Pump No. 2



#### \* Discharge Pipe Res. No.1(DN100)

- 1- Reduced Cone DN100/50
- 2-90 Degree Elbow 3-Straight pipe
- 4- Valve
- 5- Check valve
- 6- Tee
- 7- Pipe

#### \* Suction SP DN100

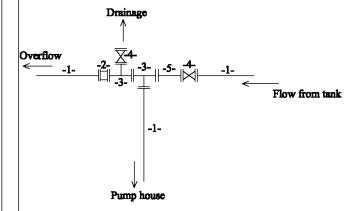
- a- Pipe
- b- Dismantling Joint
- c- Valve
- d- Water Meter DN100
- e- Straight pipe

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Reservoir No.: 86

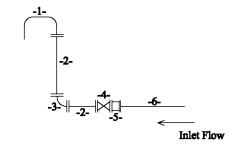
Reservoir Name: Kimisange

\* Pump Supply, Drainage and Overflow pipe (SP DN80)



- 1-Pipe
- 2- Dismantling Joint 3- Tee
- 4-Valve
- 5- Straight pipe

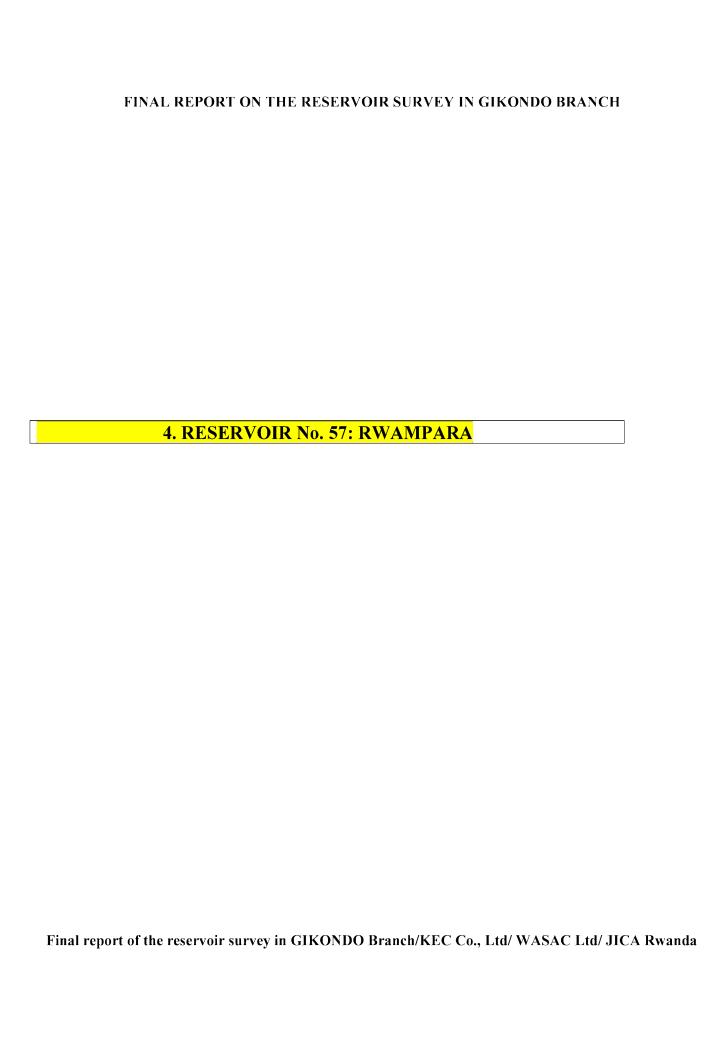
\* Inlet Pipe from Nzove Reservoir (DIP DN300)



- 1- Bent pipe
- 2- Straight pipe with double flange 3- 90 Degrees Elbow
- 4- Valve
- 5- Dismantling joint
- 6- Pipe

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Page 2/2



**BRANCH: GIKONDO** 

Reservoir: Rwampara

No.: 57

# I. Status and Functionality issues description

The underground Reservoir receives water from Rwampara catchments, the input (inlet from catchment) is composed of 5 pipes in which only 3 of them pass through a collection chamber, 2 has no collection chamber, in all the 5 pipes only 2 has a drainage valve and they have to be installed in order to avoid draining the whole water in case one pipe has a high turbidity.

Passing the 2 other pipes through the collection chamber and providing drainage valves to all the inlet pipes will allow a more controlled water reception, it will also help in avoiding draining the whole reservoir.

The pump house has problems and it needs to be rehabilitated.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Replacement of Inlet Valves</li> </ul>	• 2 Valve DN80
<ul> <li>Replacement of the existing Collection chamber</li> </ul>	• 1 Valve DN80
outlet valve	• 1 key Wrench
<ul> <li>Wrench Key (Cle à béquille : Key for inlet pipe</li> </ul>	• 6 Valve DN80
drainage valve)	• 1 Valve DN80
<ul> <li>Providing drainage for 3 other inlet valves</li> </ul>	• 1 Valve DN80
<ul> <li>Drainage system for existing manholes which become flooded during rain period.</li> </ul>	Construction work
<ul> <li>Pump outlet valve replacement</li> </ul>	
<ul> <li>Connecting the other 2 pipes to the collection chamber</li> </ul>	
<ul> <li>Checking the 5<sup>th</sup> inlet pipe for functionality</li> </ul>	

# **II. Description Photos**



Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	57	
Branch	Gikondo	
District	Nyarugenge	
Sector	Nyamirambo	
Cell	Mumena	
Village	Rwampara	
Street	KN 129 St	
GPS Coordinates Latitude	-1.9817248 y	
GPS Coordinates Longitude	30.0588816 x	
Мар		





# **Attachement-3 Reservoir Survey Sheet**

Date: 29/05/2020

No.	Item	Details
A: (	General	
1	Number of Reservoir	57
2	Name of Reservoir	Rwampara (known as Indatwa Village)
3	ID Code	KIGX12RE2
4	Ward	Sector: Nyamirambo, District: Nyarugenge, Cell: Mumena, Village: Rwampara
5	Branch Office	Gikondo
6	Location	Latitude: -1.9817248, Altitude: 30.0588816, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	150 m3 (120m3 according to technician)
10	Service area of the Reservoir	Kimisange Tank
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	None
3	Wall Leakage	Flowing (at the bottom of the valve chamber)
4	Overflow observation	times/month, <u>1</u> time /week
	Phenomenon	In case they are not pumping
	Reason of overflow	The reservoir become full and the only solution is to let it overflow
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Rwampara sources
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	L section
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	L: 15.00m×B: 5.00m, H: 2.00m
5	Remarks/ Issue	L-Sections, the tank is located in a marshaland and possibility of flooding are very high.

No.	Item	Details
D: Equipment		
1.	Floater Valve	No installation, DN: 80 (Size of pipes)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN:, PN(bar):,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	PVC, DN: 80, Top
	Inlet pipe No.2	PVC, DN: 100, Top
	Inlet pipe No.3	PVC, DN: 80, Top
5	Inlet valve No.1	DN: 80, Function: No
	Inlet valve No.2	DN: 80, Function: No
6	Outlet pipe No.1	SP, DN: 80
	Outlet pipe No.2	SP, DN: 80
7	Outlet valve No.1	DN: 80, Function: YES
	Outlet valve No.2	DN: 80, Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	Inlet valves installed on pipe from the source not operational

	1 Drainage valve need a manhole or a key (Clé à bequille)
	3 Pipes from the source need drainage system with a valve which may help in
Other Information:	draining water during rain season in case of turbidity from one particular pipe
	An existing manhole needs a stair, cover and keys (Clés à bequille)
	The existing manhole needs a drainage system.

# **Photo Sheet**

Reservoir Name: Rwampara No: 57



Drainage Valve (Leaking but not to much)

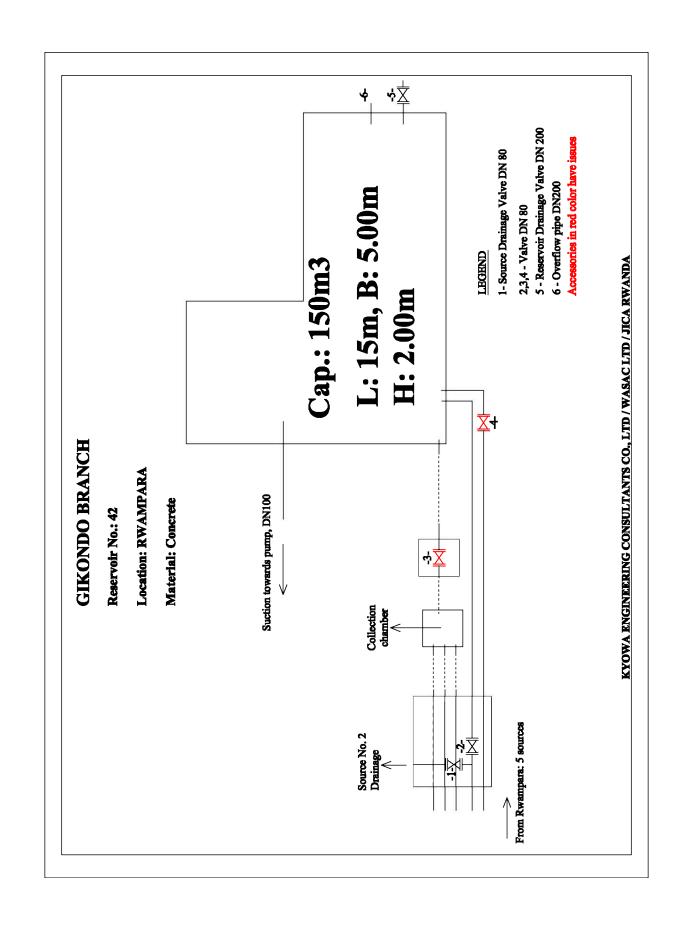
Overflow pipe





Inside of Manhole

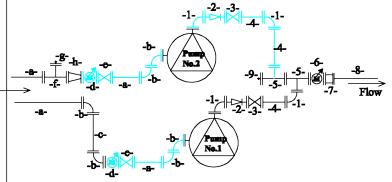
Inlet No. 4 with valve and needs to pass through a collection chamber



Reservoir No.: 42

Reservoir Name: Rwampara Pumping Staion

#### \* Pump Supply to Kimisange





- 1-90 Degrees Elbow
- 2- Check valve 3- Valve
- 4- Straight pipe with double flange
- 5-Tee
- 6- Meter
- 7- Dismantling joint
- 8- Pipe
- 9- End cap

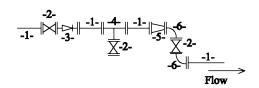
## \* Suction SP DN100

- a- Straight pipe with flange
- b- 90 Degrees Elbow
- c- Pipe
- d- Water Meter
- e-Valve
- f- Tee
- g- End Cap
- e- Reduced Cone

Reservoir No.: 42

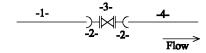
Reservoir Name: Rwampara Pumping Staion

#### \* Supply from pump (Outside pump house)



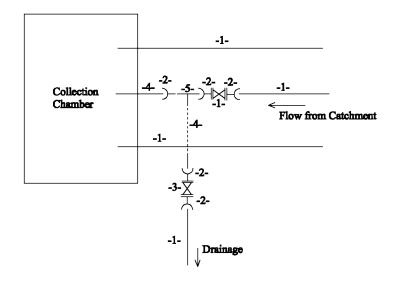
- 1- Straight pipe
- 2- Valve
- 3- Check valve
- 4- Tee
- 5- Reduced Cone
- 6- 90 Degree Elbow

# \* Inlet Reservoir



- 1- Straight pipe
- 2- Wide tolerance Adaptor
- 3- Valve
- 4- Pipe

# \* Collection Chamber PVC DN110



- 1- Pipe
- 2- Adaptor 3- Valve
- 4- Staright pipe
- 5- Tee

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

Page 2/2



BRANCH: GIKONDO					
Reservoir: REBERO RADARI					
No.: 24					
I. Status and Functionality issues description	I. Status and Functionality issues description				
II. Required Action and Requirements					
Action	Requirements				
•	•				
III. Description Photos					

Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

# **Attachement-3 Reservoir Survey Sheet**

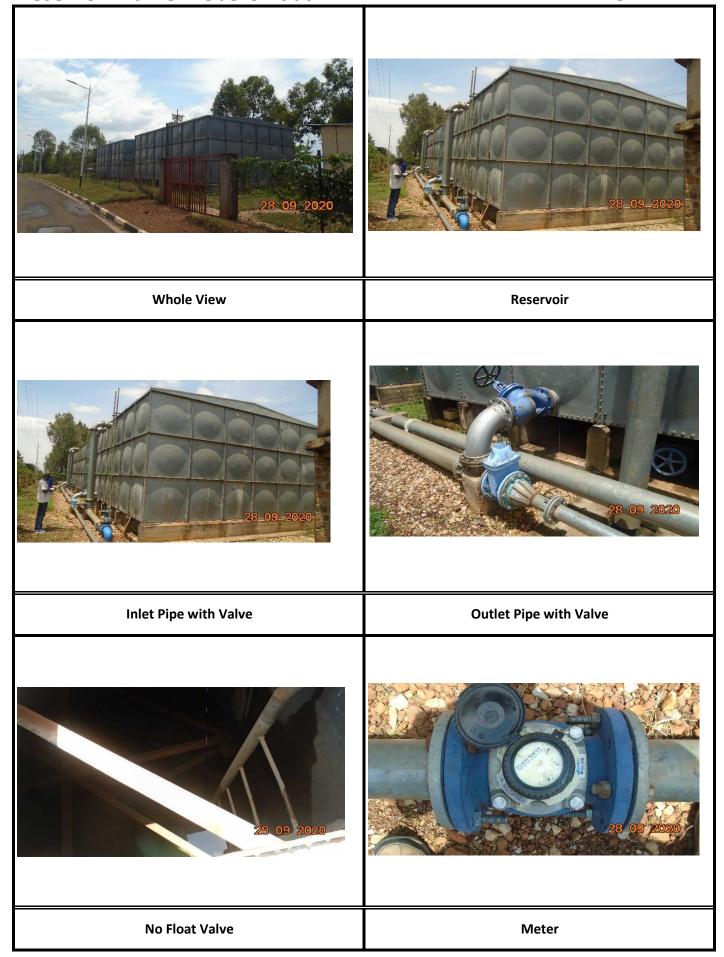
Date: \*\*/\*\*/2020

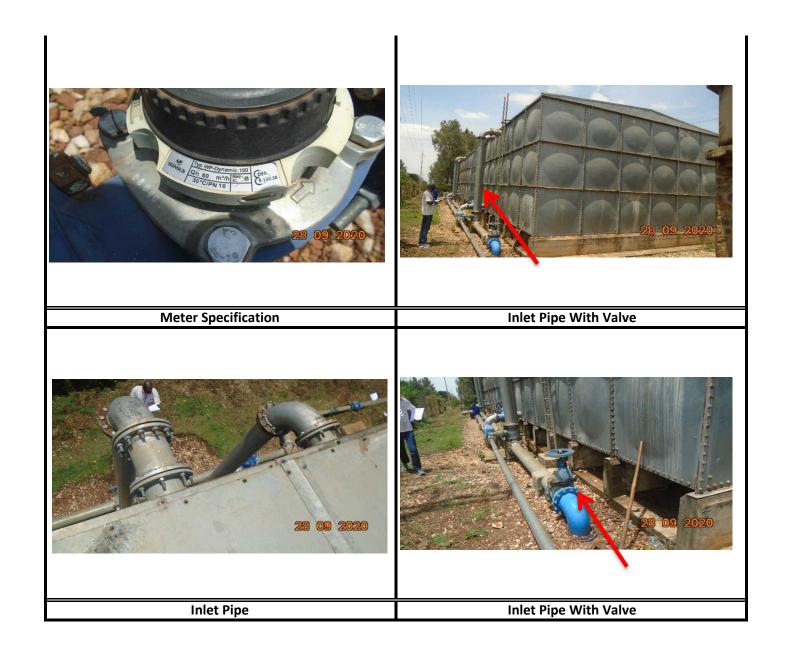
No.	Item	Date: **/**/2020 <b>Details</b>
<b>A</b> :	General	
1	Number of Reservoir	24
2	Name of Reservoir	Rebero Radari
3	ID Code	GATZ12RE1
4	Ward	Sector: Kigarama, District: Kicukiro, Cell: Bwerankori, Village: Rebero
5	Branch Office	Gikondo
6	Location	Latitude: - 2.00681536, Longitude: 30.06568824, Altitude: 1802m
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	250m3
10	Service area of the Reservoir	Rebero RDF and Nyanza Uphill
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Kimisange
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Steel
4	Inside Dimension	L: 9.60m × B: 7.20m, H: 3.60m
5	Remarks/ Issue	

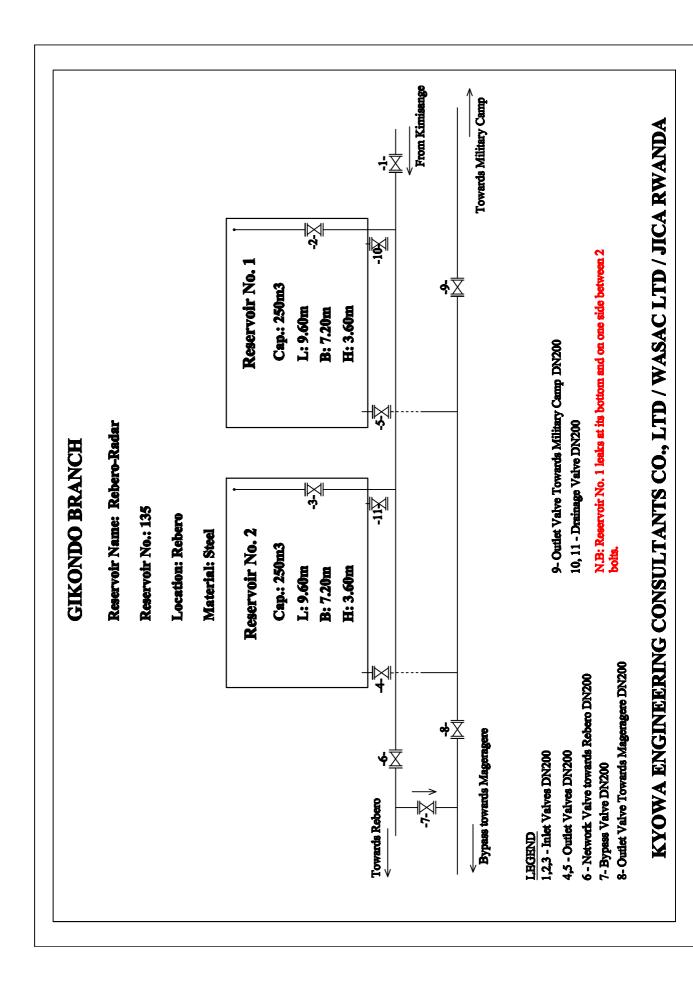
No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	Meter towards RDF, DN100, PN16
4	Inlet pipe No.1	SP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	SP, DN: 200
7	Outlet valve No.1	DN: 200, Function:
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200 (=Valve)
10	Remarks/ Issue	

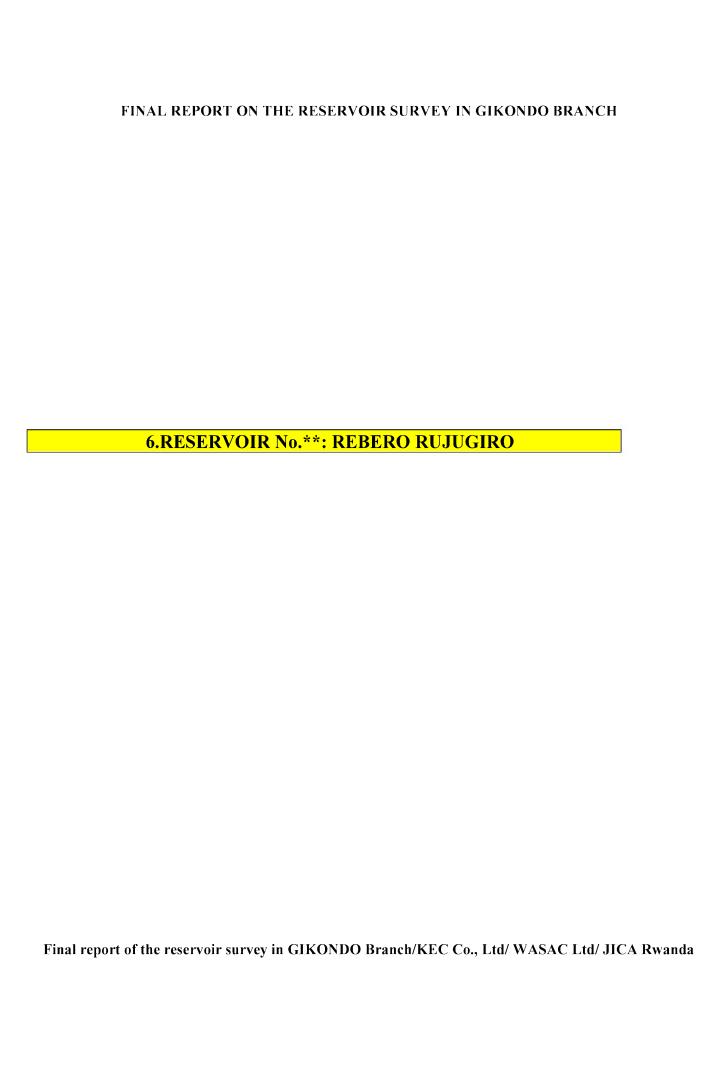
Other Information:	Outlet towards RDF, Pipe: Meter DN100,	Valve: DN200, Plus Reduction

Reservoir Name: Rebero Radar No:24









#### FINAL REPORT ON THE RESERVOIR SURVEY IN GIKONDO BRANCH

**BRANCH: GIKONDO** 

Reservoir: REBERO

No.: \*\*

#### I. Status and Functionality issues description

Floater valve needed, Valve needed between the reservoir and the source.

#### II. Required Action and Requirements

Action	Requirements
• Installation of a floater valve DN50	• 1 Floater valve DN50
<ul> <li>Installation of valve DN50 (Vanne d'equilibre)</li> </ul>	• 1 Valve DN50

#### **III. Description Photos**



Final report of the reservoir survey in GIKONDO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

## **Attachement-3 Reservoir Survey Sheet**

Date: 28/10/2020

No.	Item	Details
A: (	General	
1	Number of Reservoir	53
2	Name of Reservoir	Kuri petit prince
3	ID Code	KIGX12RE1
4	Ward	Sector: Gikondo, District: Kicukiro, Cell: Kagunga, Village: Rebero
5	Branch Office	Gikondo
6	Location	Latitude: 1.987856, Longitude: 30.07194, Altitude:
7	Function of Reservoir	BPT
8	Age of Reservoir	No data
9	Storage Capacity	120 m3
10	Service area of the Reservoir	Rujugiro Village
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Rwampara via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always low level
8	Issue on Functional Condition	If a floater is installed, an intermediary valve is required, higher pressure when floater closes (Vanne d'equilibre est requise)
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 6.30m, H: 4.20m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 50
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 50, Top
5	Inlet valve No.1	DN: 50, Function: YES
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 50, Function: YES
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	No data
10	Remarks/ Issue	

Other Information:

Reservoir Name: Rebero Rujugiro No:

Reservoir Name: Rebero Rujugiro	NO:
28 09 2020	
Whole View	Reservoir
28 09 2020	28 09 2020
Inlet Pipe with Valve	Outlet Pipe with Valve
23 09 2020	No Meter
No Float Valve installed	Meter

#### **GIKONDO BRANCH**

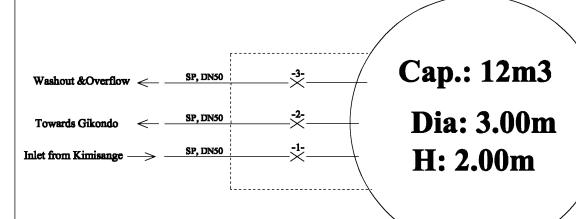
Reservoir Name: Rebero (Rujugiro)

Reservoir No.: XXX

**Location: Rebero** 

**Material: Concrete** 

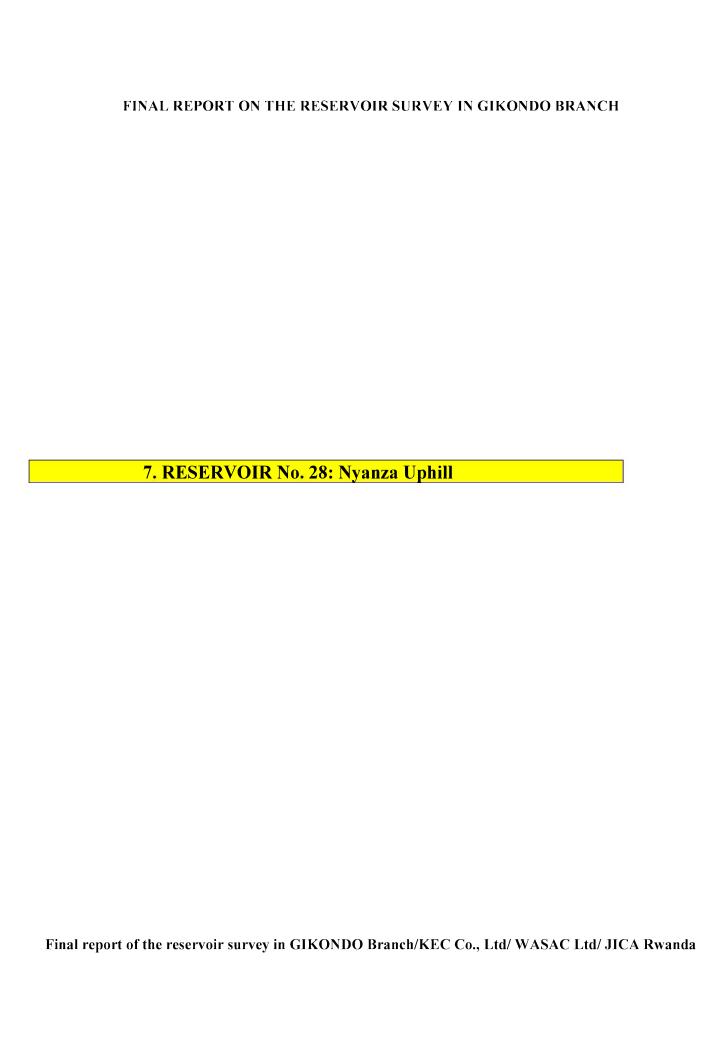
#### **SCHEMATIC DRAWING**



#### LEGEND

- 1- Inlet Valve DN50
- 2 Outlet Valve DN50
- 3 Drainage Valve DN50

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA



#### FINAL REPORT ON THE RESERVOIR SURVEY IN GIKONDO BRANCH

**BRANCH: GIKONDO** 

Reservoir: Nyanza Uphill

No.: 28

#### I. Status and Functionality issues description

Floater needed,

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Installation of a floater valve DN200</li> </ul>	<ul> <li>1 Floater valve DN200</li> </ul>
<ul> <li>Installation of 90 Degree elbow DN400</li> </ul>	• 1 Elbow with 90Degree
<ul> <li>installation of Reduced cone 400/200</li> </ul>	• 1 Reduced Cone 400/200

#### **III. Description Photos**



## **Attachement-3 Reservoir Survey Sheet**

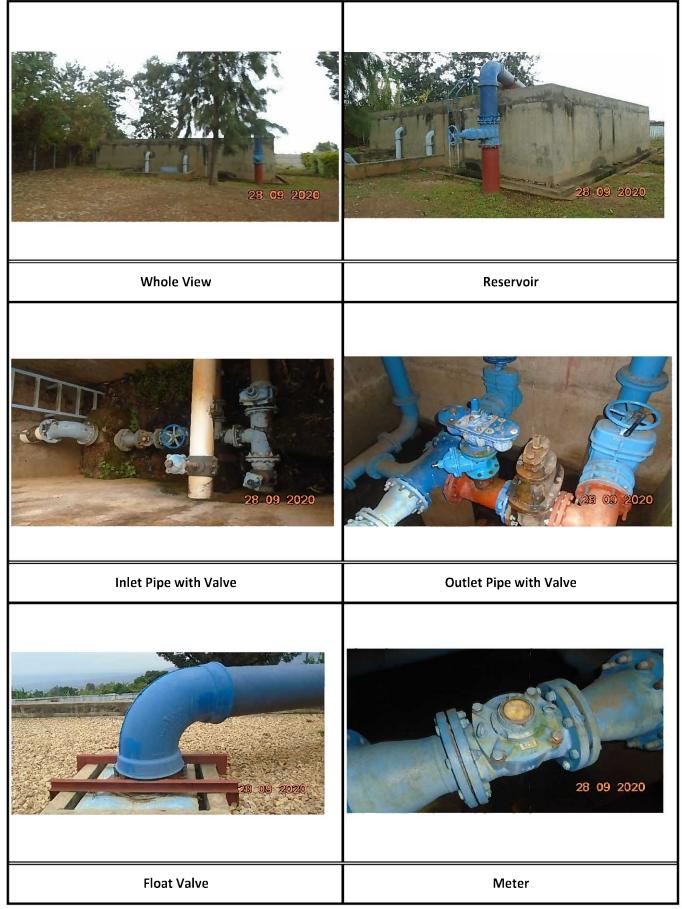
Date: 28/10/2020

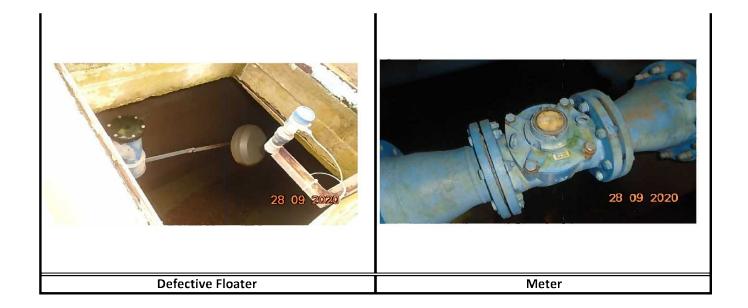
No.	Item	Date: 28/10/2020 <b>Details</b>
=	General	Details
1	Number of Reservoir	28
$\vdash$	Name of Reservoir	Nyanza
$\vdash$	ID Code	GAHZ14RE1
4	Ward	Sector: Kagarama, District: Kicukiro, Cell: Rukatsa, Village: Nyanza
5	Branch Office	Gikondo
$\vdash$	Location	Latitude: - 2.003365, Longitude: 30.09739, Altitude: Null
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
$\vdash$	Storage Capacity	450 m3
$\vdash$	Service area of the Reservoir	Nyanza, Rukatsa area, Gahanga and RDF Position
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Rwampara via Rebero
		Water pressure at inlet:
		Frequency and time: Everyday
7	Water level movement	always low level
8		
C:S	tructure	
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	L: 11.80m, B: 11.80m, H: 3.20m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve - Inlet 1	Malfunction (Defective), DN: 200
	Floater Valve - Inlet 2	No installation, DN: 400
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 16", PN(bar): Not visible
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 200, Top
	Inlet pipe No.2	DIP, DN: 400, Roof
5	Inlet valve No.1	DN: 200, Function: YES
	Inlet valve No.2	DN: 400, Function: YES
6	Outlet pipe No.1	DIP, DN: 200
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 200
10	Remarks/ Issue	No floater needed, Manhole needs cover.

Other Information:

Reservoir Name: Nyanza Uphill No:28





#### **GIKONDO BRANCH**

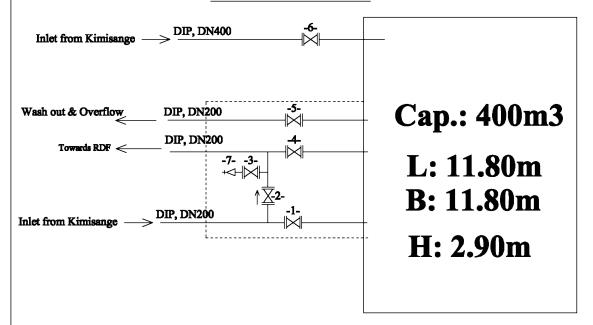
Reservoir Name: Nyanza

Reservoir No.: 116

Location: Nyanza (Kicukiro)

**Material: Concrete** 

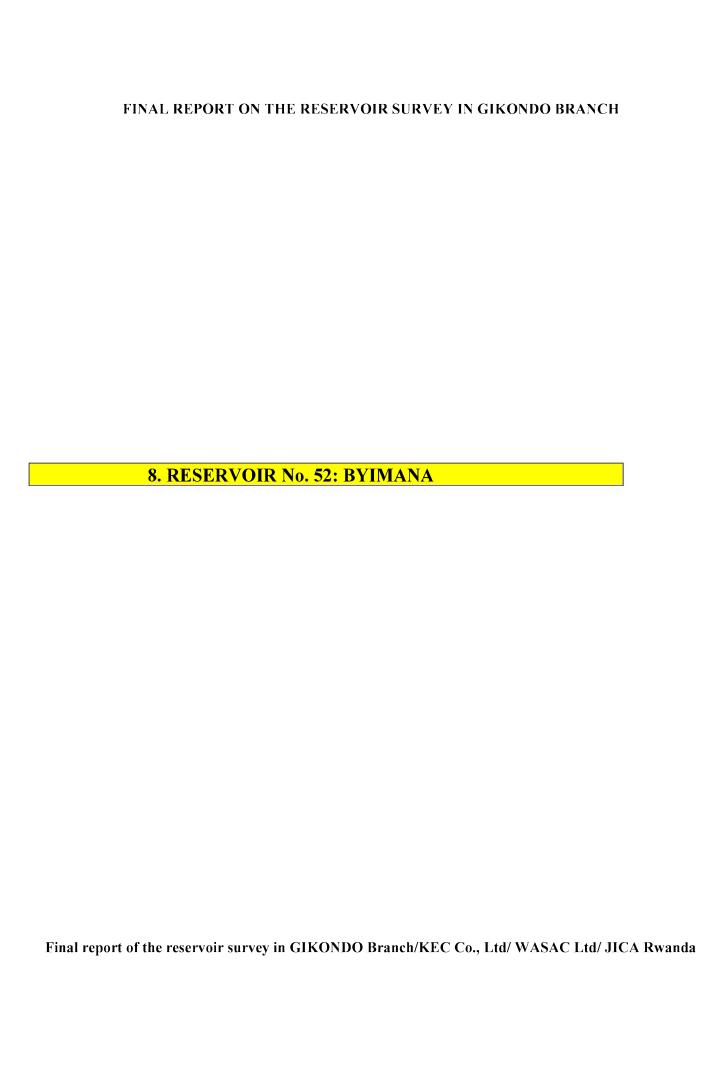
#### **SCHEMATIC DRAWING**



#### **LEGEND**

- 1- Inlet Valve DN200
- 2 Bypass Valve DN200
- 3 Valve for Air Valve DN200
- 4 Outlet Valve DN200
- 5 Washout Valve DN200
- 6 Inlet 2 Valve DN400
- 7 Air Valve

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#### FINAL REPORT ON THE RESERVOIR SURVEY IN GIKONDO BRANCH

**BRANCH: GIKONDO** 

**Reservoir: BYIMANA** 

No.: 52

#### I. Status and Functionality issues description

Replacement of existing check valve, Outlet valves need replacement.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Installation of a Check valve DN150</li> </ul>	<ul> <li>Check valve DN150</li> </ul>
<ul> <li>Installation of Outlet valve DN150</li> </ul>	• 2 Valves DN150

#### **III. Description Photos**



Replacement of non-functioning Check Valve

## **Attachement-3 Reservoir Survey Sheet**

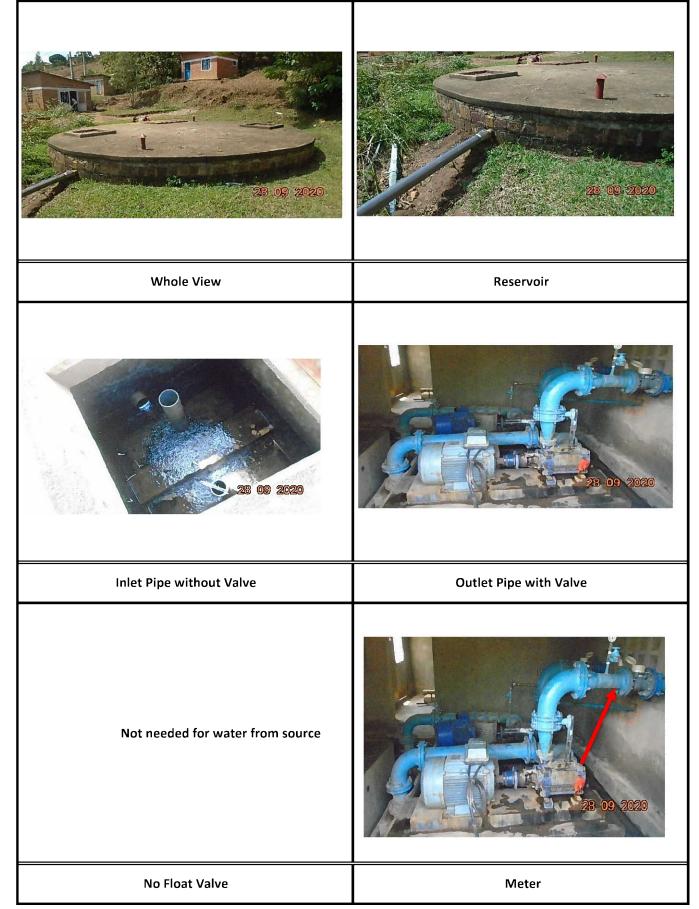
Date: \*\*/\*\*/2020

No.	Item	Date: **/**/2020  Details
A: (	General	
1	Number of Reservoir	52
2	Name of Reservoir	Byimana
3	ID Code	NIBX16RE1
4	Ward	District: Kicukiro, Sector: Kagarama, Cell: Kanserege, Village: Muyange
5	Branch Office	Gikondo
6	Location	Latitude: 1.988536, Longitude: 30.118962, Altitude:
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	150 m3
10	Service area of the Reservoir	Muyange
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Byimana
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	8 Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 8.20m, H: 2.50m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1.	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 100, PN(bar):,
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	PVC, DN: 110, Top
	Inlet pipe No.2	PVC, DN: 110, Top
5	Inlet valve No.1	No installation
	Inlet valve No.2	No installation
6	Outlet pipe No.1	DIP, DN: 100
	Outlet pipe No.2	DIP, DN: 100
7	Outlet valve No.1	DN: 150 , Function: Defective
	Outlet valve No.2	DN: 150 , Function: Defective
8	Overflow Pipe	PVC, DN110
9	Drain Pipe	No installation
10	Remarks/ Issue	Check valves not working

Other Information:

Reservoir Name: Byimana No:52



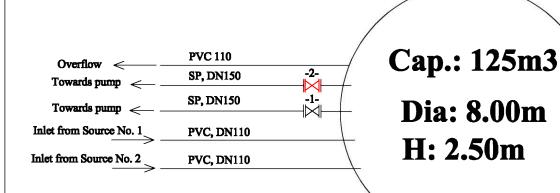
#### **GIKONDO BRANCH**

Reservoir No.: 11

**Location: BYIMANA** 

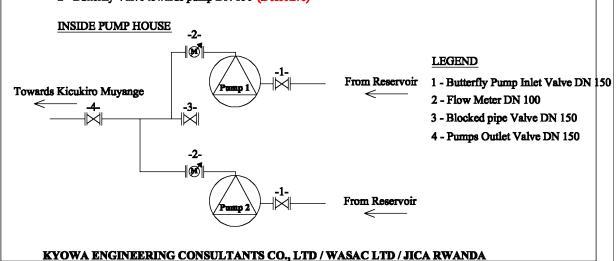
**Material: Concrete** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

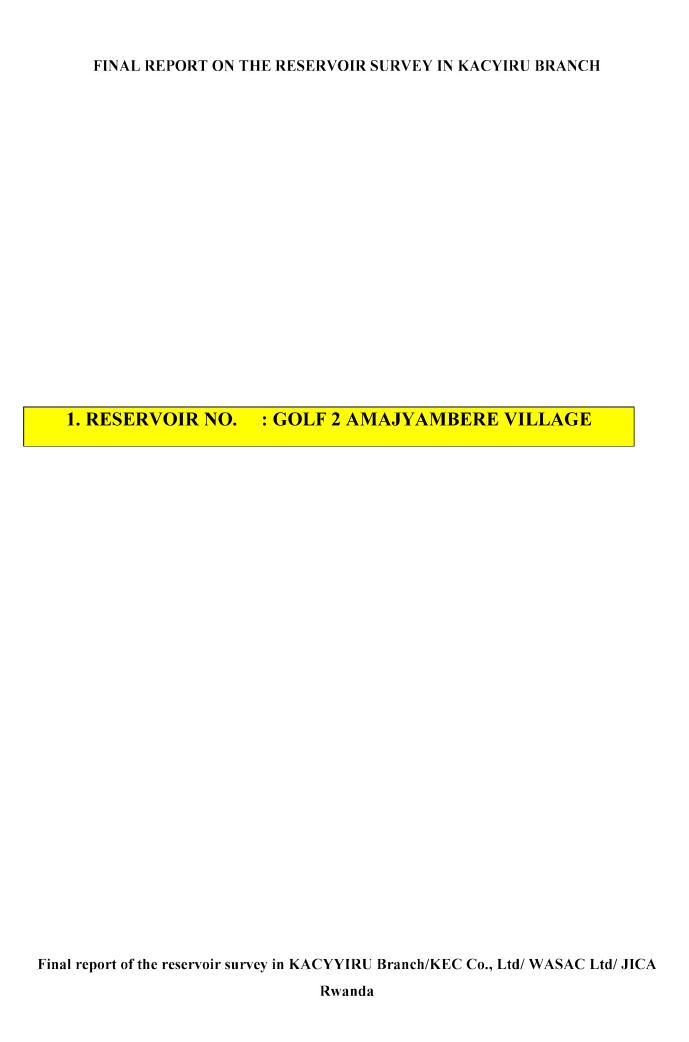
- 1 Butterfly Valve towards pump DN 150
- 2 Butterfly Valve towards pump DN 150 (Defective)



#### FINAL REPORT ON THE RESERVOIR SURVEY IN KACYIRU BRANCH

# THE REPUBLIC OF RWANDA KIGALI CITY





#### FINAL REPORT ON THE RESERVOIR SURVEY IN KACYIRU BRANCH

**BRANCH: KACYIRU** 

Reservoir: Golf 2 Amajyambere

No.:

#### I. Status and Functionality issues description

The reservoir receives water from Kimisagara and Ntora, the tank is semi ground, and it supplies water to Kimihurura, Kabeza, Kanombe and Camp GP areas

Reservoir aeration needs new meshes, manhole need covering, compound rainwater drainage needed.

The pump house Pump house need rehabilitation (urgent), gate not closing, no lighting, Operator house leaking.

#### I. Required Action and Requirements

Action	Requirements
Installation of Floater valves	• Floater valves DN300
	Floater valves DN200
Repairing or replacement of the existing	• 1 Valve DN200
Electronic valve	
<ul> <li>Pump and Operator houses need rehabilitation (urgent)</li> </ul>	Construction works
<ul> <li>Electrical installation needed</li> </ul>	
<ul> <li>Manhole covering</li> </ul>	
<ul> <li>Rain water drainage (urgent)</li> </ul>	

#### FINAL REPORT ON THE RESERVOIR SURVEY IN KACYIRU BRANCH

#### **II. Description Photos**



Location of Reservoir				
Subject	Data	Remarks		
Reservoir number				
Branch	Kacyiru			
District	Gasabo			
Sector	Kimihurura			
Cell	Kimihurura			
Village	Amajyambere			
Street				
GPS Coordinates Latitude	-1.9568127 y			
GPS Coordinates Longitude	30.0841659 x			
1.4		-02		





## **Attachement-3 Reservoir Survey Sheet**

Date: 03/06/2020

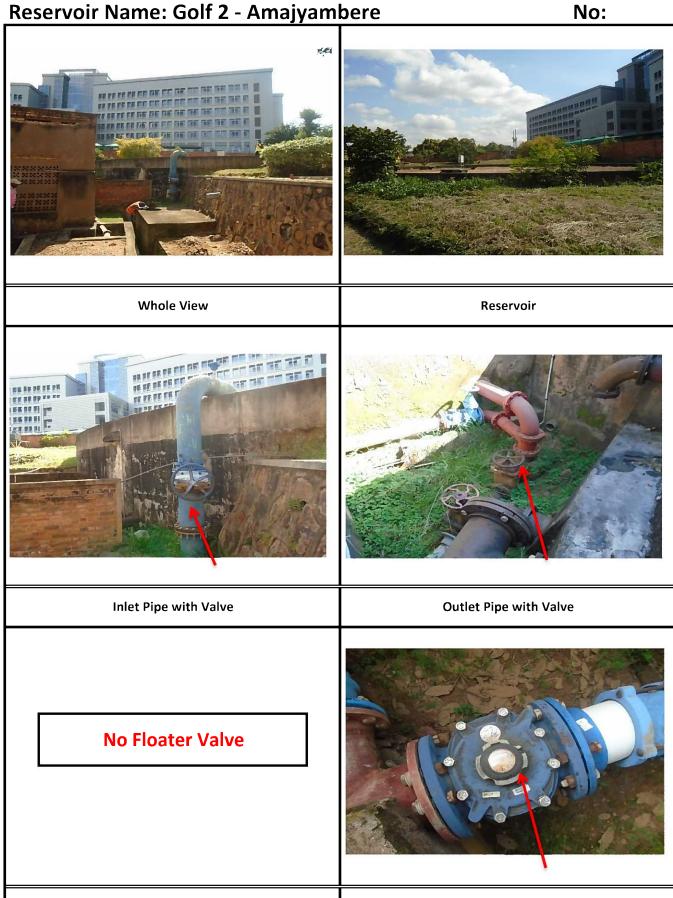
No.	Item	Details
A: (	General	
1	Number of Reservoir	
2	Name of Reservoir	Golf 2 - Amajyambere
3	ID Code	KACZ5H3RE01
4	Ward	District: Gasabo, Sector: Kimihurura, Cell: Kimihurura, Village: Amajyambere
5	Branch Office	Kacyiru
6	Location	Latitude: -1.9568127, Longitude: 30.0841659, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	1000 m3
10	Service area of the Reservoir	Kimihurura, Kabeza, Kanombe, Camp GP
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:,
	Reason of bypass operation	
6	Inflow Condition	Source: Kimisagara and Nzove via Ntora
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 23.00m, H: 2.50m
5	Remarks/ Issue	

No.	Item	Details
D:	2: Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	Malfunction
3	Flow Meter	Mechanical, DN:, PN(bar):,
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 300, Top (From Nzove)
	Inlet pipe No.2	DIP, DN: 200, Top (From Kimisagara)
5	Inlet valve No.1	DN: 300, Function: YES
	Inlet valve No.2	DN: 200, Function: Not operating - Electrovanne
6	Outlet pipe No.1	DIP, DN: 300
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 200
10	Remarks/ Issue	

	. Pump house need rehabilitation (urgent)
	. Office leaking during rain period
	. Gate not closing
Other Information:	. Electrical installation needed
	. Aeration openigs need new meshes for protection
	. Manhole not covered
	. Rain water drainage (urgent)

Reservoir Name: Golf 2 - Amajyambere

**No Float Valve** 



Meter

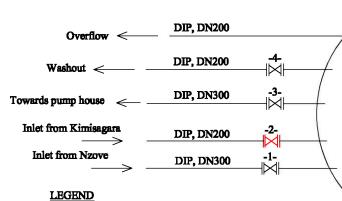


Reservoir No.: 2

Location: Amajyambere

**Material: Concrete** 

#### **SCHEMATIC DRAWING**



Cap.: 1000m3

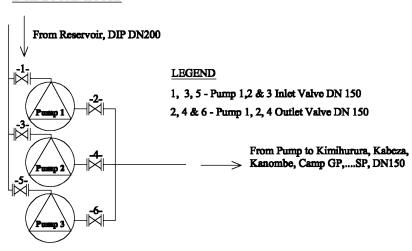
Dia: 23.00m

H: 2.50m

- 1- Inlet Valve DN300
- 2 Inlet Electro-valve DN200
- 3 Outlet Valve DN300
- 4 Wash out Valve DN 200

Accessories in red color have issues

#### INSIDE PUMP HOUSE



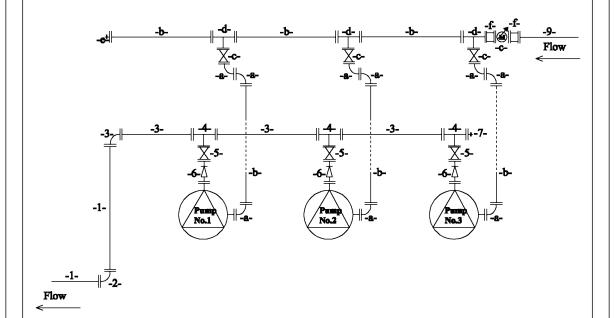
KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

#### **KACYIRU BRANCH**

Reservoir No.: 2

Reservoir Name: Amajyambere (Golf 2)

#### \* Pumping Station(DIP DN200, 150)



#### Supply from Pump (DIP 150)

- 1- Straight Pipe with flange
- 2-90 Degree Elbow
  3- Straight pipe with double flange
  4- Tee with triple flange
- 5- Valves DN150
- 6- Check valve
- 7- End Cap

#### Suction pipe (DIP 200)

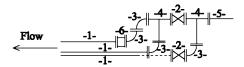
- a-90 Degree Elbow
- b- Straight pipe with double flange
- c- Valve
- d- Tee with triple flange
- e- End cap
- f- Dismantling joint

#### KACYIRU BRANCH

Reservoir No.: 2

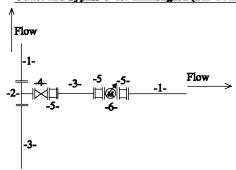
Reservoir Name: Amajyambere (Golf 2)

#### \* Outlet and bypass A for NTORA (DIP DN200)



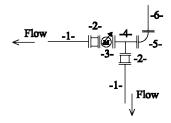
- 1- Straight Pipe with flange
- 2-Valve
- 3-90 Degree Elbow
- 4- Tee with triple flange
- 5- Straight pipe with double flange
- 6- Dismantling Joint

#### \* Outlet and bypass C for Kimisagara (DIP DN200)



- 1-PVC Pipe DN200
- 2- Tee with triple flange
- 3- Straight pipe with double flange
- 4- Valve
- 5- Dismantling Joint
- 6- Flow Meter

#### \* Outlet and bypass C for NTORA (DIP DN200)



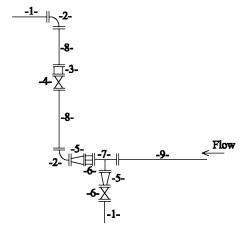
- 1-PVC Pipe
- 2- Dismantling Joint
- 3- Flow Meter
- 4- Tee with triple flange
- 5-90 Degree Elbow
- 6- Straight pipe with double flange

#### **KACYIRU BRANCH**

Reservoir No.: 2

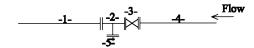
Reservoir Name: Amajyambere (Golf 2)

#### \* Inlet and bypass from Ntora(DIP DN 300, 200, 400)



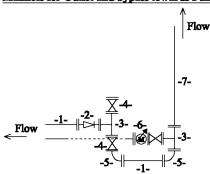
- 1- Straight Pipe with flange
- 2-90 Degree Elbow 3-Dismantling Joint
- 4- Valve
- 5- Reduced Cone
- 6- Wide tolerance coupling
- 7- Tee with triple flange
- 8- Straight Pipe with double flange
- 9- Network pipe

#### \* Inlet Manhole for Kimisagara DIP DN200



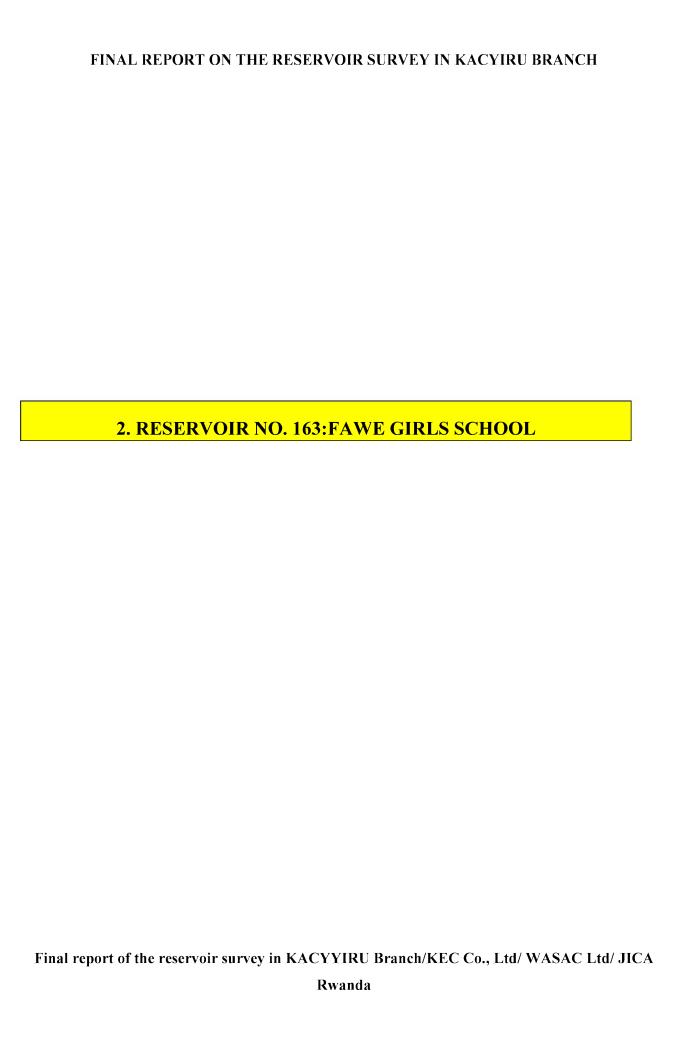
- 1- Straight Pipe with flange
- 2- Tee with triple flange
- 3- Valve
- 4- Straight pipe with double flange
- 5- End cap

#### \* Manhole for Outlet and bypass towards Pumps DIP DN300, 200



- 1- Straight Pipe with flange
- 2- Check valve
- 3- Tee with triple flange
- 4- Valve
- 5-90 Degree elbow
- 6- Flow Meter
- 7- Pipe

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**BRANCH: KACYIRU** 

**Reservoir: FAWE Girls School** 

No.: 163

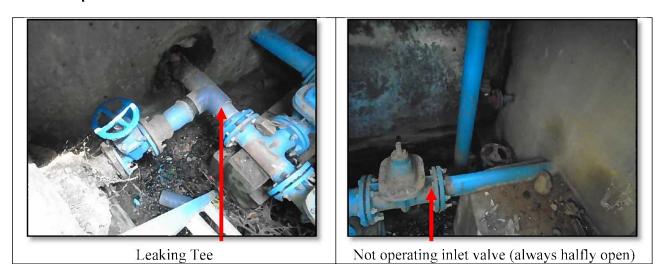
## I. Status and Functionality issues description

The reservoir receives water from Nzove via Ntora, and it serves FAWE GS and the nearby areas. There is a leaking Tee and Valve.

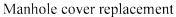
## I. Required Action and Requirements

Action	Requirements	
<ul> <li>Installation of Floater valve</li> </ul>	<ul> <li>Floater valves DN100</li> </ul>	
<ul> <li>Installation of Outlet Valve</li> </ul>	• Valve DN100	
Replacement of PVC Tee	• Tee PVC DN100	
Manhole cover needed and General	Construction works	
Manhole cleaning works		

## **II. Description Photos**



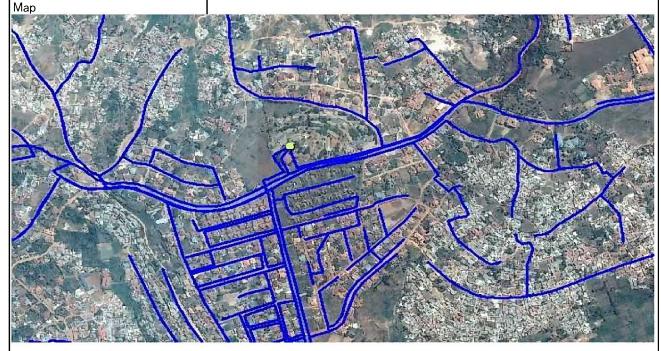






General cleaning works needed.

Location of Reservoir			
	Data		Remarks
163			
Kacyiru			
Gasabo			
Gisozi			
Musezero			
Byimana			
KG 14 Av			
	-1.9138989	у	
	30.07213	х	
	163 Kacyiru Gasabo Gisozi Musezero Byimana	Data 163 Kacyiru Gasabo Gisozi Musezero Byimana KG 14 Av -1.9138989	Data 163 Kacyiru Gasabo Gisozi Musezero Byimana





# **Attachement-3 Reservoir Survey Sheet**

Date: 03/06/2020

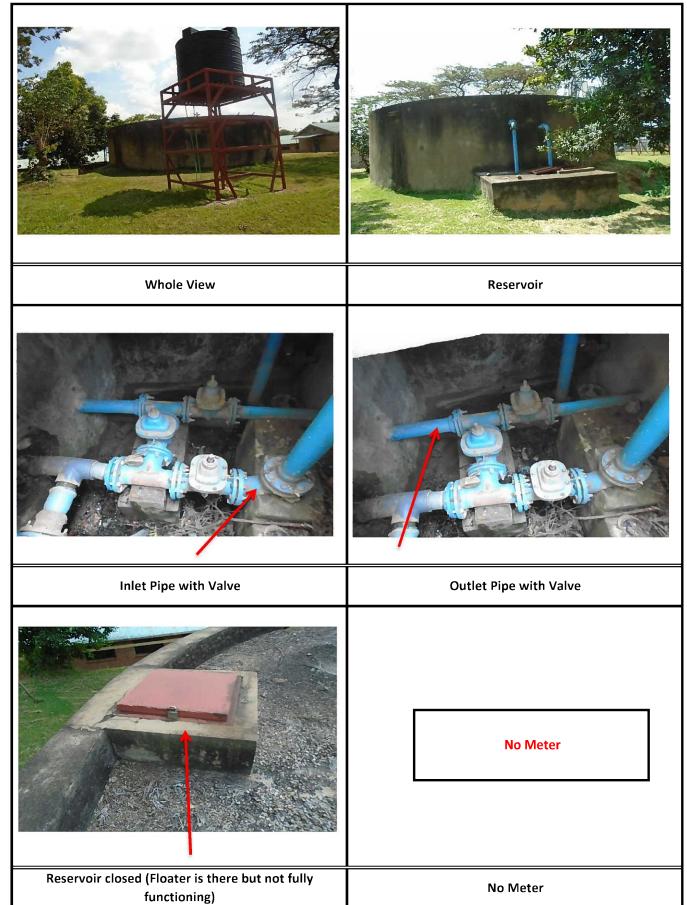
Na	Idom	Date: 03/06/2020
No.	Item	<b>Details</b>
$\vdash$	General	160
$\vdash$	Number of Reservoir	163
-	Name of Reservoir	FAWE Girls School
$\vdash$	ID Code	KACZ2F2RE01
4	Ward	District: Gasabo, Sector: Gisozi, Cell: Musezero, Village: Byimana
$\vdash$	Branch Office	Kacyiru
$\vdash$	Location	Latitude: -1.9138989, Longitude: 30.07213, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	250m3
10	Service area of the Reservoir	FAWE Girls School, Kadobogo
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	No information (Tank always closed)
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: Sometimes
	Reason of bypass operation	Cleaning
6	Inflow Condition	Source: NZOVE via Ntora
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
		Leaking valves and connected PVC Tee
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.00m, H: 2.80m
5	Remarks/ Issue	Installed accessories very dirty and general cleaning is needed

No.	. Item	Details		
D: Equipment				
1	Floater Valve	Malfunction, DN: 100		
2	Water Level Gauge	No installation		
3	Flow Meter	No installation		
4	Inlet pipe No.1	DIP, DN: 100, Top		
5	Inlet valve No.1	DN: 100 , Function: YES (but very old)		
6	Outlet pipe No.1	DIP, DN: 100		
	Outlet pipe No.2	DIP, DN: 50		
7	Outlet valve No.1	DN: 100 , Function: NO		
	Outlet valve No.2	DN: 50, Function: YES (but Permanently closed)		
8	Overflow Pipe	DIP, DN: 100		
9	Drain Pipe	DIP, DN: 100		
10	Remarks/ Issue	Tank was closed during our visit		
		. Manhole very dirty		
		Manhala Language		

	. Manhole very dirty
Other Information:	. Manhole has no cover
Other information.	. Leaking side connection in PVC 110
	. Existing bypass closed

# **Photo Sheet**

Reservoir Name: FAWE Girls School No: 163

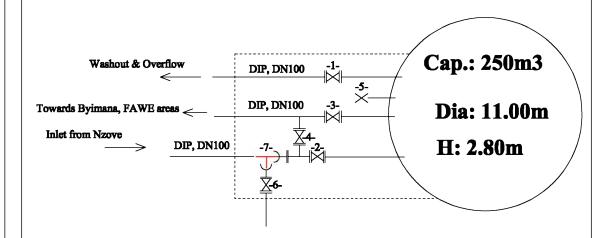


Reservoir No.: 21

**Location: FAWE Girls School** 

**Material: Concrete** 

## **SCHEMATIC DRAWING**



### **LEGEND**

- 1- Washout Valve DN 100
- 2 Inlet Valve DN 100
- 3 Outlet Valve DN 100
- 4 Bypass Valve DN 100
- 5 Blocked 2nd Outlet Valve DN 50
- 6 Valve for a connection Valve DN 100
- 7 Leaking PVC Tee

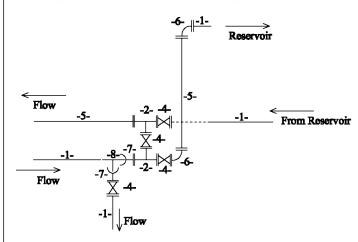
Accessories in red color have issues

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Reservoir No.: 21

Reservoir Name: FAWE Girls School

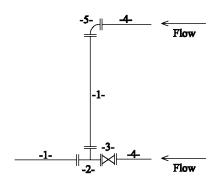
## \* Inlet, Outlet and bypass (DIP DN 200)



- 1- Straight Pipe with flange2- Tee with triple flange3- Dismantling Joint

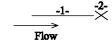
- 4-Valve
- 5-Pipe
- 6-90 Degree Elbow
- 7- Flange Adaptor
- 8-PVC Tee

#### \* Overflow and Drainage DIP DN100

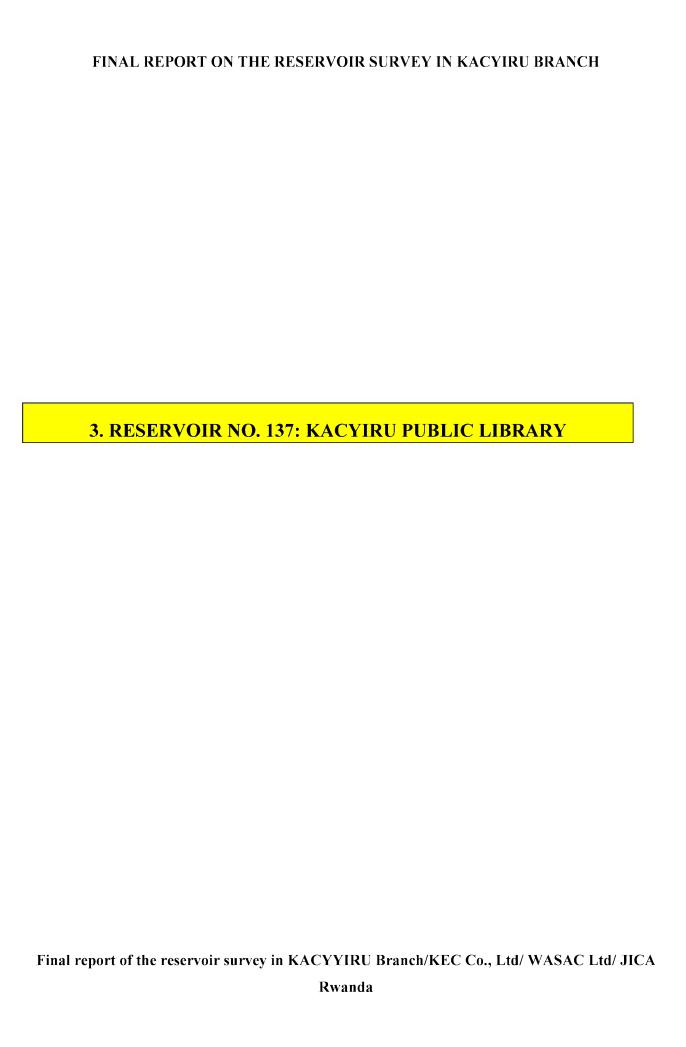


- 1- Pipe
- 2- Tee with triple flange 3- Valve
- 4- Straight pipe with flange
- 5-90 Degree Elbow

## \* Blocked outlet SP DN50



- 1- Pipe
- 2- Galvanized Valve



**BRANCH: KACYIRU** 

Reservoir: Kacyiru Public Library

No.: 137

## I. Status and Functionality issues description

The reservoir was receiving water from Nzove via Ntora, after its reception it was discovered that it leaks profusely on walls and bottom and the branch decided to abandon it, bypass it.

It has a storage capacity of 350m3 and needs full rehabilitation or replacement in order to be able to use the available space.

If the reservoir is repaired a drainage channel will be needed and connect it to the existing tarmac road side ditch.

The installed valves are of old types and will have to be replaced.

## II. Required Action and Requirements

Action	Requirements
Installation of Floater valve	• Floater valve DN100
Installation of new valves	• 4 Valves DN100
<ul> <li>Fully rehabilitate the tank from inside and outside</li> <li>Rehabilitation of manhole</li> <li>Access slabs</li> <li>Fencing</li> <li>Toilet for Operator house</li> </ul>	Construction works

# **II. Description Photos**



Defective floater valve



Rehabilitation needed to waterproof it as it was abandoned because it was leaking on walls and base



Replacement of all 4 valves



New covers needed for manhole and Reservoir

Location of Reservoir			
Data	Remarks		
137			
Kacyiru			
Gasabo			
Kacyiru			
Kibaza			
Virunga			
KG 511 St			
-1.9340429 y			
30.0787843 x			
	Data 137 Kacyiru Gasabo Kacyiru Kibaza Virunga KG 511 St -1.9340429 y		





# **Attachement-3 Reservoir Survey Sheet**

Date: 03/06/2020

No.	Item	Details
A: (	General	
1	Number of Reservoir	137
2	Name of Reservoir	Kacyiru Public Library
3	ID Code	120703RE1
4	Ward	District: Gasabo, Sector: Kacyiru, Cell: Kibaza, Village: Virunga
5	Branch Office	Kacyiru
6	Location	Latitude: -1.9340429, Longitude: 30.0787843, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	350m3
10	Service area of the Reservoir	
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Flowing (according to WDO Kacyiru Branch)
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	Abandoned reservoir
6	Inflow Condition	Source: NZOVE via Ntora
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always no water
8	Issue on Functional Condition	The reservoir was leaking (too much) and the branch decided to abandon it.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 11m , H: 3.70m
5	Remarks/ Issue	No stairs, General repair is needed, cracks inside and it was leaking before they decided to abandon it.

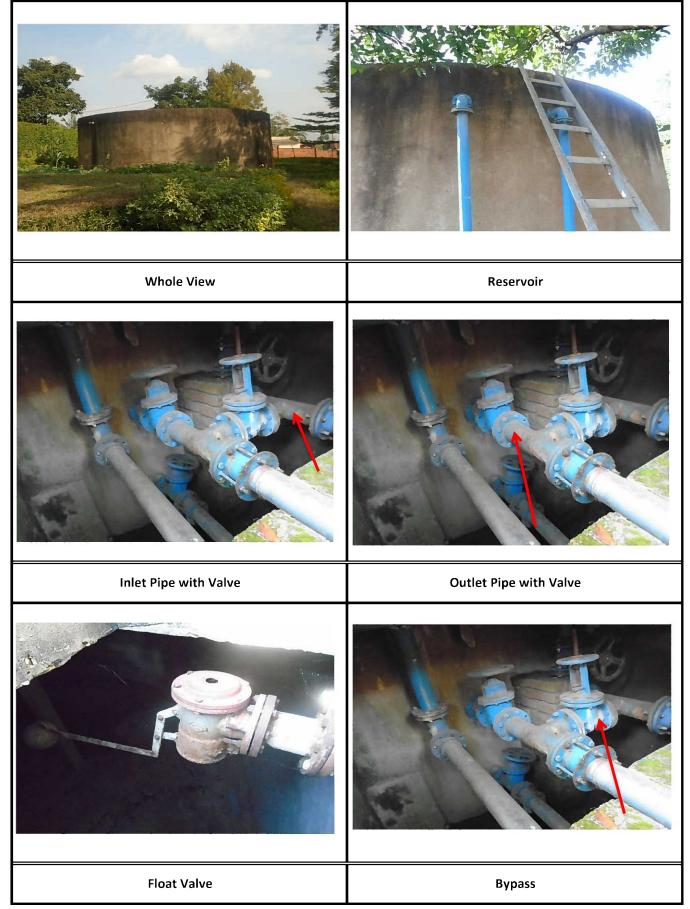
No.	Item	Details
D:	Equipment	
1	Floater Valve	Malfunction, DN: 80 but defective
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, EMFM, UFM, DN:, PN(bar):,
4	Inlet pipe No.1	SP, DN: 100 , Top
5	Inlet valve No.1	DN: 100, Function: No information abandoned reservoir
	Inlet valve No.2 (bypass)	DN: 100, Function: No information abandoned reservoir
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	DN: 100, Function: No information abandoned reservoir
	-	
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 100
	Drain Valve	SP, DN: 100
10	Remarks/ Issue	

Other Information:	. No toilet
	. No fence
	. Guard house need rehabilitation

As requested by the WDO, the whole reservoir need rehabilitation

# **Photo Sheet**

Reservoir Name: Kacyiru Public Library No: 137

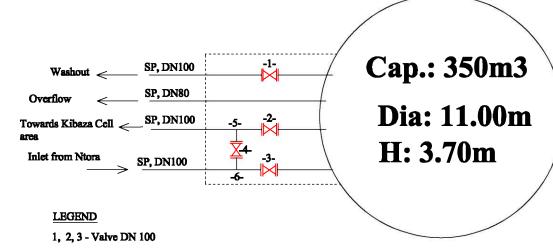


Reservoir No.: 55

Location: Kacyiru Public Library

**Material: Stone Masonry** 

## **SCHEMATIC DRAWING**



4 - Bypass Valve DN 100

5,6 - Tee for bypass Valve DN 100

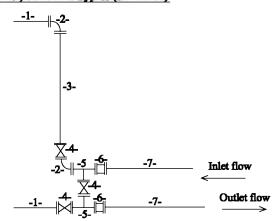
Accessories in red color have issues

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Reservoir No.: 55

Reservoir Name: Kacyiru Public Library

## \* Inlet, Outlet and bypass (SP DN100)

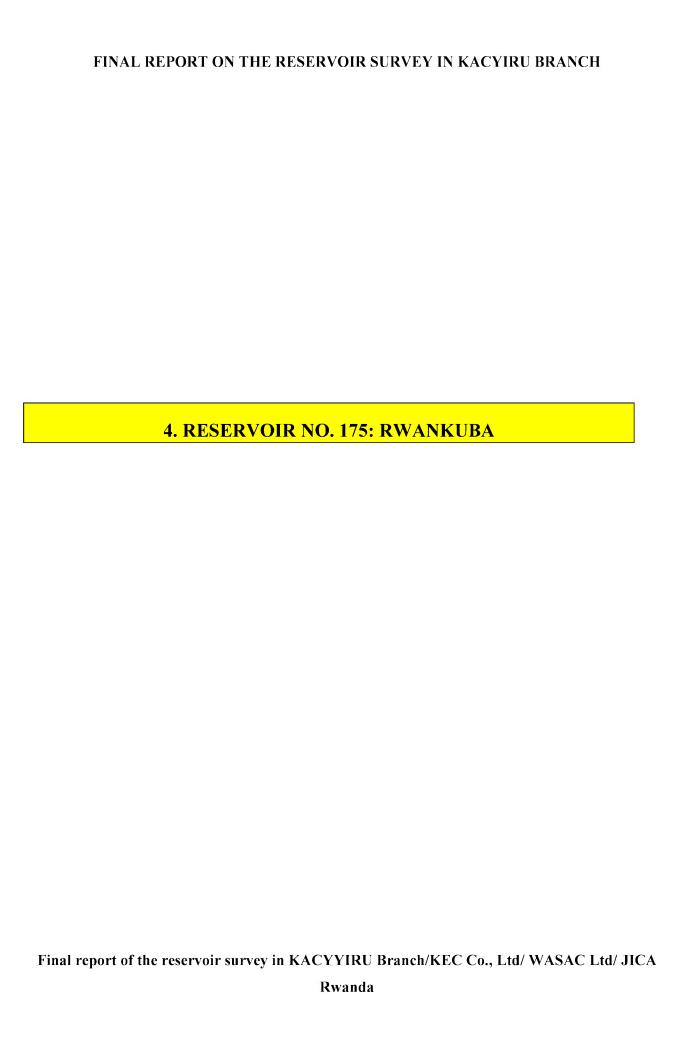


- 1- Straight Pipe with flange
- 2-90 Degree Elbow 3- Straight pipe with double flange
- 4- Valve
- 5- Tee with triple flange
- 6- Dismanling joint
- 7- Pipe

## \* Drainage SP DN100



- 1- Straight Pipe with flange
- 2-Valve
- 3- Dismantling Joint
- 4- PVC Pipe



**BRANCH: KACYIRU** 

Reservoir: Rwankuba

No.: 175

## I. Status and Functionality issues description

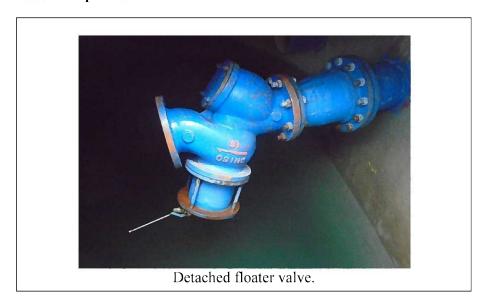
The reservoir receives water from Golf 8 Rwahama, it serves Birembo-Kami-Rwankuba areas. The reservoir always has low pressure and sometimes they bypass it to be able to serve Kami area.

The newly installed floater valve is not operation and it has fallen inside the tank, therefore it needs replacement of repairing.

# I. Required Action and Requirements

Action	Requirements	
Installation of Floater valve	• Floater valves DN150	
<ul> <li>Electrification needed for security purpose (also recommended by local government)</li> <li>Water for the operator</li> </ul>	Installation works	

## **II. Description Photos**



Location of Reservoir			
Subject	Data	Remarks	
Reservoir number	175		
Branch	Kacyiru		
District	Gasabo		
Sector	Kinyinya		
Cell	Gasharu		
Village	Rwankuba		
Street	KG Av		
GPS Coordinates Latitude	-1.8926837 y		
GPS Coordinates Longitude	30.1034972 x		
5.4			







# **Attachement-3 Reservoir Survey Sheet**

Date: 03/06/2020

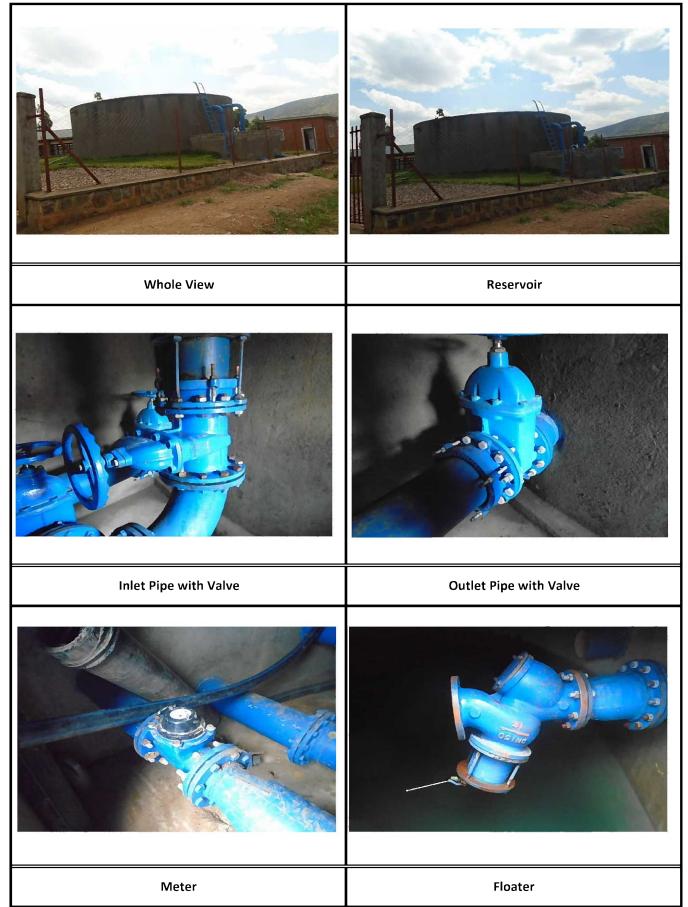
<b>.</b>	<b>.</b>	Date: 03/06/2020
No.	Item	Details
A: General		
$\vdash$	Number of Reservoir	175
$\vdash$	Name of Reservoir	Rwankuba
3	ID Code	
4	Ward	District: Gasabo, Sector: Kinyinya, Cell: Gasharu, Village: Rwankuba
5	Branch Office	Kacyiru
6	Location	Latitude: -1.8926837, Longitude: 30.1034972, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2019
9	Storage Capacity	250 m3
10	Service area of the Reservoir	Birembo-Kami-Rwankuba
B: 0	Operational Condition	
1	Operational Condition	Operational,
2	Operator Assignment	1 person
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: Sometimes
	Reason of bypass operation	Rising the pressure in the network, to be able to serve all Kami area
6	Inflow Condition	Source: Golf 8 kwa Rwahama
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 10.00m , H: 3.30m
5	Remarks/ Issue	

No.	Item	Details		
D: Equipment				
1	Floater Valve	Malfunction (dettached from support), DN: 150		
2	Water Level Gauge	No installation		
3	Flow Meter	Mechanical, DN: 100, PN(bar):,		
		Mechanical, DN: 150, PN(bar):,		
		Function: YES (all)		
		Location: Outlet Pipes		
4	Inlet pipe No.1	DIP, DN: 200, Top		
5	Inlet valve No.1	DN: 200, Function: YES		
6	Outlet pipe No.1	DIP, DN: 200		
	Outlet pipe No.2	DIP, DN: 150		
7	Outlet valve No.1	DN: 200, Function: YES		
	Outlet valve No.2	DN: 150, Function: YES		
8	Overflow Pipe	DIP, DN: 200		
9	Drain Pipe	DIP, DN: 200		
	Drain Valve	DN: 200, Function: YES		
10	Remarks/ Issue	New Reservoir		

	. Electrification needed for security purpose (also recommended by local government)
Other Information:	The Floater was destroyed by the pressure and the missingpart lies at the bottom of the reservoir.
	. No water for Operators

# **Photo Sheet**

Reservoir Name: Rwankuba No: 175

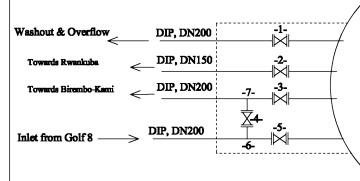


Reservoir No.: 145

Location: Rwankuba

**Material: Concrete** 

## **SCHEMATIC DRAWING**



Cap.: 250m3

Dia: 10.00m

H: 3.30m

### **LEGEND**

### **LEGEND**

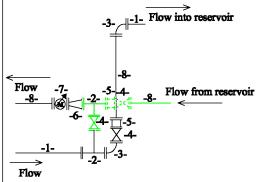
- 1- Washout Valve DN 100
- 2 Outlet No.2 Valve DN 150
- 3 Outlet No. 1 Valve DN 200
- 4 Bypass Valve DN 200
- 5 Inlet Valve DN 200
- $6,\,7$  Tee with Triple flange DN 200

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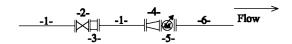
Reservoir No.: 145

Reservoir Name: Rwankuba

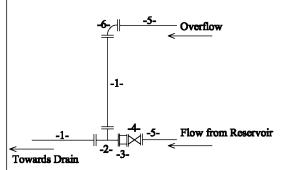
## \* Inlet, Outlet and bypass (DIP DN 200)



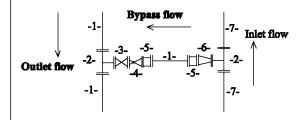
#### \* 2nd Outlet DIP DN150, 100



#### \* Overflow and Drainage DIP DN200



## \* Bypass

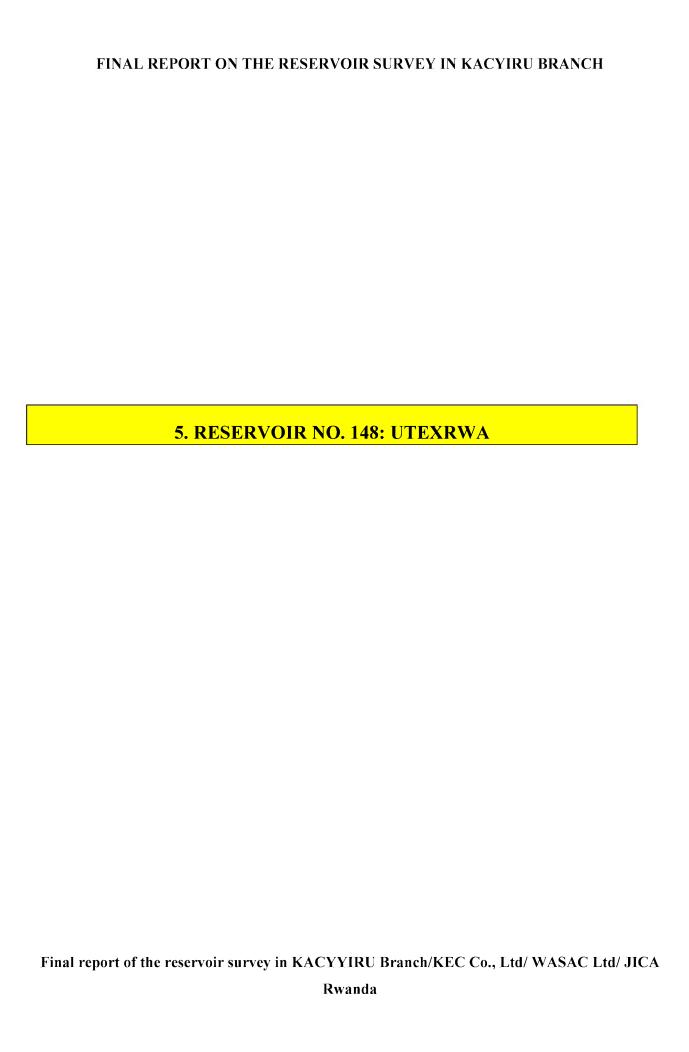


- 1- Straight Pipe with flange
- 2- Tee with triple flange 3-90 Degree Elbow
- 4- Valve
- 5- Dismantling Joint
- 6- Reduced cone
- 7- Flow Meter
- 8- Pipe

In Green Color: bypass connection

- 1- Straight Pipe with flange
- 2-Valve
- 3- Dismantling Joint
- 4- REduced Cone
- 5- Flow Meter
- 5- Pipe
- 1- Straight Pipe with Double Flange
- 2- Tee with triple flange
- 3- Dismantling Joint
- 4- Valve
- 5- Straight pipe with flange
- 6-90 Degree Elbow
- 1- Straight Pipe with flange
- 2- Tee with triple flange
- 3-Vanne
- 4- Pressure Reducing Valve
- 5- Dismantling Joint
- 6- Reduced cone
- 7- Pipe

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**BRANCH: KACYIRU** 

**Reservoir: UTEXRWA** 

No.: 148

# I. Status and Functionality issues description

The visited spot is UTEXRWA and we found that the existing tank was abandoned completely and accessories removed.

# **II. Description Photos**



# **Attachement-3 Reservoir Survey Sheet**

Date: 29/10/2020

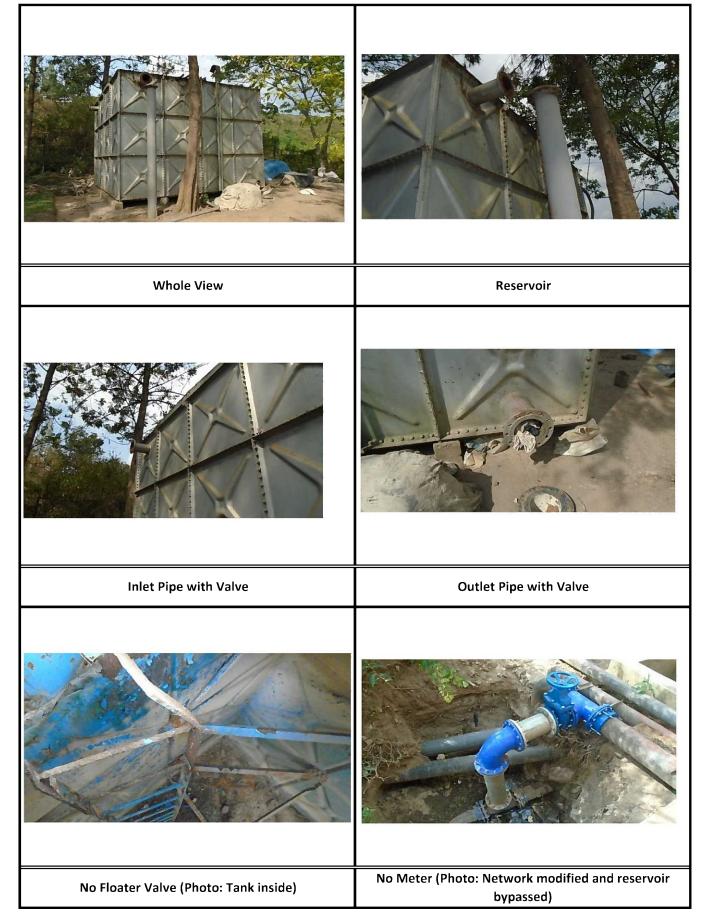
No.	Item	Date: 29/10/2020 <b>Details</b>
=	General	Details
1	Number of Reservoir	148
$\vdash$	Name of Reservoir	UTEXRWA (Vision 2020)
$\vdash$	ID Code	KACZ4E3RE01
4	Ward	Sector: Kinyinya, District: Gasabo , Cell: Gacuriro, Village: Vision 2020
$\vdash \vdash$	Branch Office	Kacyiru
$\vdash$	Location	Latitude: - 1.928194, Longitude: 30.078609, Altitude:
$\vdash$	Function of Reservoir	Storage
$\vdash$	Age of Reservoir	Year: No Data
$\vdash$	Storage Capacity	80 m3
$\vdash$	Service area of the Reservoir	Abandoned
-	Operational Condition	
1	Operational Condition	Not Operational, Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	No data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Ntora & Kimisagara
		Water pressure at inlet:
		Frequency and time: Abandoned
7	Water level movement	always no water
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Steel
4	Inside Dimension	L: 4.80m, w: 4.80m, H: 3.60m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 200, Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	SP, DN: 150
7	Outlet valve No.1	No installation
8	Overflow Pipe	No installation
9	Drain Pipe	No installation
10	Remarks/ Issue	The tank was abandoned and bypassed to increase pressure in the network

Other Information:

# **Photo Sheet**

Reservoir Name: UTEXRWA No:148



Reservoir No.: 154

**Location: UTEXRWA** 

**Material: STEEL** 

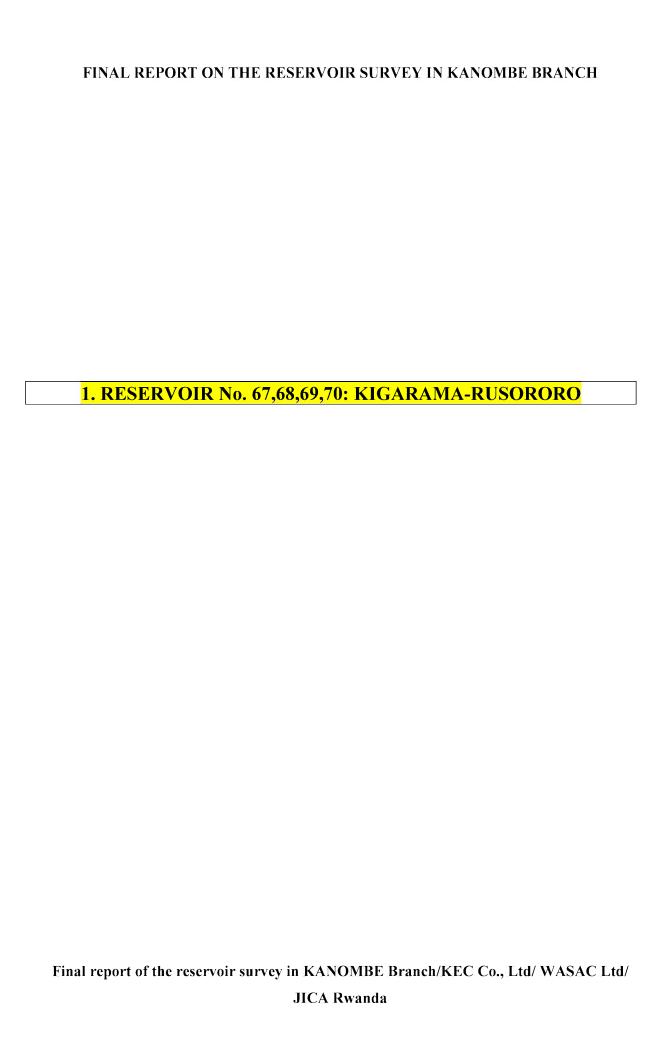
**SCHEMATIC DRAWING** 

# **NO DATA AVAILABLE**

# **ABANDONED**

# THE REPUBLIC OF RWANDA KIGALI CITY





**BRANCH: KANOMBE** 

Reservoir: Kigarama-Rusororo

No.: 67, 68, 69 & 70

## I. Status and Functionality issues description

## General description

These 4 reservoirs receive water from Karenge. The each reservoir has a capacity of 250m3 and are suspended at a height of 17m. Currently only 1 of the No.69 is being used and others are not being used for different reasons.

Two (2) of them No. 70&67 have never been used since their construction (2013) even though they are storing water for rust protection, one (1) No. 68 was recently abandoned because it was leaking.

These reservoirs were to serve Rusororo area and the only functioning one is serving Kigarama area.

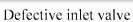
#### Particulars for Reservoir No. 69 and &68

## II. Required Action and Requirements

Action	Requirements	
<ul> <li>Installation of Floater valves at Res No.74 and 75.</li> <li>Repairing of leaks on reservoir 75 and 74 on their wall and bottom respectively.</li> <li>Supply and installation of inlet valve at Reservoir No.75</li> <li>Supply and installation of outlet valve at Reservoir No.73</li> </ul>	<ul> <li>2 Floater valves DN200</li> <li>2 Valves DN200</li> <li>Repairing leaks on Reservoir No.74&amp;75</li> </ul>	
<ul> <li>Construction of a toilet for operator</li> <li>Installation of a water tap</li> <li>Electricity is needed</li> </ul>	• Civil works	

# **II. Description Photos**







Defective Outlet valve

Location of Reservoir			
Subject	Data	Remarks	
Reservoir number	67,68,69,70		
Branch	Kanombe		
District	Gasabo		
Sector	Rusororo		
Cell	Nyagahinga		
Village	Kigarama		
Street	KK 17 Av		
GPS Coordinates Latitude	-1.9774321 y		
GPS Coordinates Longitude	30.1992654 x		





No.	Item	Details	
A: (	General		
1	Number of Reservoir	70&67	
2	Name of Reservoir	Kigarama-Rusororo	
3	ID Code	RUSM7RE5 & RUSM7RE3	
4	Ward	District: Gasabo, Sector: Rusororo, Cell: Nyagahinga, Village: Kigarama	
5	Branch Office	Kanombe	
6	Location	Latitude: -1.9774321, Longitude: 30.1992654, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	Year: 2013	
9	Storage Capacity	250m3 (each)	
10	Service area of the Reservoir	Not in use	
B: 0	Operational Condition		
1	Operational Condition	Not Operational	
2	Operator Assignment	1 person	
	Action against to overflow	Not in use	
3	Wall Leakage	Nothing	
4	Overflow observation	0	
	Phenomenon	nomenon	
	Reason of overflow		
5	Bypass-flow operation	0	
	Reason of bypass operation		
6	Inflow Condition	Source: Karenge	
		Water pressure at inlet:	
		Frequency and time:	
7	Water level movement	Always no movement	
8	Issue on Functional Condition	Not used since their construction	
C:S	Structure		
1	Form of Reservoir	Rectangular	
2	Foundation	Elevated	
3	Structure Material	Steel	
4	Inside Dimension	L: 9.76m × B: 7.32m , H: 3.66m	
5	Remarks/ Issue	Not leaking, not used but storing water for its structural rust protection since 2013	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN:, PN(bar):,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1 (Res. 73)	DIP, DN: 200, Top
	Inlet pipe No.2 (Res. 76)	DIP, DN: 200, Top
5	Inlet valve No.1 (Res. 73)	DN: 200, Function: not sure because it is permanently closed.
	Inlet valve No.2 (Res. 76)	DN: 200, Function: not sure because it is permanently closed.
6	Outlet pipe No.1 (Res. 73)	DIP, DN: 200
	Outlet pipe No.2 (Res. 76)	DIP, DN: 200
7	Outlet valve No.1 (Res. 73)	DN: 200, Function: Not used
	Outlet valve No.2 (Res. 76)	DN: 200, Function: Not used
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 200
10	Remarks/ Issue	Tank not used since 2013

Other Information:

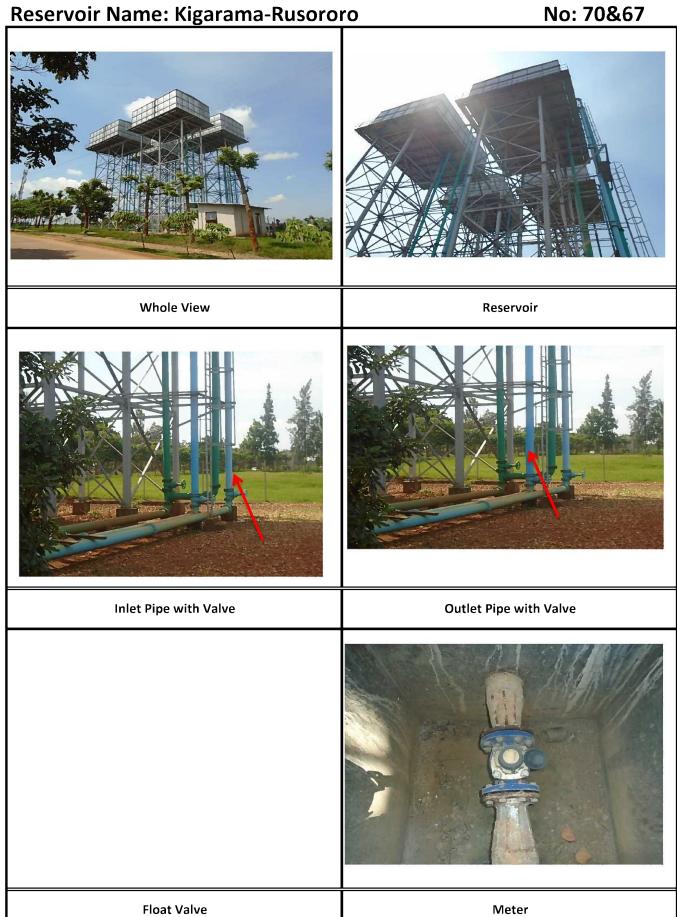
No.	Item	Date: 04/06/2020 <b>Details</b>	
A: (	General		
1	Number of Reservoir	68&69	
2	Name of Reservoir	Kigarama-Rusororo	
3	ID Code	RUSM7RE2 & RUSM7RE4	
4	Ward	District: Gasabo, Sector: Rusororo, Cell: Nyagahinga, Village: Kigarama	
5	Branch Office	Kanombe	
6	Location	Latitude: -1.9774321, Longitude: 30.1992654, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	Year: 2013	
9	Storage Capacity	250m3 (each)	
10	Service area of the Reservoir	Kigarama area of Rusororo	
B: 0	Operational Condition		
1	Operational Condition	Operational	
2	Operator Assignment	1 person	
	Action against to overflow	Closing valve	
3	Wall Leakage	Tank 75 leaks on the wall and tank 74 leaks at its bottom	
4	Overflow observation	times/month,times/week	
	Phenomenon		
	Reason of overflow	no floater valve	
5	Bypass-flow operation	Nothing	
	Reason of bypass operation		
6	Inflow Condition	Source: Karenge	
		Water pressure at inlet:	
		Frequency and time: Permanent	
7	Water level movement	Proper movement	
8	Issue on Functional Condition		
C:S	Structure		
1	Form of Reservoir	Rectangular	
2	Foundation	Elevated	
3	Structure Material	Steel	
4	Inside Dimension	L: 9.76m × B: 7.32m , H: 3.66m	
5	Remarks/ Issue	No 75 Leaking at its bottom	

No.	Item	Details	
D: Equipment			
1	Floater Valve	No installation, DN:	
2	Water Level Gauge	No installation	
3	Flow Meter	Mechanical, DN:, PN(bar):,	
		Function: YES	
		Location: Outlet Pipe	
4	Inlet pipe No.1 (Res. 75)	DIP, DN: 200, Top	
	Inlet pipe No.2 (Res. 74)	DIP, DN: 200, Top	
5	Inlet valve No.1 (Res. 75)	DN: 200, Function: YES but leaking on its top	
	Inlet valve No.2 (Res. 74)	DN: 200, Function: YES	
6	Outlet pipe No.1 (Res. 75)	DIP, DN: 200	
	Outlet pipe No.2 (Res. 74	DIP, DN: 200	
7	Outlet valve No.1 (Res. 73)	DN: 200, Function: YES but leaking on its top	
	Outlet valve No.2 (Res. 76)	DN: 200, Function: YES	
8	Overflow Pipe	DIP, DN: 200	
9	Drain Pipe	DIP, DN: 200	
10	Remarks/ Issue	Tank No. 75&74 leaks on walls, 2 valves leaking	
		. At the time of the visit only tank number 75 was in use due to the fact that	

	. At the time of the visit only tank number 75 was in use due to the fact that
	Tank Number 74 leaks on walls.
Other Information:	. No toilet
	. No water
	. No electricity

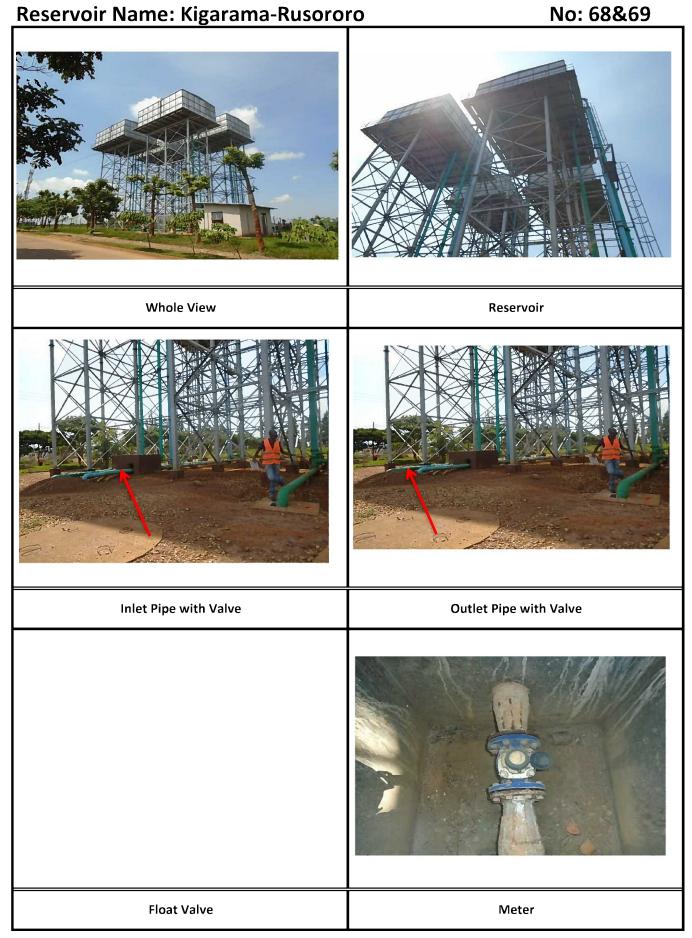
# **Photo Sheet**

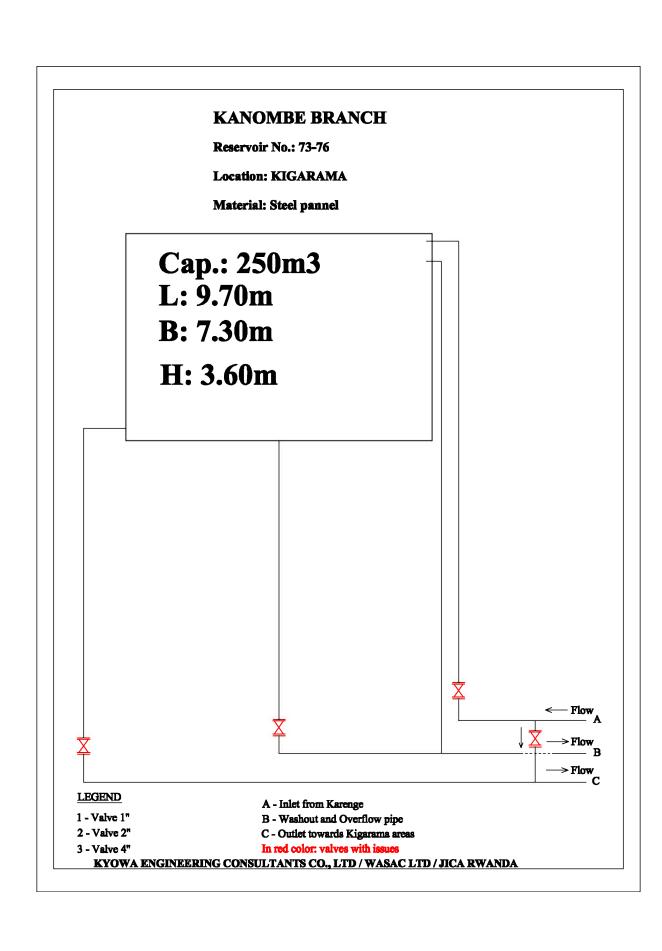
Reservoir Name: Kigarama-Rusororo



# **Photo Sheet**

Reservoir Name: Kigarama-Rusororo

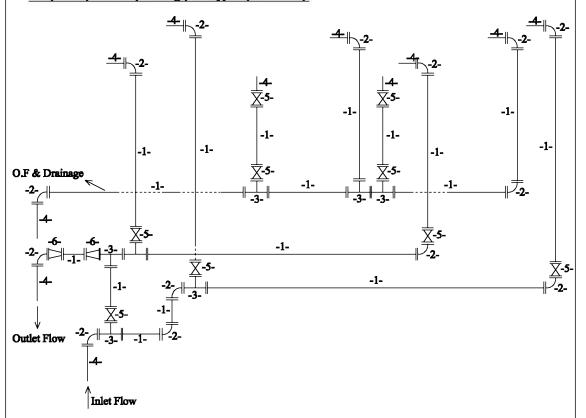




Reservoir No.: 73 & 74

Reservoir Name: Kigarama (Rusororo)

\* Inlet, Outlet, Overflow, Drainage, and bypass (DIP DN200)



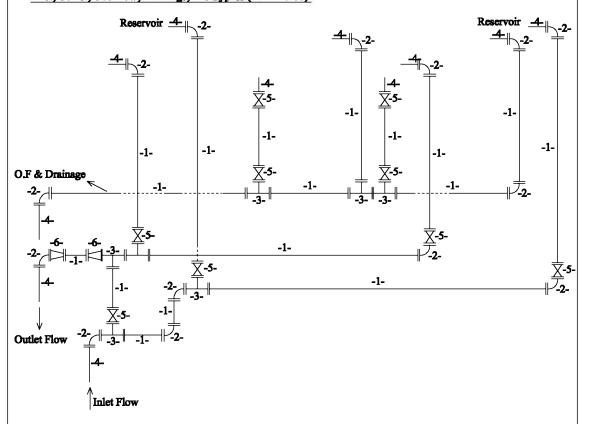
- 1- Straight Pipe with double flange
- 2-90 Degree Elbow with double flange 3- Tee with triple flange
- 4- Straight pipe with double flange
- 5- Valves DN200
- 6- Reduced cone

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Reservoir No.: 75 & 76

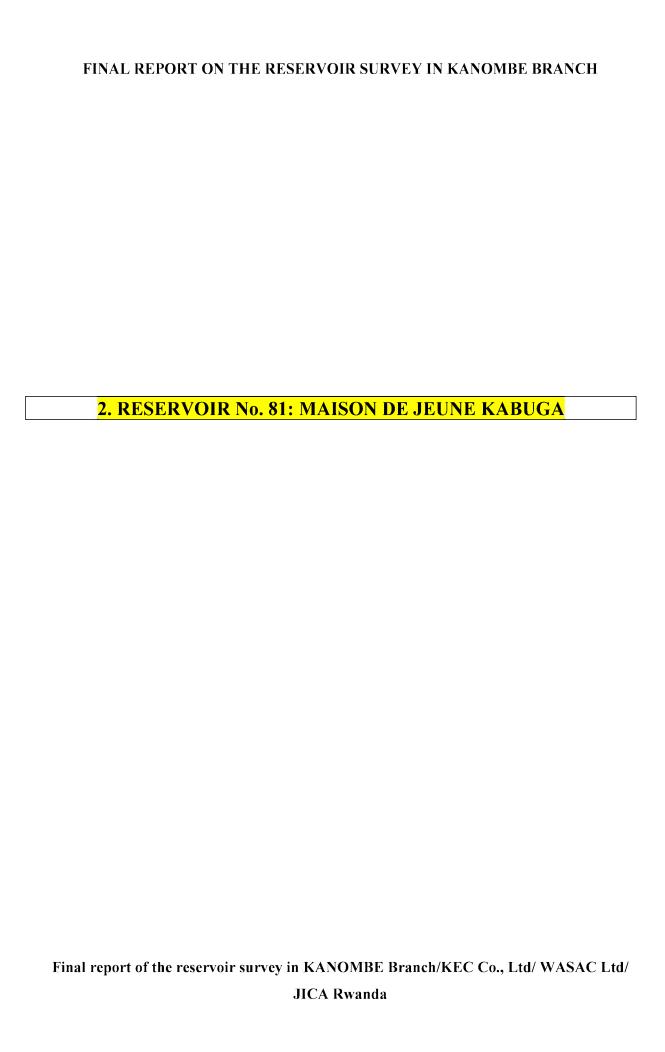
Reservoir Name: Kigarama (Rusororo)

\* Inlet, Outlet, Overflow, Drainage, and bypass (DIP DN200)



- 1- Straight Pipe with double flange
- 2-90 Degree Elbow with double flange 3- Tee with triple flange
- 4- Straight pipe with double flange
- 5- Valves DN200
- 6- Reduced cone

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#### FINAL REPORT ON THE RESERVOIR SURVEY IN KANOMBE BRANCH

**BRANCH: KANOMBE** 

Reservoir: MAISON DE JEUNE KABUGA

No.: 81

### I. Status and Functionality issues description

# **General description**

Initially reservoir receives water from Karenge but it was recently disconnected by Rusororo Police for Rain water harversting, they requested it from WASAC Ltd and it was given to them.

Therefore as a conclusion, it was abandoned.

# II. Required Action and Requirements

Action	Requirements
<ul> <li>Nothing</li> </ul>	•

### **II. Description Photos**



Being used for rain water harvesting



Inside Rusororo Police, no lomger used by WASAC

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	81	
Branch	Kanombe	
District	Gasabo	
Sector	Rusororo	
Cell	Nyagahinga	
Village	Gisharara	
Street	KK 3 Rd	
GPS Coordinates Latitude	-1.9743055 y	
GPS Coordinates Longitude	30.2218146 x	





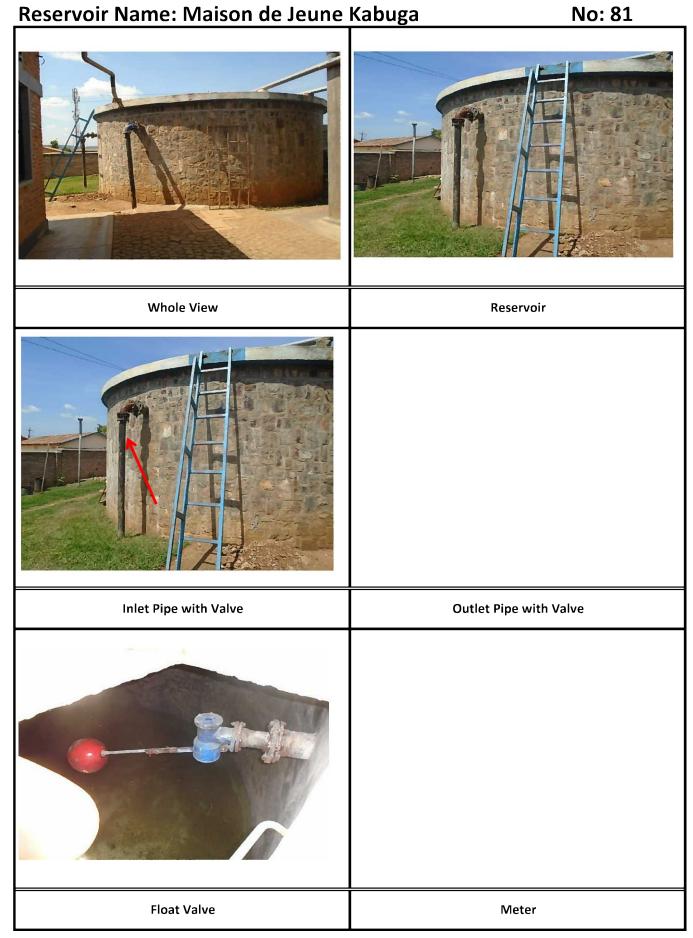


No.	Item	Details	
A: General			
1	Number of Reservoir	81	
2	Name of Reservoir	Maison de Jeune Kabuga (New Kabuga Police HQs)	
3	ID Code	RUSM9RE1	
4	Ward	District: Gasabo, Sector: Rusororo, Cell: Nyagahinga, Village: Gisharara	
5	Branch Office	Kanombe	
6	Location	Latitude: -1.9743055, Longitude: 30.2218146, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	Year:	
9	Storage Capacity	120m3	
10	Service area of the Reservoir	not used by WASAC Ltd	
B: 0	Operational Condition		
1	Operational Condition	Abandoned	
2	Operator Assignment	No operator	
	Action against to overflow		
3	Wall Leakage	Flowing, Oozed, Nothing	
4	Overflow observation	times/month,times/week	
	Phenomenon		
	Reason of overflow		
5	Bypass-flow operation	Always	
	Reason of bypass operation	Tank being used by Police for Rain Water harvesting	
6	Inflow Condition	Source:	
		Water pressure at inlet:	
		Frequency and time:	
7	Water level movement	Proper movement, always low level, always no water	
8	Issue on Functional Condition	Tank being used by Police for Rain Water harvesting	
C:S	Structure		
1	Form of Reservoir	Circular	
2	Foundation	Underground	
3	Structure Material	Stones	
4	Inside Dimension	D: 7.90m, H: 2.50m	
5	Remarks/ Issue		

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, DN: 100
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 100, Top
5	Inlet valve No.1	DN: , Function: Can not see it Manhole closed by Police
6	Outlet pipe No.1	Can not see it Manhole closed by Police
7	Outlet valve No.1	Can not see it Manhole closed by Police
8	Overflow Pipe Drain Pipe	SP, DN: 100 SP, DN: 101
	Remarks/ Issue	
	Other Information:	. Reservoir being used by Police Rusororo . The request to use it was made toi WASAC by DPC and it was given to them.

# **Photo Sheet**

Reservoir Name: Maison de Jeune Kabuga





#### FINAL REPORT ON THE RESERVOIR SURVEY IN KANOMBE BRANCH

**BRANCH: KANOMBE** 

Reservoir: Ryabaheshwa

No.: 90

### I. Status and Functionality issues description

Located in the Eastern Province, Rwamagana District, Muyumbu Sector, this reservoir receives water from Kareenge, it has a capacity of 420m3 and serves Muyumbu and Mbandazi areas.

It receives water 3 times a week and it is always o low level except during rai season. It is new and all accessories function well.

### II. Required Action and Requirements

Action	Requirements
<ul> <li>Nothing</li> </ul>	

# **III. Description Photos**





Final report of the reservoir survey in KANOMBE Branch/KEC Co., Ltd/ WASAC Ltd/
JICA Rwanda

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	90	
Branch	Kanombe	
District	Rwamagana	
Sector	Muyumbu	
Cell	Akinyambo	
Village	Ryabaheshwa	
Street	Rd	
GPS Coordinates Latitude	-1.9675587 y	
GPS Coordinates Longitude	30.2575674 x	
GPS Coordinates Longitude	30.2575674 x	

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No.	Item	Details	
<b>A</b> :	General		
1	Number of Reservoir	90	
2	Name of Reservoir	RYABAHESHWA	
3	ID Code	MUYL11RE1	
4	Ward	District: Rwamagana, Sector: Muyumbu, Cell: Akinyambo, Village: Ryabaheshw	
5	Branch Office	Kanombe	
6	Location	Latitude: -1.9675587, Longitude: 30.2575674, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	Year:	
9	Storage Capacity	420m3	
10	Service area of the Reservoir	Muyumbu-Mbandazi areas	
B: (	Operational Condition		
1	Operational Condition	Operational	
2	Operator Assignment	1 person	
	Action against to overflow		
3	Wall Leakage	Nothing	
4	Overflow observation	times/month,times/week	
	Phenomenon	Phenomenon	
	Reason of overflow		
5	Bypass-flow operation	Timing: sometimes	
	Reason of bypass operation		
6	Inflow Condition	Source: KARENGE	
		Water pressure at inlet:	
		Frequency and time: 3 Times a week	
7	Water level movement	Always low level, Proper movement possible in Rain Period	
8	Issue on Functional Condition		
C:S	Structure		
1	Form of Reservoir	Circular	
2	Foundation	Ground	
3	Structure Material	Concrete	
4	Inside Dimension	D: 13.60m, H: 3.00m	
5	Remarks/ Issue .Worn out stairs		

No.	Item	Details
D:	Equipment	
1.	Floater Valve	Function, DN: 150
2	Water Level Gauge	No installation
3	Flow Meters	Mechanical, DN: 150&80 , PN(bar):,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	SP, DN: 200
	Outlet pipe No.2	SP, DN: 80
7	Outlet valve No.1	DN: 200, Function: YES
	Outlet valve No.2	DN: 80, Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	All pipes and valves are new.

Other Information:	. No water at the station
Other Information:	. No Electricity at the station

# **Photo Sheet**

Reservoir Name: RYABAHESHWA No: 90

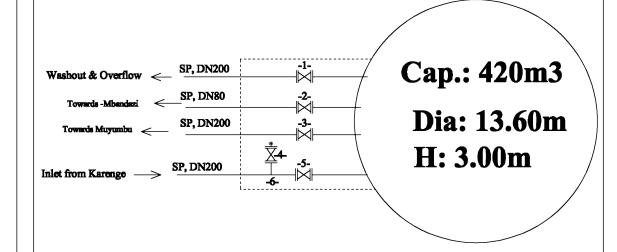


Reservoir No.: 150

Location: Ryabaheshwa

**Material: Concrete** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

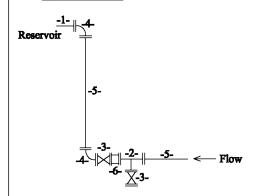
- 1- Overflow and Washout Valve DN 200
- 2 Outlet No.1 Valve DN 80
- 3 Outlet No. 2 Valve DN 200
- 4 Blocked Bypass Valve DN 200
- 5 Inlet Valve DN 200
- 6 Tee with Triple flange DN 200

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Reservoir No.: 150

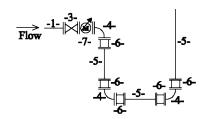
Reservoir Name: Ryabaheshwa

#### \* Inlet (SP DN200)

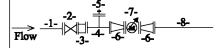


- 1- Straight Pipe with a flange
- 2- Tee with triple flange
- 3- Valve DN200
- 4-90 Degree Elbow with double flange
- 5- Straight pipe with double flange
- 6- Dismantling joint

#### \* Outlet B (SP DN80)

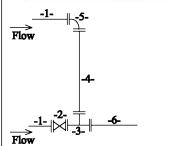


#### \* Outlet A (SP DN200)



- 1- Straight Pipe with a flange
- 2- Tee with triple flange
- 3- Valve DN80
- 4-90 Degree Elbow with double flange
- 5- Straight pipe with double flange
- 6- Dismantling joint
- 7- Flow Meter
- 1- Straight Pipe with a flange
- 2- Valve DN200
- 3- Dismantling joint
- 4- Tee with triple flange
- 5- End cap
- 6- Reduced cone
- 7- Flow Meter
- 8- Straight pipe with double flange

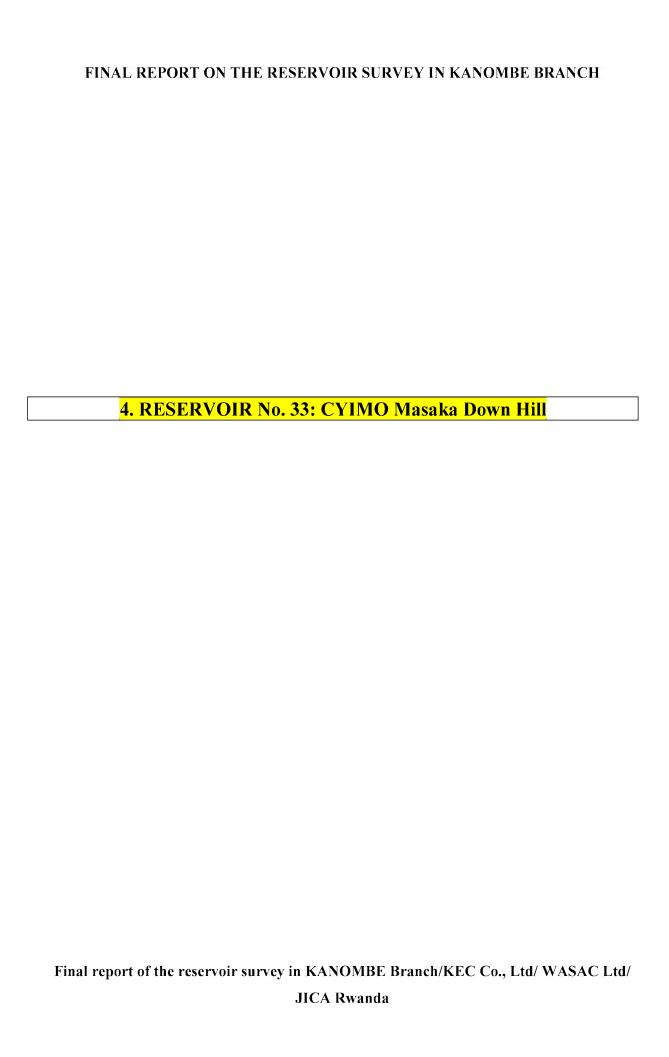
#### \* Overflow & Drainage (SP DN200)



- 1- Straight Pipe with a flange
- 2- Valve DN200
- 3- Tee with triple flange
- 4- Straight pipe with double flange
- 5-90 Degree Elbow with double flange
- 6- Pipe with a flange

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#### FINAL REPORT ON THE RESERVOIR SURVEY IN KANOMBE BRANCH

**BRANCH: KANOMBE** 

Reservoir: CYIMO Masaka Down Hill

No.: 33

# I. Status and Functionality issues description

The reservoir was constructed with a storage capacity of 60m3. It was built with a purpose of servoing Cyimo, Masaka, Rusheshe, Gitaraga areas of Masaka Sector.

It was abandoned by WASAC because it was leaking on walls and they needed to increase the pressure in the network.

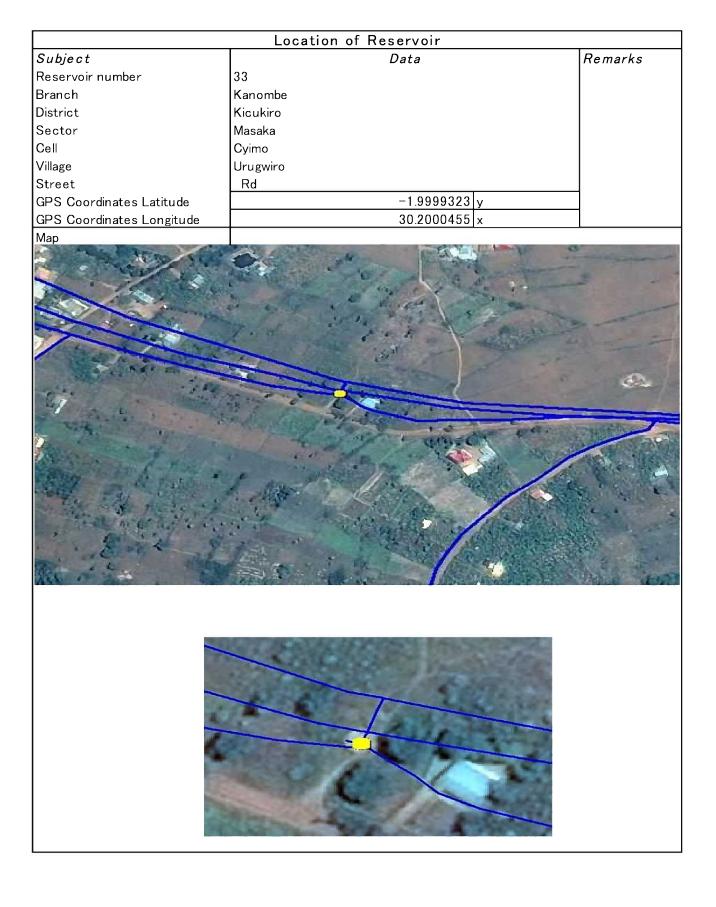
# II. Required Action and Requirements

Action	Requirements
<ul> <li>Reconnection to the network</li> <li>Inlet valve</li> <li>Outlet valve</li> <li>Drainage valve</li> <li>Internal plastering and general rehabilitation works</li> <li>Installation of a Floiater</li> <li>Fencing</li> </ul>	<ul> <li>1 Floater valves DN100</li> <li>3 Valves DN100</li> <li>Repairing leaks on Reservoir</li> </ul>

### FINAL REPORT ON THE RESERVOIR SURVEY IN KANOMBE BRANCH

# **III. Description Photos**





No	Itom	Date: 04/06/2020
No.		Details
A:	General	22
	Number of Reservoir	33
$\vdash$	Name of Reservoir	Cyimo
3	ID Code	MASO7RE1
4	Ward	District: Kicukiro, Sector: Masaka, Cell: Cyimo, Village: Urugwiro
$\vdash$	Branch Office	Kanombe
$\vdash$	Location	Latitude: -1.9999323, Longitude: 30.2000455, Altitude
$\vdash$	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	60 m3
10	Service area of the Reservoir	Cyimo, Masaka, Rusheshe, Gitaraga
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Reservoir not in use
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	The tank was abandoned by WASAC Ltd
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.80m, H: 2.40m
5	Remarks/ Issue	63.37776

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, DN: 100
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 100, Top
5	Inlet valve No.1	DN: 100, Function: Yes but serving bypass
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	DN: 150, Function: NO
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	The was abandoned and bypassed
	Other Information:	<ul> <li>In order to make it operational, a general rehabilitation is recommended.</li> <li>No fence and bush are everywhere</li> <li>No reservoir cover</li> </ul>
	Other information.	No manhole cover

of the week.

. No manhole cover
. Nearby and connected Public water tap (BF) is operational on every Tuesdays

# **Photo Sheet**

Reservoir Name: Cyimo No: 33

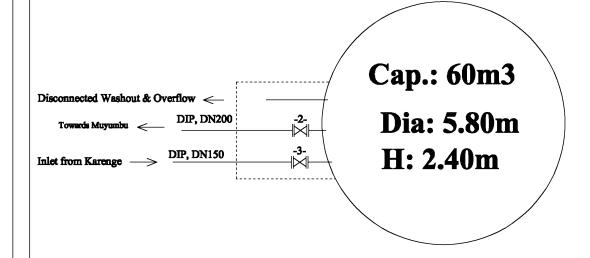


Reservoir No.: 19

**Location: Cyimo** 

**Material: Stone Masonry** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

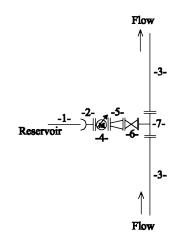
- 1- Overflow and Washout Valve DN 200
- 2 Outlet Valve DN 200
- 3 Inlet Valve DN 150

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Reservoir No.: 19

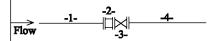
Reservoir Name: Cyimo

### \* Inlet (DIP DN300, 150, 80)



- 1- Straight Pipe with a flange
- 2- Flange Adaptor
- 3- Staight pipe
- 4-90 Degree Elbow with double flange
- 5- Straight pipe with double flange
- 6- Valve DN300

#### \* Outlet (DIP DN200)



- 1- Straight Pipe with a flange
- 2- Tee with triple flange 3- Valve DN200
- 4-90 Degree Elbow with double flange
- 5- Straight pipe with double flange
- 6- Dismantling joint



#### FINAL REPORT ON THE RESERVOIR SURVEY IN KANOMBE BRANCH

**BRANCH: KANOMBE** 

Reservoir: Cyaruzinge

No.: 116

# I. Status and Functionality issues description

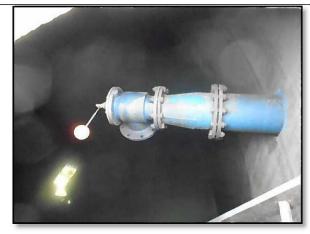
The reservoir receives water from Karenge. It has a capacity of 450m3 and serves Cyaruzinge and Rudashya areas.

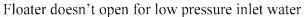
Always low level during dry season.

# II. Required Action and Requirements

Action	Requirements	
Replacement of Bypass Valve	• 1 Valve DN200	
Repairing or replacement of Floater valve	Repairing of floater valve	
Replacement of Outlet Valve	• 1 Valve DN200	
No water for operator	•	

# **III. Description Photos**







Bypass valve leaking

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	116	
Branch	Kanombe	
District	Gasabo	
Sector	Ndera	
Cell	Rudashya	
Village	Ruhogo	
Street	KK 17 Av	
GPS Coordinates Latitude	-1.9511575 y	
GPS Coordinates Longitude	30.1966444 x	
1		102.

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No.	Item	Details
A:	General	
1	Number of Reservoir	116
2	Name of Reservoir	CYARUZINGE
3	ID Code	NDERJ7RE1
4	Ward	District: Gasabo, Sector: Ndera, Cell: Rudashya, Village: Ruhogo
5	Branch Office	Kanombe
6	Location	Latitude: -1.9511575, Longitude: 30.1966444, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	450 m3
10	Service area of the Reservoir	Cyaruzinge and Rudashya areas
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: Sometimes
	Reason of bypass operation	Cleaning
6	Inflow Condition	Source: KARENGE
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level (during dry season)
8	Issue on Functional Condition	Bypass valve defective
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Concrete
4	Inside Dimension	D: 13.60m, H: 3.20
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	Function: YES, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 150, PN(bar):,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	DIP, DN: 200
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	.Floater valve need checking for low pressure opening.
		. Low water level in the Reservoir
	Other Information:	. No electricity (security issues)  . Bypss valve defective

Bypss valve defective

Outlet valve opening 1/2 (Urgent issue)

Reservoir Name: CYARUZINGE No: 116

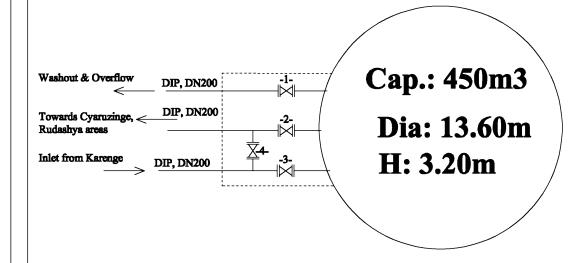


Reservoir No.: 16

Location: Cyaruzinge

**Material: Stone Masonry** 

#### **SCHEMATIC DRAWING**



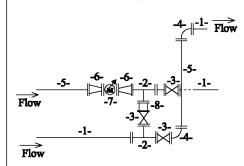
#### **LEGEND**

- 1- Overflow and Washout Valve DN 200
- 2 Outlet Valve DN 200
- 3 Inlet Valve DN 200
- 4 Bypass Valve DN 200

Reservoir No.: 16

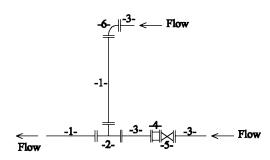
Reservoir Name: Cyaruzinge

### \* Inlet, Outlet, and bypass (SP DN200)

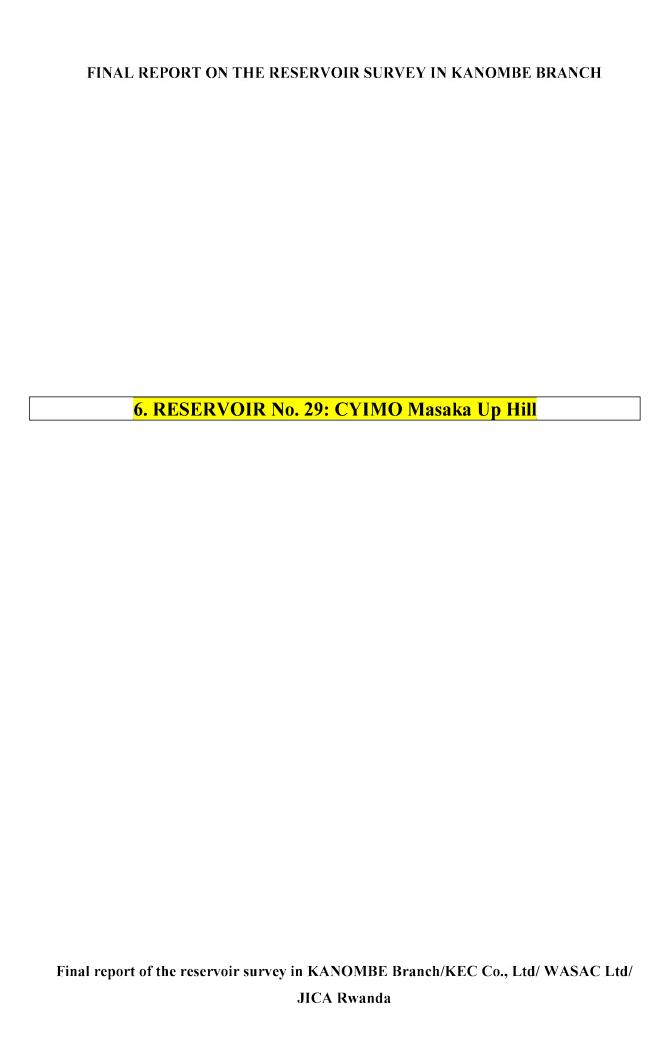


- 1- Straight Pipe with a flange
- 2- Tee with triple flange
- 3- Valve DN200
- 4-90 Degree Elbow with double flange
- 5- Straight pipe with double flange
- 6- Reduced cone
- 7- Flow Meter

#### \* Overflow and Drainage (SP DN200)



- 1- Straight Pipe with a flange
- 2- Tee with triple flange
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Valve DN200
- 6-90 Degree Elbow with double flange



**BRANCH: KANOMBE** 

Reservoir: CYIMO Masaka Up Hill

No.: 29

## I. Status and Functionality issues description

The reservoir receives water from Karenge. It has a capacity of 15m3 and serves Masaka Uphill and nearby Catholic school.

The day we visited, the manhole was closed and WASAC Operator was not able to open it.

### **II. Required Action and Requirements**

Action	Requirements
To be decided by WASAC	

### **III. Description Photos**







Manhole closed

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	29	
Branch	Kanombe	
District	Kicukiro	
Sector	Masaka	
Cell	Cyimo	
Village	Cyimo	
Street	KK 3 Rd	
GPS Coordinates Latitude	-2.0017991 y	
GPS Coordinates Longitude	30.2112507 x	
Мар		





# **Attachement-3 Reservoir Survey Sheet**

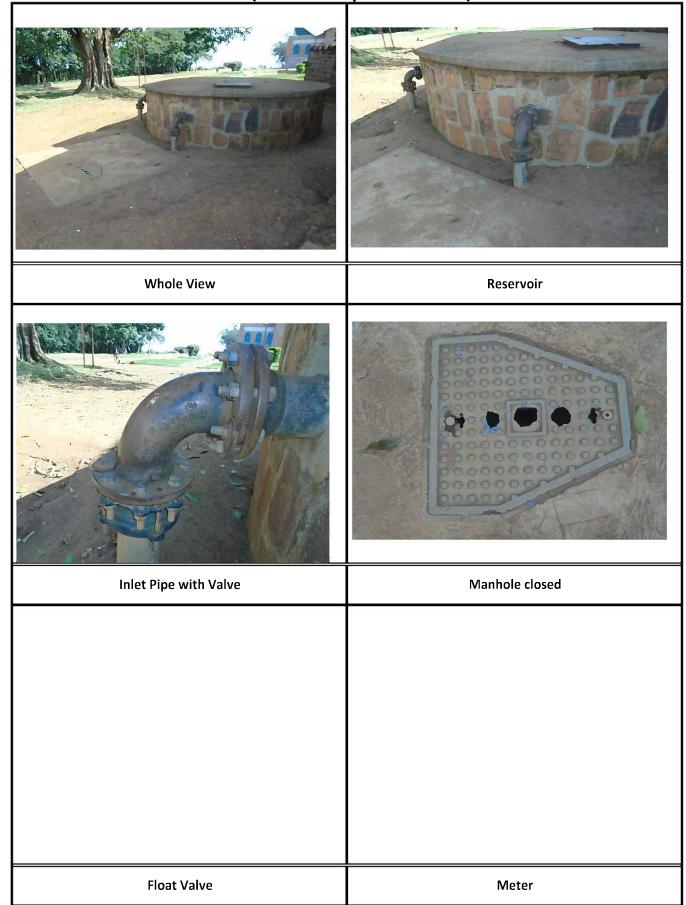
Date: 05/06/2020

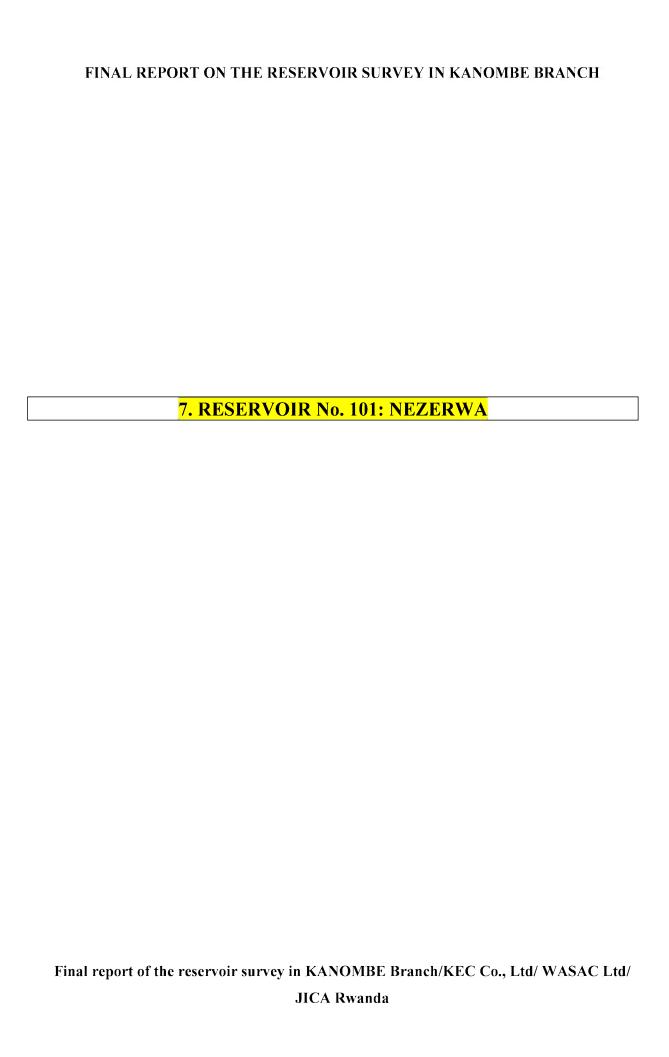
NI.	T4	Date: 05/06/2020
No.	Item	<b>Details</b>
A: General		
$\vdash$	Number of Reservoir	29
-	Name of Reservoir	CYIMO (Masaka Uphill Church)
3	ID Code	MASP8RE2
4	Ward	District: Kicukiro, Sector: Masaka, Cell: Cyimo, Village: Cyimo
5	Branch Office	Kanombe
6	Location	Latitude: -2.0017991, Longitude: 30.2112507, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	15 m3
10	Service area of the Reservoir	Masaka Uphill and Catholic parish
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 3.00m, H: ??
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 100, Top
5	Inlet valve No.1	
	Inlet valve No.2	
6	Outlet pipe No.1	
	Outlet pipe No.2	
	Outlet pipe No.3	Mauhala alagad at the vigit day
7	Outlet valve No.1	Manhole closed at the visit day
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	
9	Drain Pipe	
10	Remarks/ Issue	Accessories not visible because manhole was closed on our arrival

Other Information: Manhole was closed and reservoir cover is welded to its frame.

Reservoir Name: CYIMO (Masaka Uphill Church) No: 29





**BRANCH: KANOMBE** 

Reservoir: NEZERWA

No.: 101

## I. Status and Functionality issues description

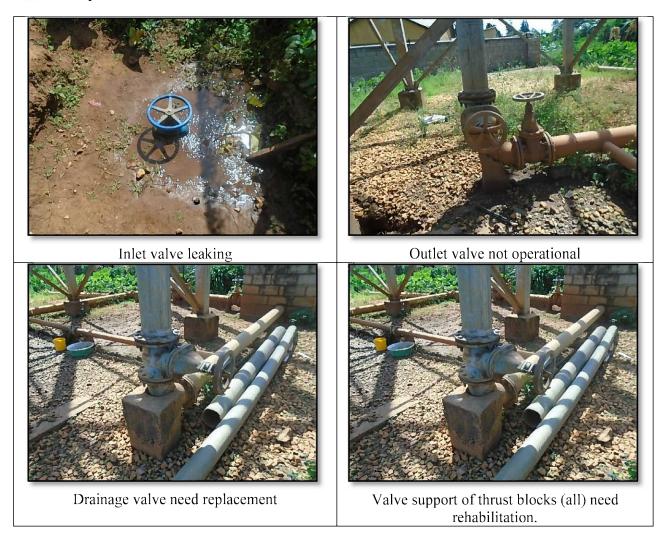
The reservoir receives water from Karenge. It is suspended and has a storage capacity of 250 and serves Ndera sector areas.

The inlet valve leaks profusely and it is buried, outlet valve was defective and they connected the overflow pipe to the outlet by welding,

### II. Required Action and Requirements

Action	Requirements
<ul> <li>Replacement of inlet valve</li> </ul>	• 4 Valve DN200
<ul> <li>Replacement of outlet valve</li> </ul>	• 1 Floater valve DN200
<ul> <li>Installation of bypass valve</li> </ul>	
Replacement of drainage valve	
Installing a Floater valve	

## **III. Description Photos**



Location of Reservoir		
Subject	Data	Remarks
Reservoir number	101	
Branch	Kanombe	
District	Kicukiro	
Sector	Masaka	
Cell	Cyimo	
Village	Cyimo	
Street	KK 3 Rd	
GPS Coordinates Latitude	-2.0017991 y	
GPS Coordinates Longitude	30.2112507 x	
N.4		

Мар





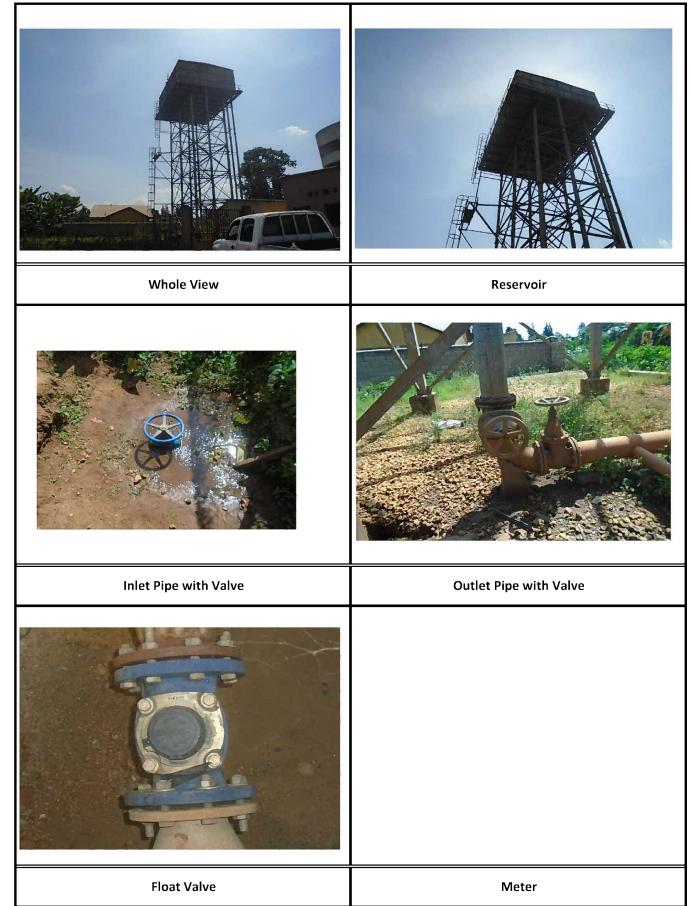
# **Attachement-3 Reservoir Survey Sheet**

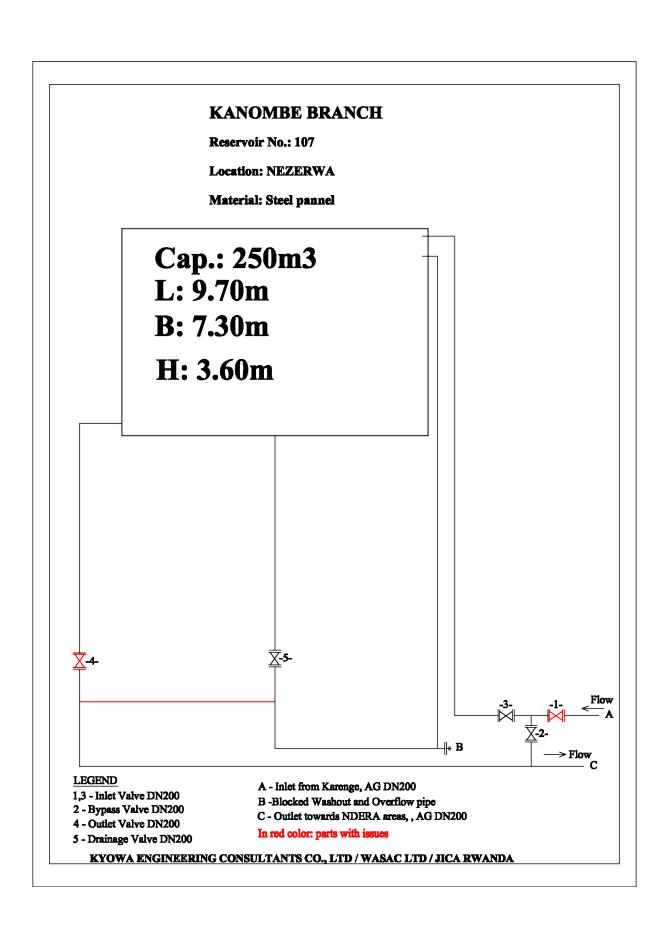
Date: 05/06/2020

No.	Item	Details
<b>A</b> :	General	
1	Number of Reservoir	101
2	Name of Reservoir	NEZERWA
3	ID Code	NDERK5RE1
4	Ward	District: Kicukiro, Sector: Masaka, Cell: Cyimo, Village: Cyimo
5	Branch Office	Kanombe
6	Location	Latitude: -2.0017991, Longitude: 30.2112507, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	250m3
10	Service area of the Reservoir	Ndera area
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	Overflow connected to the outlet pipe
3	Wall Leakage	Flowing
4	Overflow observation	Overflow connected to the outlet pipe and used for supply
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	The outlet valve broken, then they are using the overflow pipe to supply.
C:S	Structure	
1	Form of Reservoir	Rectangular
2	Foundation	Elevated
3	Structure Material	Steel
4	Inside Dimension	L: 9.70m× B: 7.30, H: 3.60m
5	Remarks/ Issue	

No.	Item	Details	
D: Equipment			
1	Floater Valve	No installation	
2	Water Level Gauge	No installation	
3	Flow Meter	Mechanical, DN: 100, PN(bar):,	
		Malfunction	
4	Inlet pipe No.1	SP, DN: 200, Top	
5	Inlet valve No.1	DN: 200, Function: No, defective and water flowing	
6	Outlet pipe No.1	SP, DN: 200	
7	Outlet valve No.1	DN: 200, Function: no, defective	
8	Overflow Pipe	SP, DN: 200	
9	Drain Pipe	SP, DN: 200 (Valve defective)	
10	Remarks/ Issue	All 7 valves are defective and need replacement	
		No water for operator  No electricity for operator	
	Other Information:	Outlet manhole not covered	
	omer information.	Thrust block separted with elbows	
		Tank leaking at the bottom  Ground (bottom) needs concrete protection.	
		Orbana (bottom) needs concrete protection.	

Reservoir Name: Nezerwa No: 101

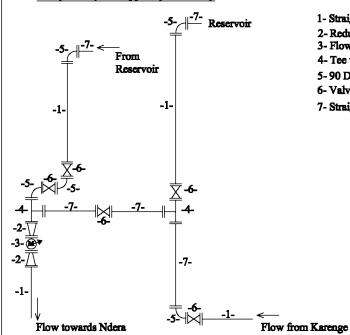




Reservoir No.: 107

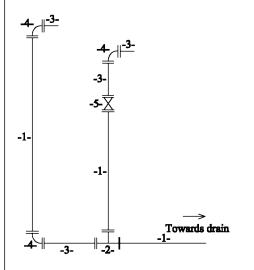
Reservoir Name: Nezerwa

#### \* Inlet, Outlet, and bypass (SP DN200)

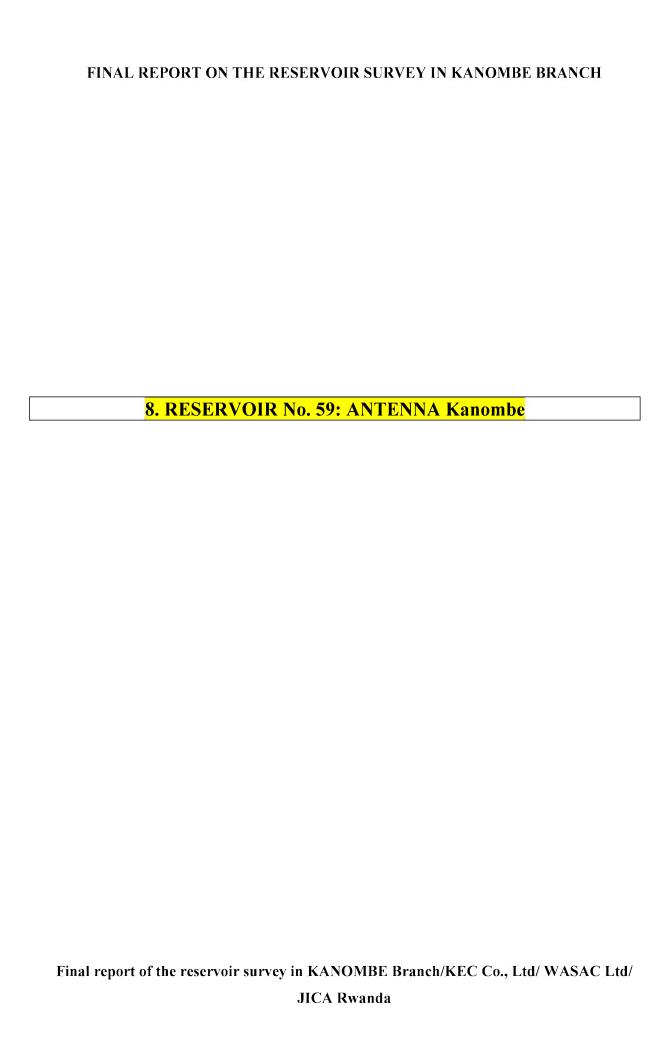


- 1- Straight Pipe with double flange
- 2- Reduced Cone
- 3- Flow Meter
- 4- Tee with triple flange
- 5-90 Degree Elbow with double flange
- 6- Valve DN200
- 7- Straight Pipe with a flange

#### \* Overflow and Drainage (SP DN200)



- 1- Straight Pipe with double flange
- 2- Tee with triple flange 3- Straight Pipe with a flange
- 4-90 Degree Elbow with double flange
- 5- Valve DN200



**BRANCH: KANOMBE** 

Reservoir: ANTENNA Kanombe

No.: 59

## I. Status and Functionality issues description

Before being abandoned the reservoir was using water from Karenge, now it is disconnected and not used, it was built by REGIE and handed to WASAC.

## II. Required Action and Requirements

Action	Requirements	
<ul> <li>General maintenance or replacement,</li> </ul>	• 3 Valve DN50	
Replacement of inlet valve	<ul> <li>1 Floater valve DN50</li> </ul>	
Replacement of outlet valve	Construction	
Replacement of drainage valve		
<ul> <li>Installing a Floater valve</li> </ul>		

## **II. Description Photos**



General maintenance needed



Recennection and inlet valve needed



Outlet and drainage valves needed.

Location of Reservoir		
Data		Remarks
59,60		
Kanombe		
Kicukiro		
Kanombe		
Karama		
Gikundiro		
KK 20 Av		
-1.9836206	у	
30.1486846	х	
	Data 59,60 Kanombe Kicukiro Kanombe Karama Gikundiro KK 20 Av —1.9836206	Data 59,60 Kanombe Kicukiro Kanombe Kanombe Karama Gikundiro





# **Attachement-3 Reservoir Survey Sheet**

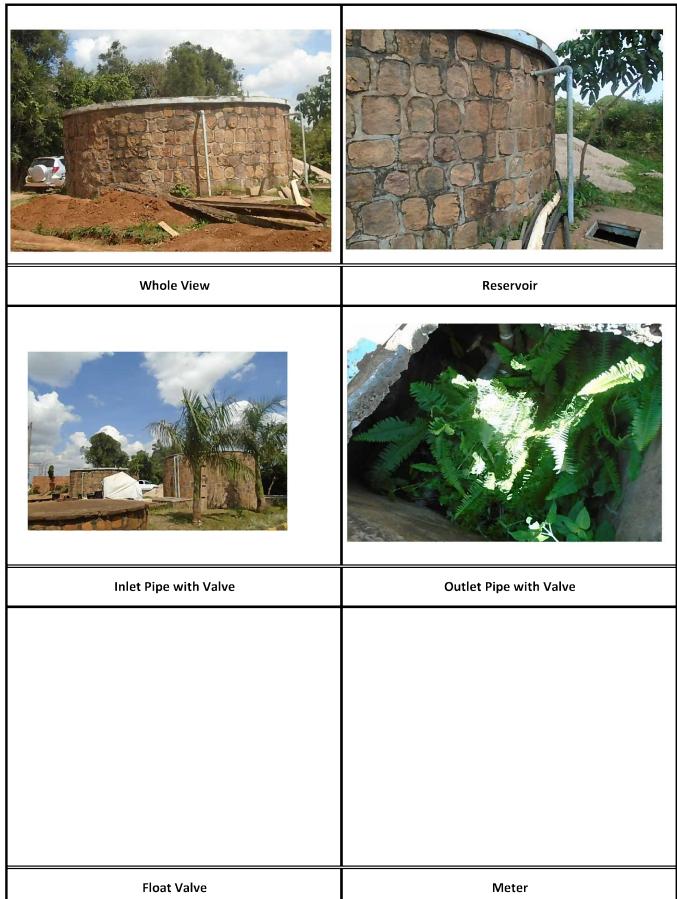
Date: 05/06/2020

No.	Item	Date: 05/06/2020  Details
<b>A</b> :	General	
1	Number of Reservoir	59
2	Name of Reservoir	Antenne
3	ID Code	KANN3RE2
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Karama, Village: Gikundiro
5	Branch Office	Kanombe
6	Location	Latitude: -1.9836206, Longitude: 30.1486846, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	50m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	always no water
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	always no water
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
	Reservoir	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.00m , H: 3.00m
5	Remarks/ Issue	General Maintenance needed

ce before usage.
- -

Other Information:	. Manhole not covered
	. Tank not connected
	. Accessories removed or stolen
	.Nearest network pipe is DN300 an in 5m from reseroir's manhole

Reservoir Name: Antenne No: 59

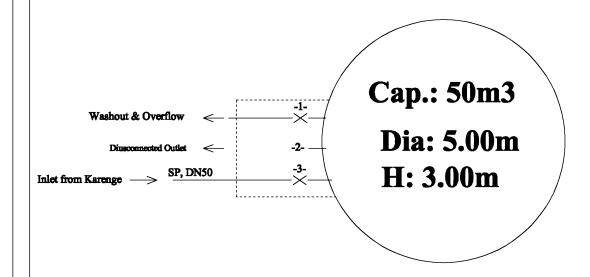


Reservoir No.: 4

**Location: Antenne** 

**Material: Stone Masonry** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

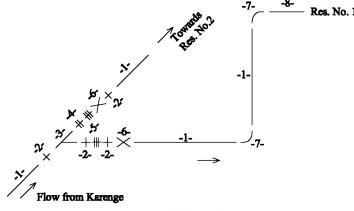
- 1- Overflow and Washout Valve DN50
- 2 Disconnected Outlet DN50
- 3 Inlet Valve DN50

N.B: No outlet accessories installed

Reservoir No.: 4&5

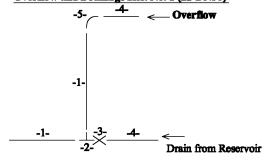
Reservoir Name: Antenna

#### \* Inlet, Outlet, and bypass (SP DN50)



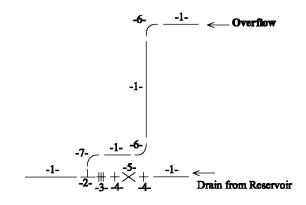
- 1- Straight Pipe
- 2- Nipple 3-Tee with 45 Degree
- 4- Adaptor
- 5- Union joint
- 6- Valve DN50
- 7-90 Degree Elbow
- 8- Reservoir inlet Straight Pipe

#### \* Overflow and Drainage Res. No. 1 (SP DN50)

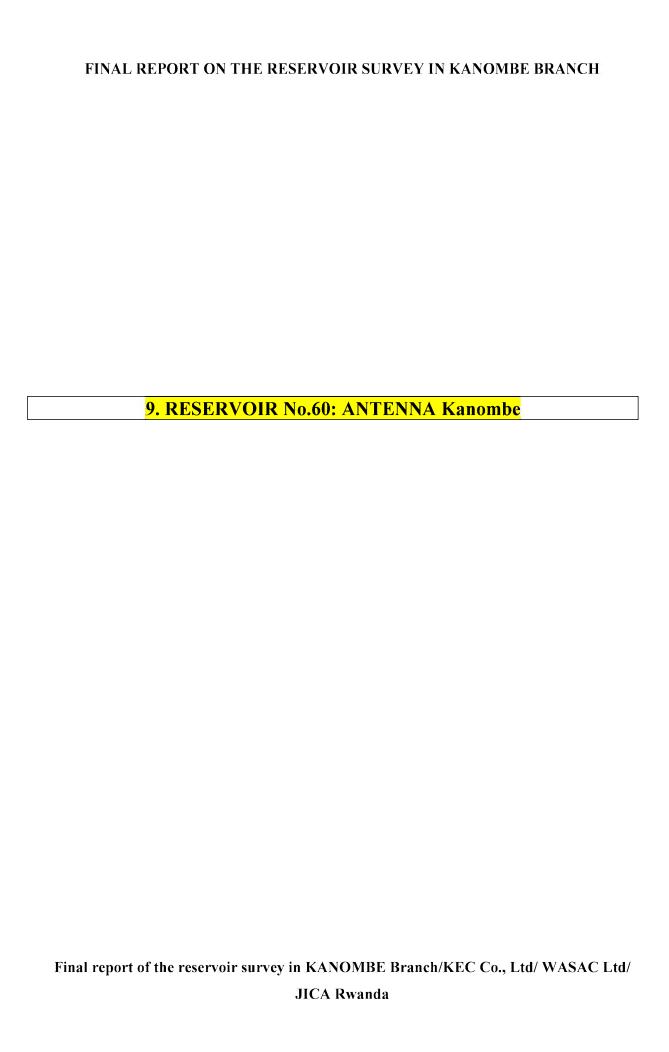


- 1- Pipe
- 2- Tee
- 3-Valve DN50
- 4- Straight Pipe
- 5-90 Degree Elbow

#### \* Overflow and Drainage Res. No. 2 (SP DN50)



- 1- Straight Pipe
- 2- Tee 3- Union joint
- 4- Nipple
- 5- Valve DN50
- 6-90 Degree Elbow



**BRANCH: KANOMBE** 

Reservoir: ANTENNA Kanombe

No.: 60

## I. Status and Functionality issues description

Before being abandoned the reservoir was using water from Karenge, now it is disconnected and not used, it was built by REGIE and handed to WASAC.

### II. Required Action and Requirements

Action	Requirements
General maintenance or replacement,	• 3 Valve DN50
<ul> <li>Replacement of inlet valve</li> </ul>	• 1 Floater valve DN50
Replacement of outlet valve	Construction
Replacement of drainage valve	
Installing a Floater valve	

## **II. Description Photos**



Floater valve needed for inlet pipe



Recennection and outlet valve needed



General maintenance works needed

Location of Reservoir			
Data		Remarks	
59,60			
Kanombe			
Kicukiro			
Kanombe			
Karama			
Gikundiro			
KK 20 Av			
-1.9836206	у		
30.1486846	х		
	Data 59,60 Kanombe Kicukiro Kanombe Karama Gikundiro KK 20 Av —1.9836206	Data 59,60 Kanombe Kicukiro Kanombe Karama Gikundiro	





# **Attachement-3 Reservoir Survey Sheet**

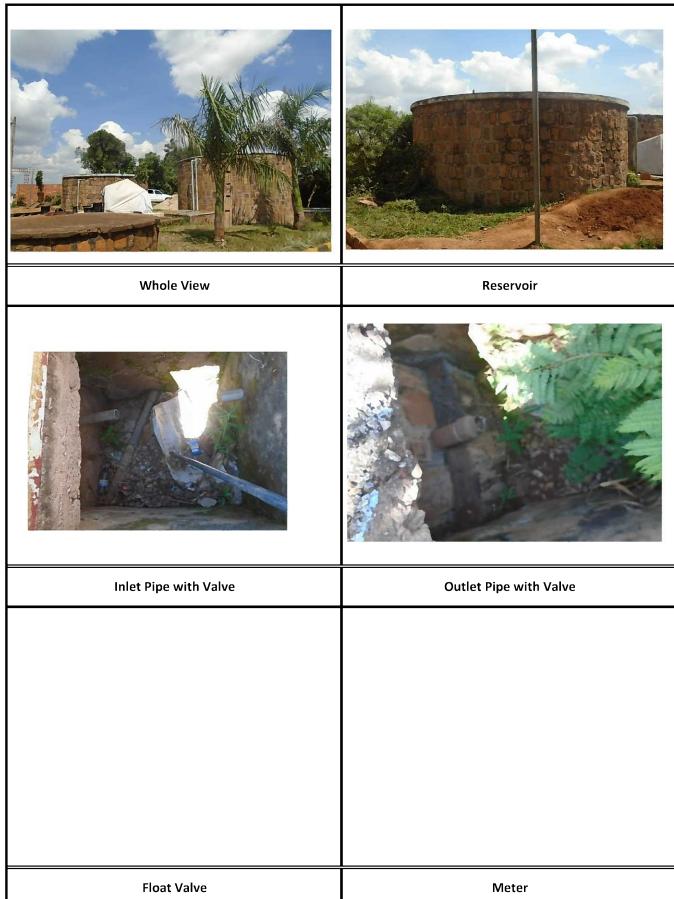
Date: 05/06/2020

No.	Item	Date: 05/06/2020  Details	
=	General		
1	Number of Reservoir	60	
2	Name of Reservoir	Antenne	
3	ID Code	KANN3RE1	
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Karama, Village: Gikundiro	
5	Branch Office	Kanombe	
6	Location	Latitude: -1.9836206, Longitude: 30.1486846, Altitude	
7	Function of Reservoir	Storage	
8	Age of Reservoir	Year	
9	Storage Capacity	50m3	
10	Service area of the Reservoir		
B: (	Operational Condition		
1	Operational Condition	Abandoned	
2	Operator Assignment	No operator	
	Action against to overflow		
3	Wall Leakage	Nothing	
4	Overflow observation	always no water	
	Phenomenon		
	Reason of overflow		
5	Bypass-flow operation	always no water	
	Reason of bypass operation		
6	Inflow Condition	Source: Karenge	
		Water pressure at inlet:	
		Frequency and time:	
7	Water level movement	always no water	
8	Issue on Functional Condition		
C:S	Structure		
1	Form of Reservoir	Circular	
2	Foundation	Underground	
	Reservoir	Ground	
3	Structure Material	Stones	
4	Inside Dimension	D: 4.90m , H: 3.00m	
5	Remarks/ Issue	General Maintenance needed	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 50, Top
5	Inlet valve No.1	DN: 50, Function: No information
6	Outlet pipe No.1	SP, DN: 80
7	Outlet valve No.1	DN: 50, Function: Not available
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	Reservoir constructed by REGIE and need general maintenance before usage.
		Manhala not covered

Other Information:	. Manhole not covered
	. Tank not connected
	. Accessories removed or stolen
	.Nearest network pipe is DN300 an in 5m from reseroir's manhole

Reservoir Name: Antenne No: 60

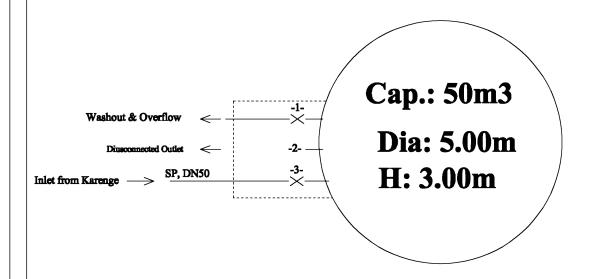


Reservoir No.: 5

**Location: Antenne** 

**Material: Stone Masonry** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

- 1- Overflow and Washout Valve DN50
- 2 Disconnected Outlet DN50
- 3 Inlet Valve DN50

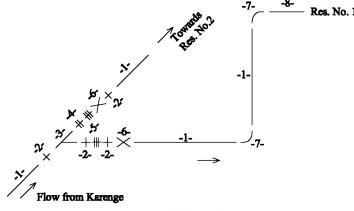
N.B: No outlet accessories installed

#### KANOMBE BRANCH

Reservoir No.: 4&5

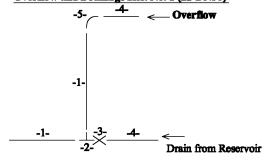
Reservoir Name: Antenna

#### \* Inlet, Outlet, and bypass (SP DN50)



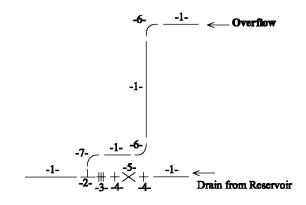
- 1- Straight Pipe
- 2- Nipple 3-Tee with 45 Degree
- 4- Adaptor
- 5- Union joint
- 6- Valve DN50
- 7-90 Degree Elbow
- 8- Reservoir inlet Straight Pipe

#### \* Overflow and Drainage Res. No. 1 (SP DN50)



- 1- Pipe
- 2- Tee
- 3-Valve DN50
- 4- Straight Pipe
- 5-90 Degree Elbow

#### \* Overflow and Drainage Res. No. 2 (SP DN50)



- 1- Straight Pipe
- 2- Tee 3- Union joint
- 4- Nipple
- 5- Valve DN50
- 6-90 Degree Elbow

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA



**BRANCH: KANOMBE** 

Reservoir: KARAMA (Rukundo Village)

No.: 46

#### I. Status and Functionality issues description

The reservoir is located in Uwurukundo Village, receiving water from Gikondo, it was abandoned after realizing that it is in the road dimensions and easily accessible to kids of the village that used to play with it in and outside, it used to serve their village and the nearby Public Water Tap.

At the time of the visit it was closed and we were not able to take inside picture but as per WASAC Techinician outlet accessories were removed and taken by WASAC to another place.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Replacement of the cover</li> </ul>	• 1Floater valve 1''
<ul> <li>Installation of Floater valve</li> </ul>	• 1 Valve 1''
• Protection (fencing)	Construction works
<ul> <li>Installation of Outlet valve</li> </ul>	•
Rehabilitation of the nearby water tap	

## **III. Description Photos**



Defective cover



Kids play on top, in and outside of it

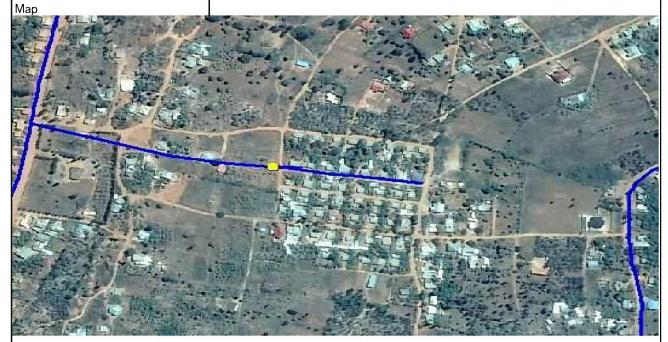


Rehabilitation of the nearby Water Tap will be necessary if reservoir is needed



Reservoir in road dimension.

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	46	
Branch	Kanombe	
District	Kicukiro	
Sector	Kanombe	
Cell	Karama	
Village	Urukundo	
Street	KK 20 Av	
GPS Coordinates Latitude	-1.9927091 y	
GPS Coordinates Longitude	30.1495906 x	





# **Attachement-3 Reservoir Survey Sheet**

Date: 05/06/2020

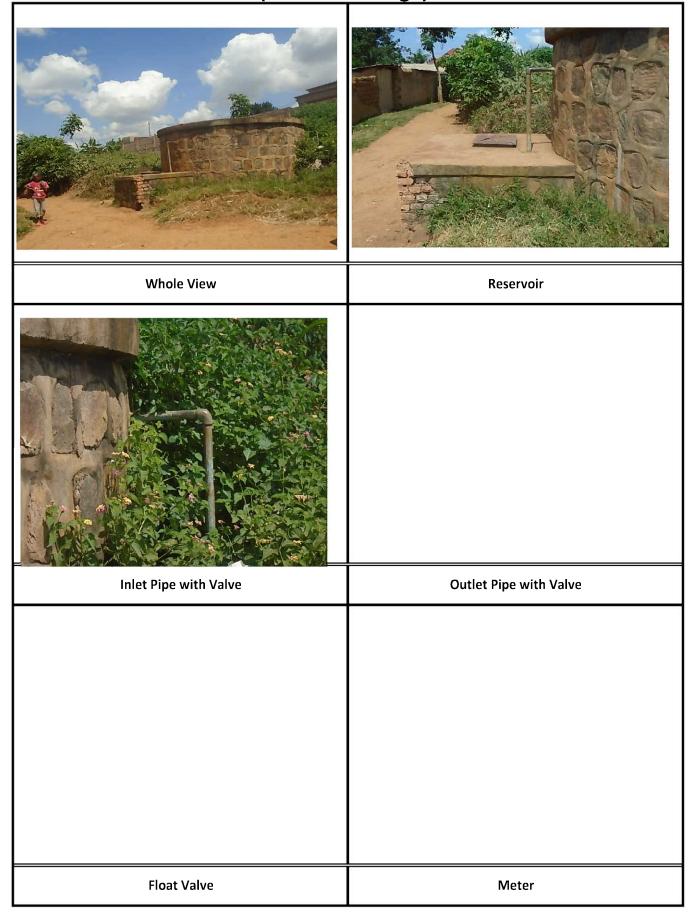
No.	Item	Details
A: (	General	
1	Number of Reservoir	46
2	Name of Reservoir	Karama (Rukundo Village)
3	ID Code	KANN4RE1
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Karama, Village: Urukundo
5	Branch Office	Kanombe
6	Location	Latitude: -1.9927091, Longitude: 30.1495906, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	20 m3
10	Service area of the Reservoir	
B: 0	Operational Condition	
1	Operational Condition	Not Operational (Disconnected)
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	always no water
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	Not well covered, kids were playing inside
6	Inflow Condition	Source: Gikondo
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 4.00m, H: 1.80m
5	Remarks/ Issue	

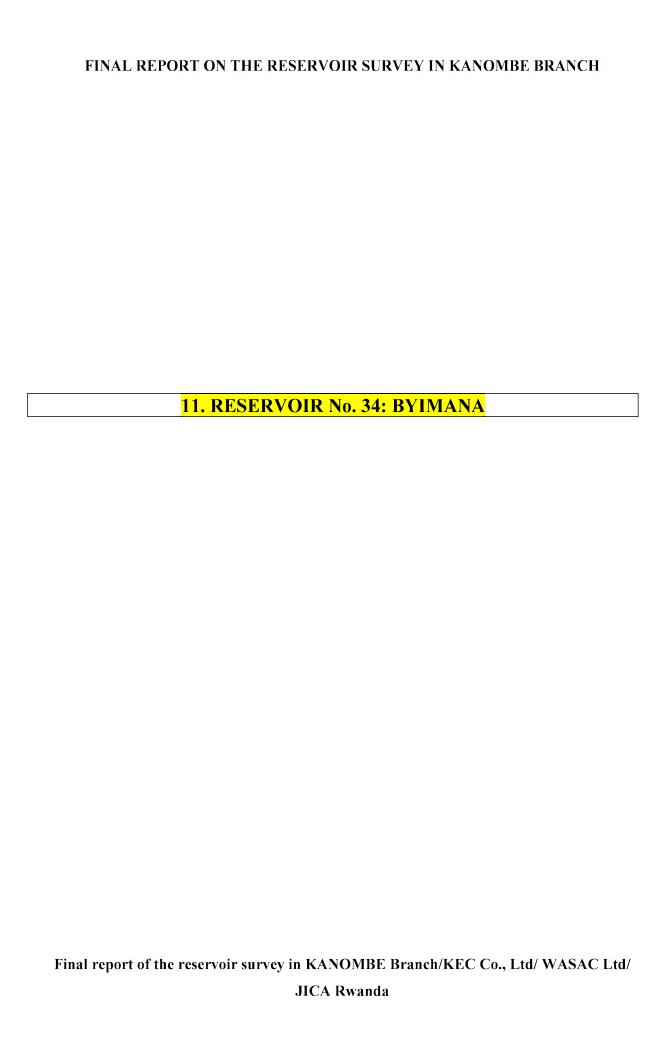
No.	Item	Details
D:		
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 1", Top
5	Inlet valve No.1	DN: 1", Function: YES
6	Outlet pipe No.1	SP, DN: 1"
7	Outlet valve No.1	Not available
8	Overflow Pipe	SP, DN: 1 1/4"
9	Drain Pipe	SP, DN: 1 1/2"
10	Remarks/ Issue	

Other Information:

- . Tank abandoned and bypassed after realizing that kids were playing inside. . No fence, no protection, in the road
- . Cover defective
- . Outlet accessories disconnected and removed
- . Tank used to serve the nearby Public tap (BF)

Reservoir Name: Karama (Rukundo Village) No: 46





**BRANCH: KANOMBE** 

**Reservoir: BYIMANA** 

No.: 34

#### I. Status and Functionality issues description

The reservoir is located in Byimana area, it used to serve as storage and Kiosk reservoir because of a connected Water tap, it has a storage capacity of 25 m3, and it was abandoned by REGIE.

It was receiving water from Gikondo.

#### II. Required Action and Requirements

Action	Requirements
<ul><li>Installation of Floater valve</li><li>Installation of Flow Meter</li></ul>	<ul> <li>1Floater valve 1 <sup>1/4</sup>"</li> <li>Meter</li> </ul>
<ul> <li>Supply and installation of inlet and outlet valves</li> </ul>	<ul> <li>2 Valve 1 <sup>1/4</sup>,</li> <li>Construction works</li> </ul>
<ul> <li>Manhole need a cover</li> <li>General cleaning, clearing and maintenance needed.</li> </ul>	General plumbing maintenance.
Accessories stolen.	

## **III. Description Photos**



Location of Reservoir		
Subject	Data	Remarks
Reservoir number	34	
Branch	Kanombe	
District	Kicukiro	
Sector	Kanombe	
Cell	Karama	
Village	Gitarama	
Street	KK 20 Av	
GPS Coordinates Latitude	-1.9987608 y	
GPS Coordinates Longitude	30.145814 x	
Man		

Мар





# **Attachement-3 Reservoir Survey Sheet**

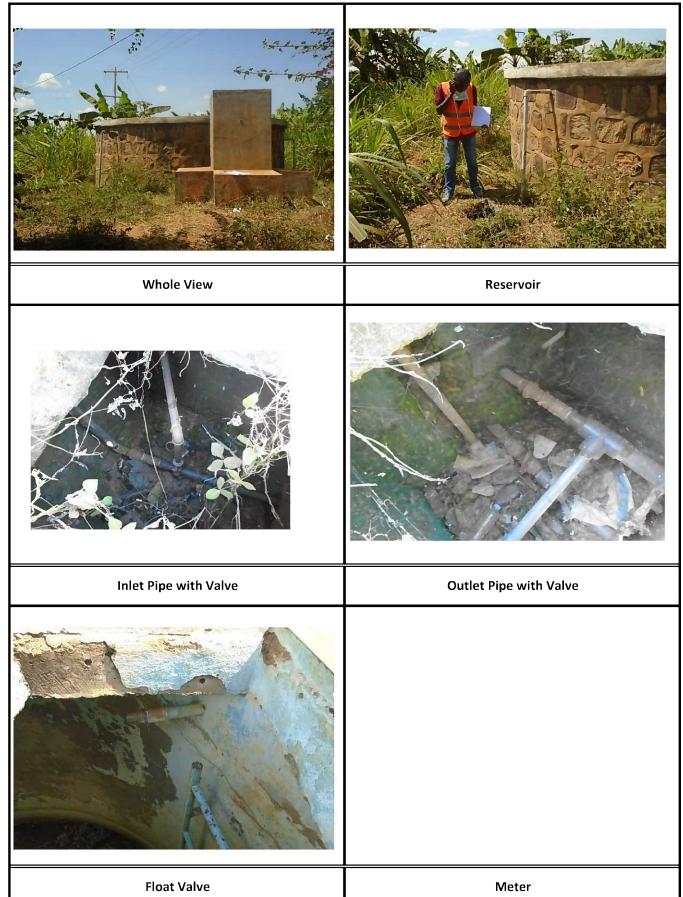
Date: 05/06/2020

No.	Item	Details
A:	General	
1	Number of Reservoir	34
2	Name of Reservoir	BYIMANA
3	ID Code	KANO3RE1
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Karama, Village: Gitarama
5	Branch Office	Kanombe
6	Location	Latitude: -1.9987608, Longitude: 30.145814, Altitude
7	Function of Reservoir	Storage and Kiosk Reservoir
8	Age of Reservoir	Year
9	Storage Capacity	25 m3
10	Service area of the Reservoir	
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:,
	Reason of bypass operation	
6	Inflow Condition	Source: Gikondo
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always no water
8	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 3.80m, H: 2.20m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 1 1/4", Top
5	Inlet valve No.1	DN: 1 1/4", Function: no information
6	Outlet pipe No.1	SP, DN: 1 1/4"
7	Outlet valve No.1	no installation
8	Overflow Pipe	SP, DN: 1"
9	Drain Pipe	SP, DN: 1 1/2"
10	Remarks/ Issue	Tank constructed by REGIE and was abandoned
_		T

Other Information:	. Manhole not covered
	. Accessories stolen
Other information.	. General cleaning, clearing and maintenance needed
	. Nearby PWT (BF) disconnected.

Reservoir Name: BYIMANA No: 34



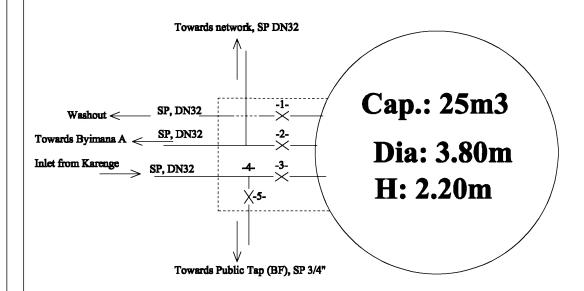
#### KANOMBE BRANCH

Reservoir No.: 10

Location: Byimana

**Material: Stone Masonry** 

#### **SCHEMATIC DRAWING**



#### **LEGEND**

- 1- Washout valve DN32
- 2 Outlet Valve DN 32
- 3 Inlet Valve DN 32
- 4 Bypass reduced Tee DN32 to DN3/4"
- 5 Bypass Valve DN3/4"

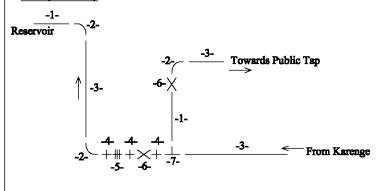
KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

#### KANOMBE BRANCH

Reservoir No.: 10

Reservoir Name: Byimana

#### \* Inlet (SP 1 1/4")



- 1- Straight Pipe
- 2-90 Degree Elbow
- 3-Pipe
- 4- Nipple
- 5- Union joint
- 6- Valve DN32
- 7- Tee

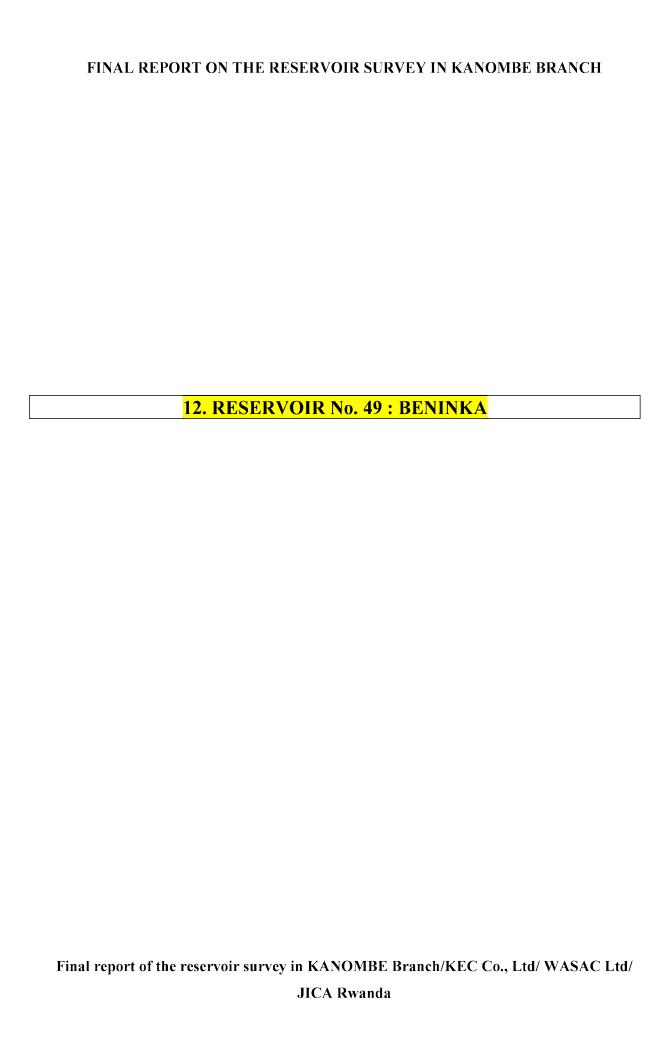
#### \* Outlet, (SP 1 1/4")

Reservoir \_1\_ \_\_\_\_\_ -2\_- -2\_- -2\_- -5\_- \_\_\_\_\_ Towards Network Byimana A \_\_\_\_\_\_\_ Towards Network Byimana A \_\_\_\_\_\_\_ Towards Network Byimana B

- 1- Straight Pipe
- 2- Nipple 3-Union joint 4- Valve
- 5- Tee
- 6- Pipe

\* Drainage (SP 1 1/2")

- 1- Straight Pipe
- 2- Valve
- 3-Pipe



**BRANCH: KANOMBE** 

**Reservoir: BENINKA** 

No.: 49

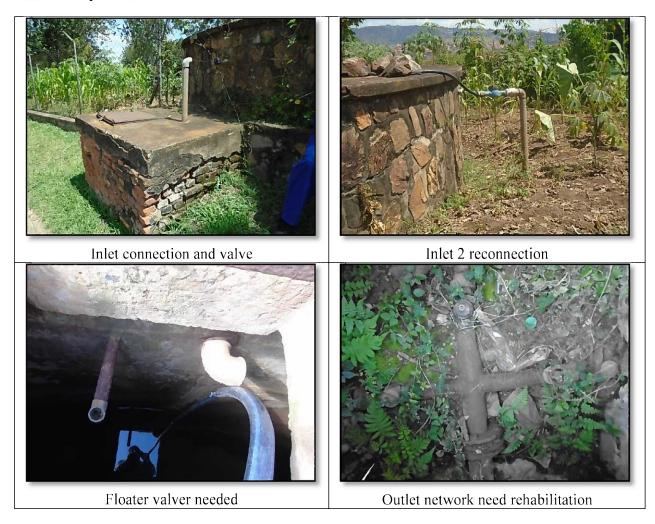
#### I. Status and Functionality issues description

The reservoir is located in Beninka Village in Rubilizi area and is being used by RAB-UR CAVM branch as WASAC Water store privately because before it was disconnected from WQASAC NETWORK but RAB decide to maintain it and use it as a private storage.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Installation of Floater valve</li> <li>Reconnection of inlet pipe</li> <li>Supply and installation of Outlet valve</li> <li>Drainage Valve</li> <li>Manhole cover</li> <li>Sealing the leaks on the walls</li> <li>Manhole cover</li> </ul>	<ul> <li>1Floater valve 2"</li> <li>1 Valve 2"</li> <li>1 Valve 2"</li> <li>Manhole cover</li> <li>Construction works</li> <li>Cover</li> </ul>

## **III. Description Photos**



Location of Reservoir			
Subject	Data		Remarks
Reservoir number	49		
Branch	Kanombe		
District	Kicukiro		
Sector	Kanombe		
Cell	Rubirizi		
Village	Zirakamwa		
Street	KK 18 Av		
GPS Coordinates Latitude	-1.9891046	у	
GPS Coordinates Longitude	30.131951	х	





# **Attachement-3 Reservoir Survey Sheet**

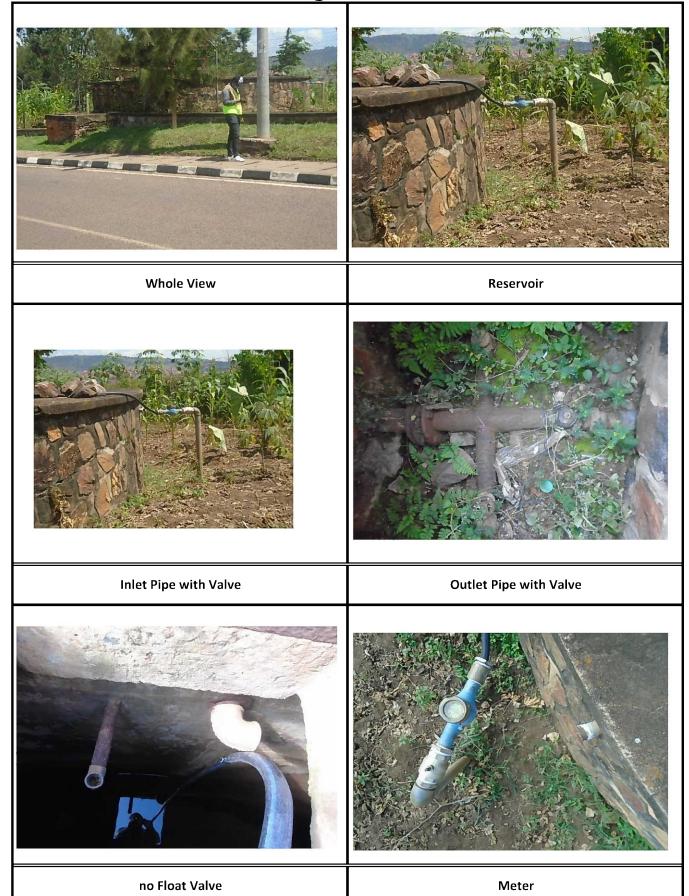
Date: 05/06/2020

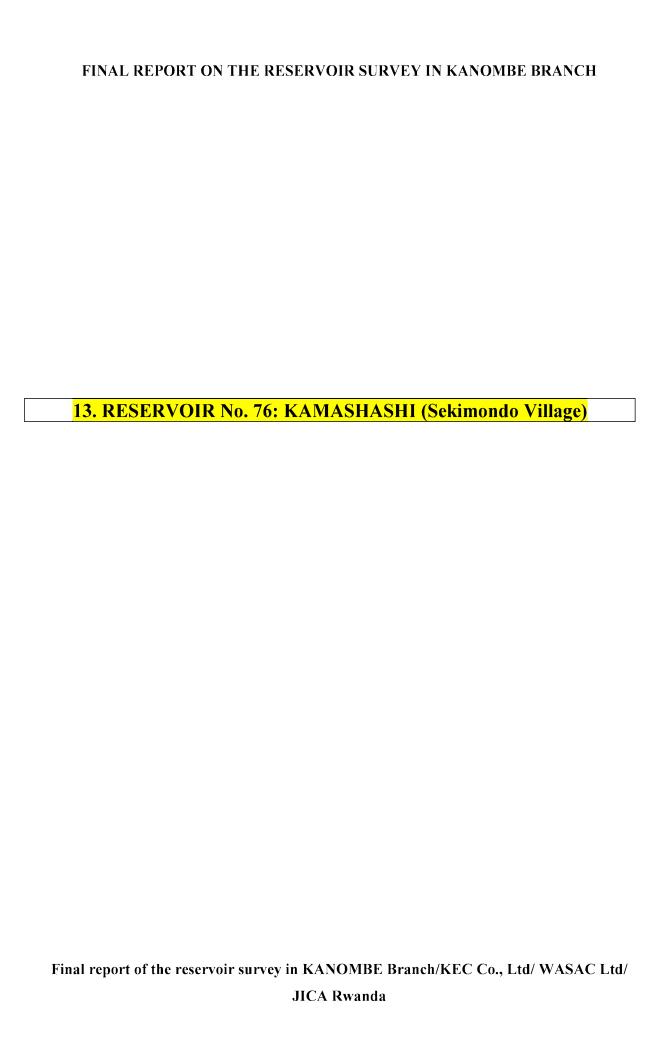
No.	Item	Details
<b>A</b> :	General	
1	Number of Reservoir	49
2	Name of Reservoir	BENINKA Village
3	ID Code	KANN2RE1
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Rubirizi, Village: Zirakamwa
5	Branch Office	Kanombe
6	Location	Latitude: -1.9891046, Longitude: 30.131951, Altitude
7	Function of Reservoir	Storage (being used by CAVM former ISAE Rubilizi)
8	Age of Reservoir	Year
9	Storage Capacity	60 m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:,
	Reason of bypass operation	
6	Inflow Condition	Source: KIMISAGARA
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	8 Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 6.60m, H: 1.90m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 50, PN(bar):,
		Function: YES
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 50
5	Inlet valve No.1	DN: 50, Function: YES
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 50 , Function: Defective
8	Overflow Pipe	SP, DN: 50 (Disconnected)
.9	Drain Pipe	Not visible
10	Remarks/ Issue	Disconnected from WASAC network but uses WASAC Water.
_		
		. New ccessories DN50 needed connection to the inlet and outlet, valves needed for inlet and outlet.
		. Manhole (2) needed, new covers needed
Other Information:		. When at it full capacity it leaks thriugh walls and new internal plastering is needed

. New cover needed.

Reservoir Name: BENINKA Village No: 49





**BRANCH: KANOMBE** 

Reservoir: KAMASHASHI (Sekimondo Village)

No.: 76

#### I. Status and Functionality issues description

The elevated metallic tank has a capacity of 250m3 and was being used to serve a village known as Sekimondo village in Kamashashi area. It is privately owned and was abandoned by WASAC as it was always causing losses due to the fact that it has no meter before reservoir, it has no floater valve and it was always overflowing, therefore causing losses to WASAC Ltd which resulted in abandoning it permanently.

#### II. Required Action and Requirements

Action	Requirements	
<ul> <li>Installation of flow meter in the inlet manhole,</li> <li>Installation of a floater valve,</li> <li>Repainting the inside of the tank</li> <li>Installation of an overflow pipe,</li> <li>Installation and connection of a drain pipe</li> </ul>	<ul> <li>1 Floater valves DN80</li> <li>Flow Meter, DN80</li> <li>Paint</li> <li>Drain valve DN80</li> <li>Pipes</li> </ul>	

#### **III. Description Photos**



Installation of a Meter needed



Overflow pipe and drain pipe needed

Location of Reservoir				
Subject	Data	Remarks		
Reservoir number	76			
Branch	Kanombe			
District	Kicukiro			
Sector	Nyarugunga			
Cell	Kamashashi			
Village	Mukoni			
Street	KN 5 RD			
GPS Coordinates Latitude	-1.9753319 y			
GPS Coordinates Longitude	30.1747834 x			
h.4	·			





# **Attachement-3 Reservoir Survey Sheet**

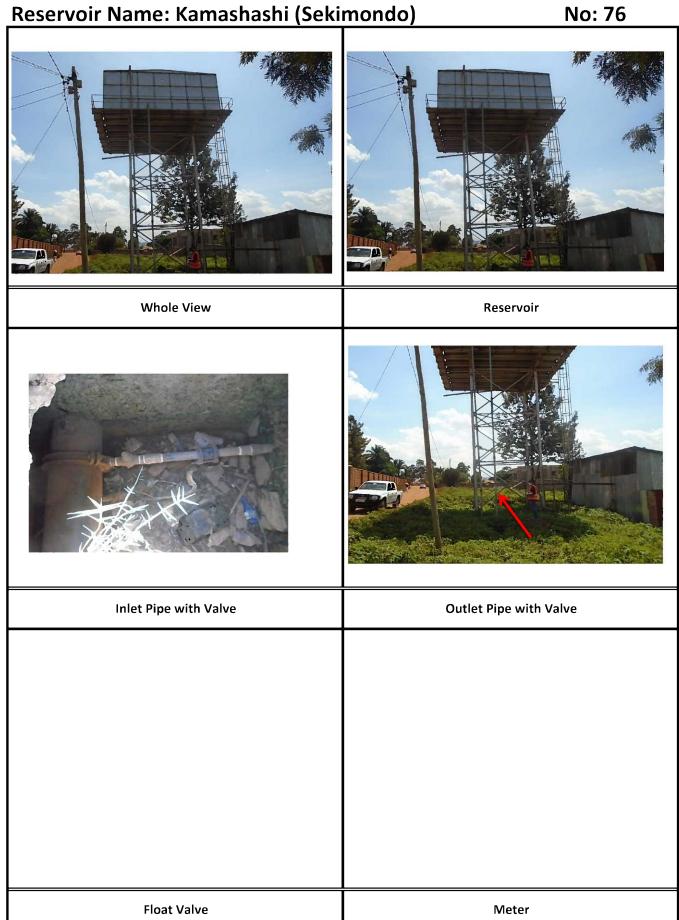
Date: 05/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	76
2	Name of Reservoir	Kamashashi (Sekimondo)
3	ID Code	NYARUM5RE1
4	Ward	District: Kicukiro, Sector: Nyarugunga, Cell: Kamashashi, Village: Mukoni
5	Branch Office	Kanombe
6	Location	Latitude: -1.9753319, Longitude: 30.1747834, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	250m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	Abandoned because it was overflowing everyday.
	Phenomenon	Defective floater valve
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Defective floater valve caused loss of water
C:S	Structure	
1	Form of Reservoir	Rectangular
2	Foundation	Elevated
3	Structure Material	Steel
4	Inside Dimension	L: 9.70m × B: 7.30m , H: 3.60
5	Remarks/ Issue	After realizing that there is rust and steel dust inside, WASAC decided to abandon the tank.

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, DN: 80
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 80, Top
5	Inlet valve No.1	DN: 80 , Function: YES
6	Outlet pipe No.1	SP, DN: 80
7	Outlet valve No.1	DN: , Function:
8	Overflow Pipe	No overflow pipe
9	Drain Pipe	No Drainage pipe
	Remarks/ Issue	The reservoir is no longer used, it was abandoned and bypassed.

	Maintenance Proposals:
	. New floater valve
Other Information:	. Drain pipe
	.Overflow pipe
	.Repainting inside for rust protection
	.Inlet valve needed
	. General cleaning, clearing and maintenance needed.

Reservoir Name: Kamashashi (Sekimondo)

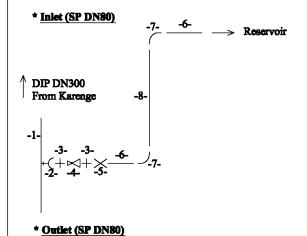


# KANOMBE BRANCH Reservoir No.: 57 Location: Kamashashi (Sekimondo) Material: Steel pannel Cap.: 250m3 L: 9.70m B: 7.30m H: 3.60m → Flow LEGEND A - Inlet from Karenge, AG DN80 1- Inlet Valve DN80 B -Blocked Washout C - Outlet towards Sekimondo Village, AG DN80 D - Disconnected Overflow Pipe. KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

#### KANOMBE BRANCH

Reservoir No.: 57

Reservoir Name: Kamashashi



- 1- Network pipe DN300
- 2- Saddle DN80 3- Nipple
- 4- Pressure Reducing Valve
- 5- Valve
- 6- Straight Pipe
- 7-90 Degree Elbow
- 8- Pipe

\_\_-3-\_ ≪ Reservoir -1-Towards Sekimondo Village

- 1-Pipe DN80
- 2-90 Degree Elbow 3-Straight Pipe



Reservoir: ABAREZI Samuduha

**BRANCH: KANOMBE** 

No.: 73

#### I. Status and Functionality issues description

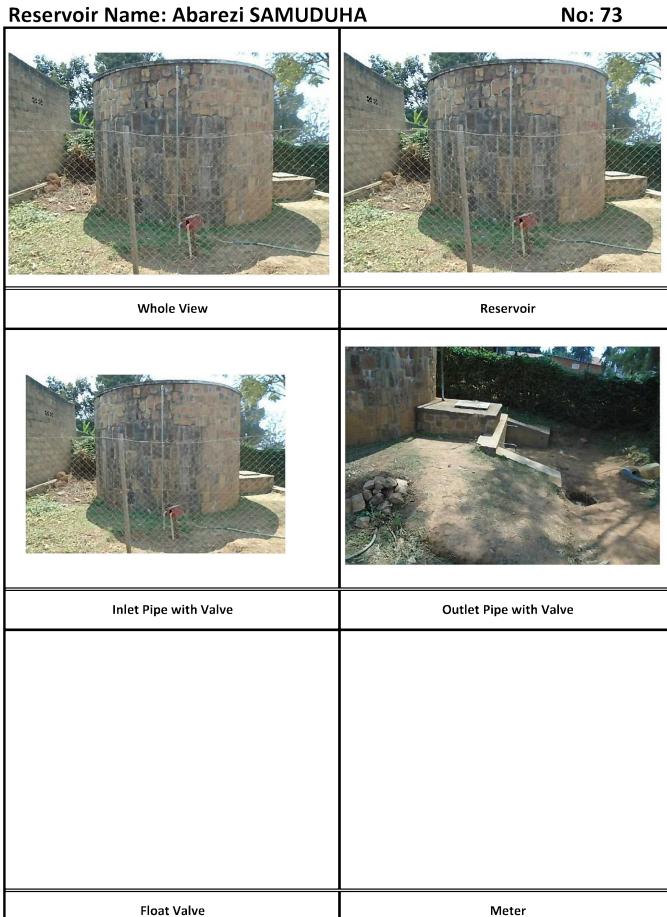
The reservoir is has a capacity of 25m3 and is being used to serve a nearby Public Water Tap.

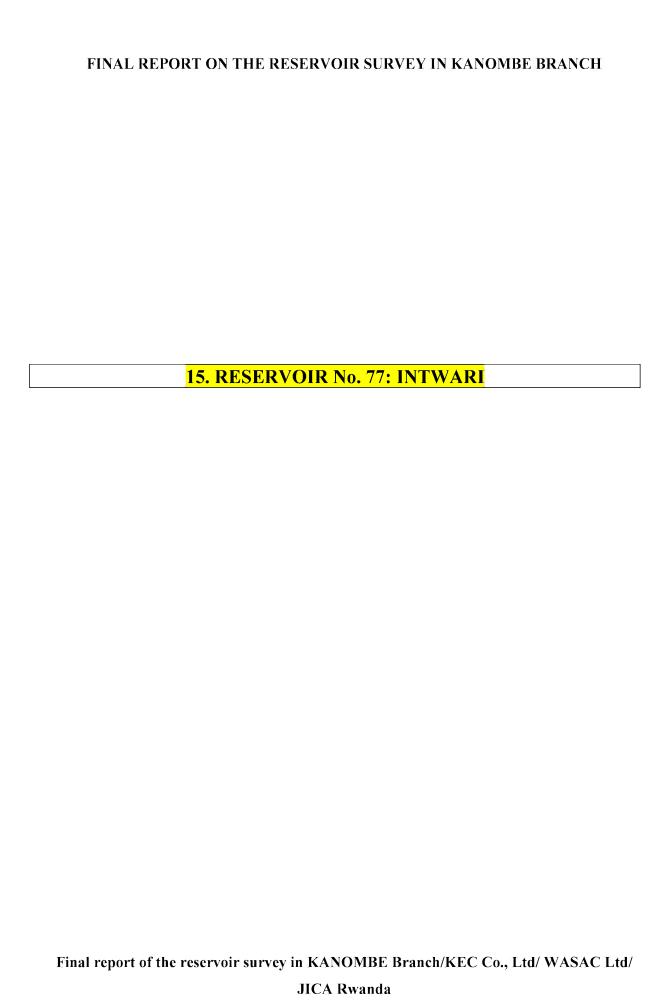
WE visited 3 times and the operator was not around.

#### **II. Required Action and Requirements**

Action	Requirements
Nothing	

Reservoir Name: Abarezi SAMUDUHA





**BRANCH: KANOMBE** 

Reservoir: INTWARI

No.: 77

# I. Status and Functionality issues description

The reservoir is has a capacity of 70m3 and is being used to serve a nearby Public Water Tap.

It is under management of a local group of people selected by local authority and headed by: Mr. Joseph.

### II. Required Action and Requirements

Action	Requirements	
<ul> <li>Sealing wall leaks to make it water proof as it leaks.</li> <li>Installation of a floater valve</li> </ul>	<ul><li>1 Floater valves DN50</li><li>Construction works</li></ul>	



Final report of the reservoir survey in KANOMBE Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	77	
Branch	Kanombe	
District	Kicukiro	
Sector	Kanombe	
Cell	Rubirizi	
Village	Uwabarezi	
Street	KK 229 St	
GPS Coordinates Latitude	−1.9750959 y	
GPS Coordinates Longitude	30.136482 x	





# **Attachement-3 Reservoir Survey Sheet**

Date: 08/06/2020

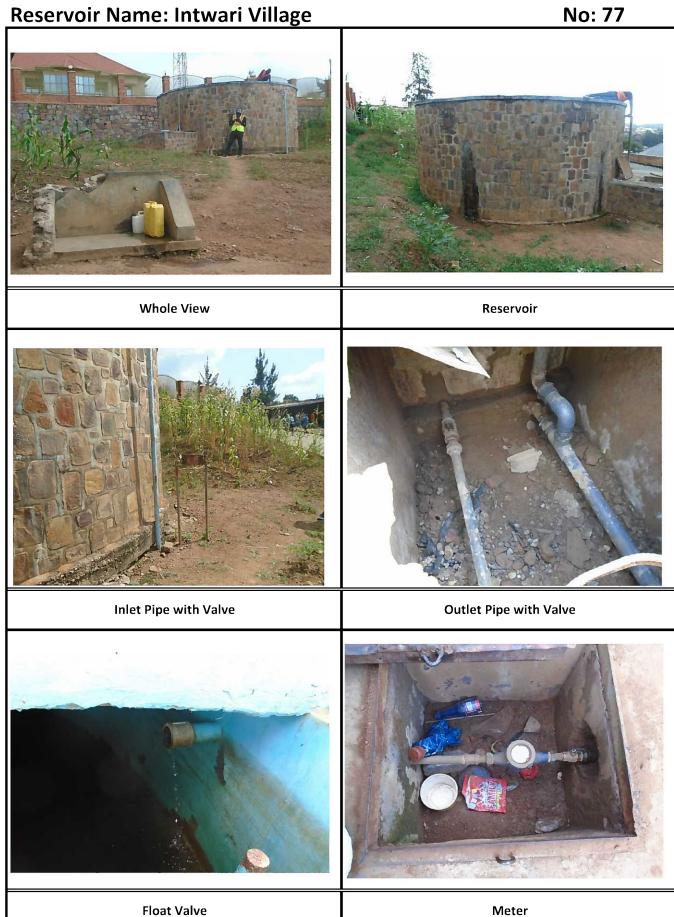
No.	Item	Date: 08/06/2020  Details
=	General	Details
1	Number of Reservoir	77
2	Name of Reservoir	Intwari Village
3	ID Code	KANM2RE1
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Rubirizi, Village: Uwabarezi
5	Branch Office	Kanombe
$\vdash$	Location	Latitude: -1.9750959, Longitude: 30.136482, Altitude
$\vdash$	Function of Reservoir	Kiosk Reservoir
$\vdash$	Age of Reservoir	Year: 2010
.9	Storage Capacity	70 m3
-	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	Closing Valve
3	Wall Leakage	Flowing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: KARENGE
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement, always low level, always no water
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.60m , H: 3.00m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 3/4", PN(bar):,
		Function:YES
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 50, Top
5	Inlet valve No.1	DN: 3/4" , Function: YES
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 50 , Function: YES
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	

	Tank wall leaks (flow)
Other Information:	During construction, rerservoir was for demobilized soldiers area
Other information.	
	Public tap under management of Mr. Joseph, Tel: 0788820002

# **Photo Sheet**

Reservoir Name: Intwari Village

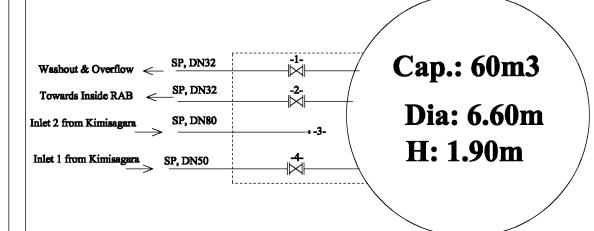


Reservoir No.: 43

Location: Intwari

**Material: Stone Masonry** 

### **SCHEMATIC DRAWING**



#### **LEGEND**

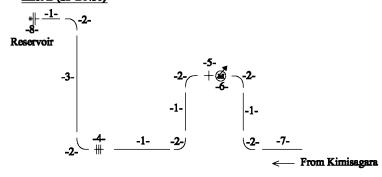
- 1- Overflow and Washout Valve DN 32
- 2 Outlet Valve DN 32
- 3 Blocked Inlet No.2, Pipe DN80
- 4- Inlet No.2 Valve DN50

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

Reservoir No.: 43

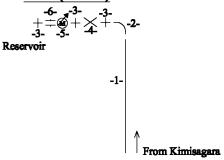
Reservoir Name: INTWARI

### \* Inlet B (SP DN50)



- 1- Network pipe
- 2-90 Degree Elbow
- 3- Pipe
- 4- Union joint
- 5- Nipple
- 6- Flow Meter
- 7- Network pipe
- 8- End Cap

#### \* Inlet A (SP DN50)



- 1- Network pipe
- 2-90 Degree Elbow
- 3- Nipple
- 4- Valve
- 5- Flow Meter
- 6- Coupling

#### \* Outlet 1 1/4" (DN32)

$$\underset{\text{Reservoir}}{\longrightarrow} \xrightarrow{-1-} \xrightarrow{-2-} \xrightarrow{-4-} \xrightarrow{-5-} \longrightarrow \text{Inside RAB}$$

- 1- Straight pipe
- 2-Valve
- 3- Nipple
- 4- Union Joint
- 5- Flow Meter

### \* Overflow and Drainage 1 1/4" (DN32)

- 1- Straight pipe
- 2- Valve
- 3- Nipple
- 4- Tee
- 5- Pipe
- 6-90 degree elbow

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

Page 1/1



**BRANCH: KANOMBE** 

**Reservoir: KABEZA** 

No.: 84

# I. Status and Functionality issues description

The reservoir is has a capacity of 40m3 and is being used to serve a connected Public Water Tap.

It is under management of a local group of people selected by local authority and supervised by WASAC.

# **II. Required Action and Requirements**

Action	Requirements	
<ul> <li>Replacement of the Outlet valve</li> <li>Installation of a floater valve</li> <li>Installation of a drain pipe</li> <li>Repainting the reservoir cover and its refixing.</li> </ul>	<ul> <li>Valve 1"</li> <li>1 Floater valves 3/4"</li> <li>Wash out construction works.</li> <li>Cover maintenance</li> </ul>	



No floater valve installed



Replacement of outlet valve



Cover protection maintenance needed

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	84	
Branch	Kanombe	
District	Kicukiro	
Sector	Kanombe	
Cell	Kabeza	
Village	Nyarurembo	
Street	KK 40 Av	
GPS Coordinates Latitude	-1.9699653 y	
GPS Coordinates Longitude	30.1188111 x	
		-02





# **Attachement-3 Reservoir Survey Sheet**

Date: \*\*/\*\*/2020

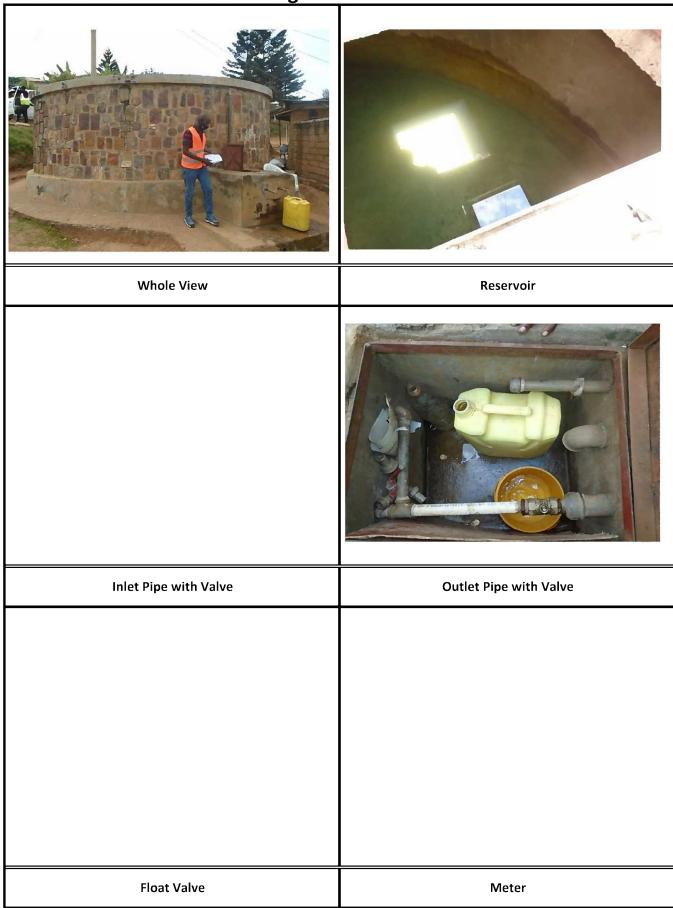
No.	Item	Details
A: (	General	
1	Number of Reservoir	84
2	Name of Reservoir	KABEZA
3	ID Code	KANL1RE2
4	Ward	District: Kicukiro, Sector: Kanombe, Cell: Kabeza, Village: Nyarurembo
5	Branch Office	Kanombe
6	Location	Latitude: -1.9699653, Longitude: 30.1188111, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year
9	Storage Capacity	40 m3
10	Service area of the Reservoir	BF
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level
8	Issue on Functional Condition	sometimes 14 days without water
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.60m , H: 1.60m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: needed 3/4
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 3/4", PN(bar):,
		Function: YES
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 3/4", Top
5	Inlet valve No.1	DN: 3/4" , Function: YES
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 3/4", Function: MALFUNCTION-LEAKING
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	No drain pipe
10	Remarks/ Issue	Cover need repainting and protection with a concrete masonry

	Kiosk has 2 taps and the management requested for a 3rd one
Other Information:	Fencing needed
	There are cracks between wall and top slab. If possible sealing is needed

# **Photo Sheet**

Reservoir Name: Intwari Village No: 84

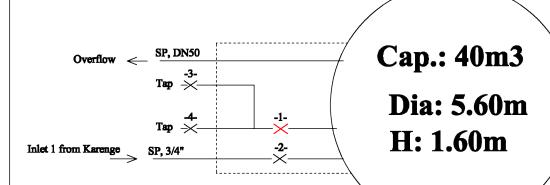


Reservoir No.: 53

Location: Kabeza

**Material: Stone Masonry** 

### **SCHEMATIC DRAWING**



#### **LEGEND**

1- Inlet Valve 3/4"

2 - Outlet Valve 3/4"

3,4 - Tap valve 3/4"

3,4 - Tap valve 3/4"

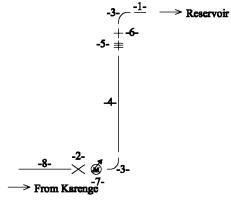
In red color: part with issues

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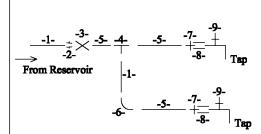
Reservoir No.: 53

Reservoir Name: Kabeza

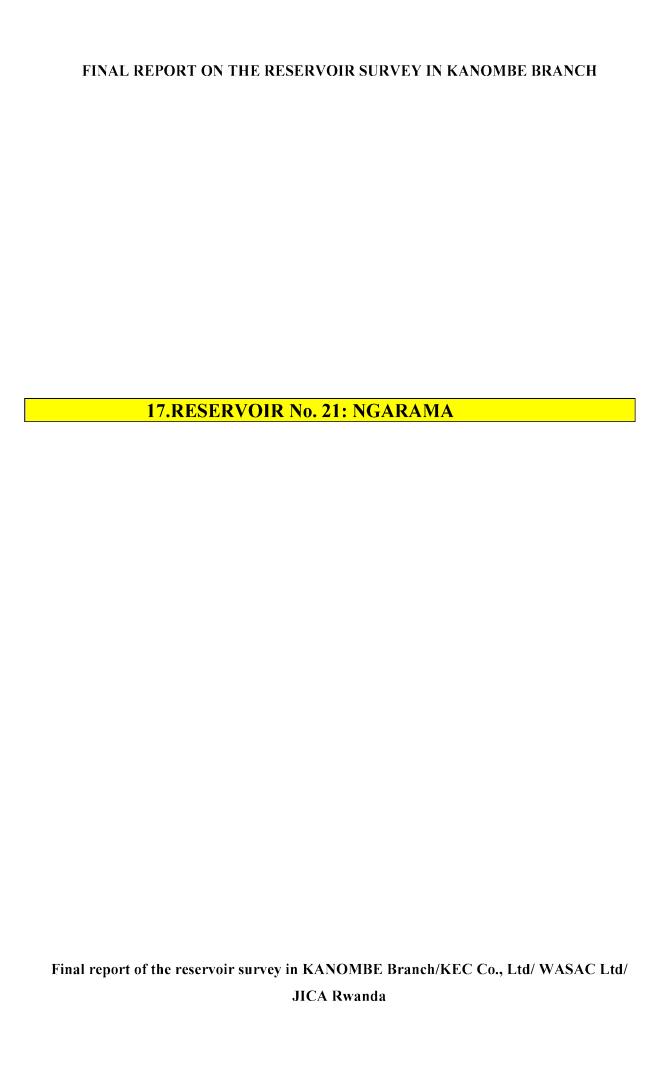
#### \* Inlet 3/4"



\* Outlet 1" & 3/4"



- 1- Straight Pipe 3/4"
- 2- Valve 3- 90 Degree Elbow
- 4- Pipe
- 5- Union joint
- 6- Nipple
- 7- Flow Meter
- 8- Network pipe
- 1- Straight Pipe 1"
- 2- Reduced coupling 1" to 3/4"
- 3-Valve
- 4- Tee
- 5- Straight pipe
- 6-90 Degree Elbow
- 7- Nipple
- 8- Coupling 3/4"
- 9- Water tap



**BRANCH: KANOMBE** 

Reservoir: NGARAMA

No.: 21

# I. Status and Functionality issues description

Floater valve needed.

# II. Required Action and Requirements

Action	Requirements
Installation of a floater valve	• 1 Floater valves for SP 1 1/2"



# **Attachement-3 Reservoir Survey Sheet**

Date: \*\*/\*\*/2020

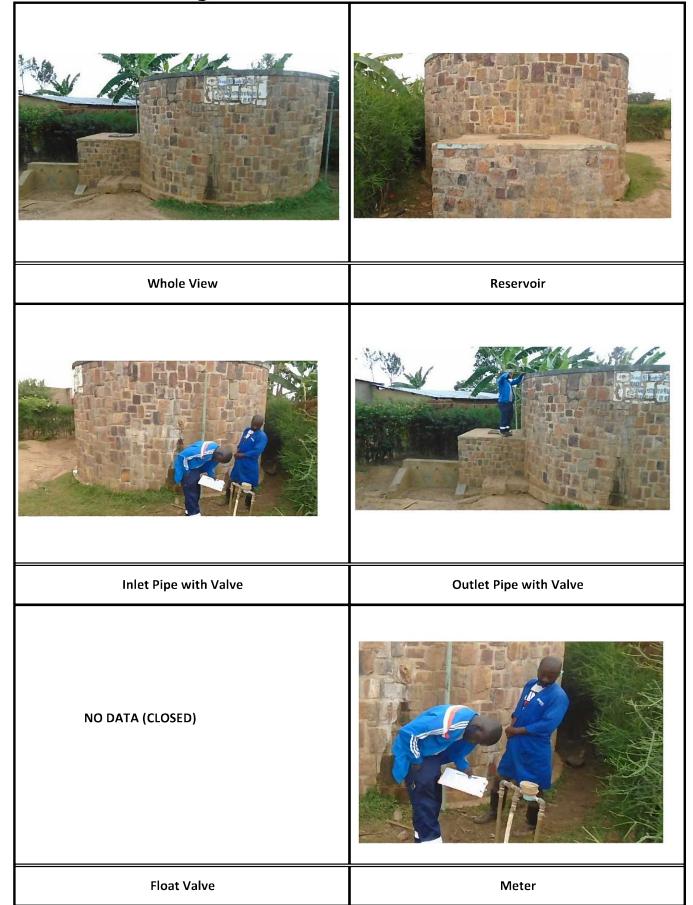
No.	Item	Details
A: (	General	
1	Number of Reservoir	21
2	Name of Reservoir	Ngarama
3	ID Code	MASR5RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Mbabe, Village: Ngarama
5	Branch Office	Kanombe
6	Location	Latitude: 2.022517, Longitude: 30.180814, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year: No Data
9	Storage Capacity	40 m3
10	Service area of the Reservoir	Ngarama area of Mbabe Cell
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Oozed
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge via Ryabaheshwa
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	No floater valve installed, apart from that no other functional issue.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 4.90m, H: 2.35m
5	Remarks/ Issue	

No.	Item	Details	
D:	Equipment		
1	Floater Valve	No installation	
2	Water Level Gauge	No installation	
3	Flow Meter	Mechanical, DN: 1 1/4"	
		Function	
		Location: Inlet Pipe	
4	Inlet pipe No.1	SP, DN: 1 1/4", Top	
5	Inlet valve No.1		
	Inlet valve No.2		
6	Outlet pipe No.1		
	Outlet pipe No.2		
	Outlet pipe No.3	. No visible accessories, the reservoir is under local people management.	
7	Outlet valve No.1	.Manhole closed.	
	Outlet valve No.2		
	Outlet valve No.3		
8	Overflow Pipe		
9	Drain Pipe		
10	Remarks/ Issue		

Other Information:

# **Photo Sheet**

Reservoir Name: Ngarama No:21

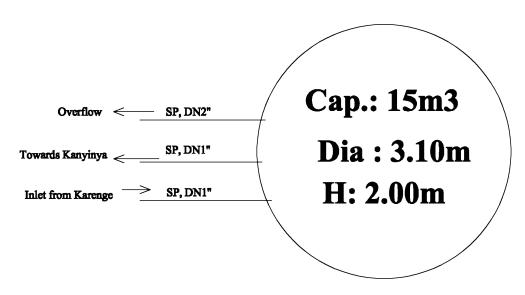


Reservoir No.: 61

Location: Kanyetabi

Material: Stone masonry

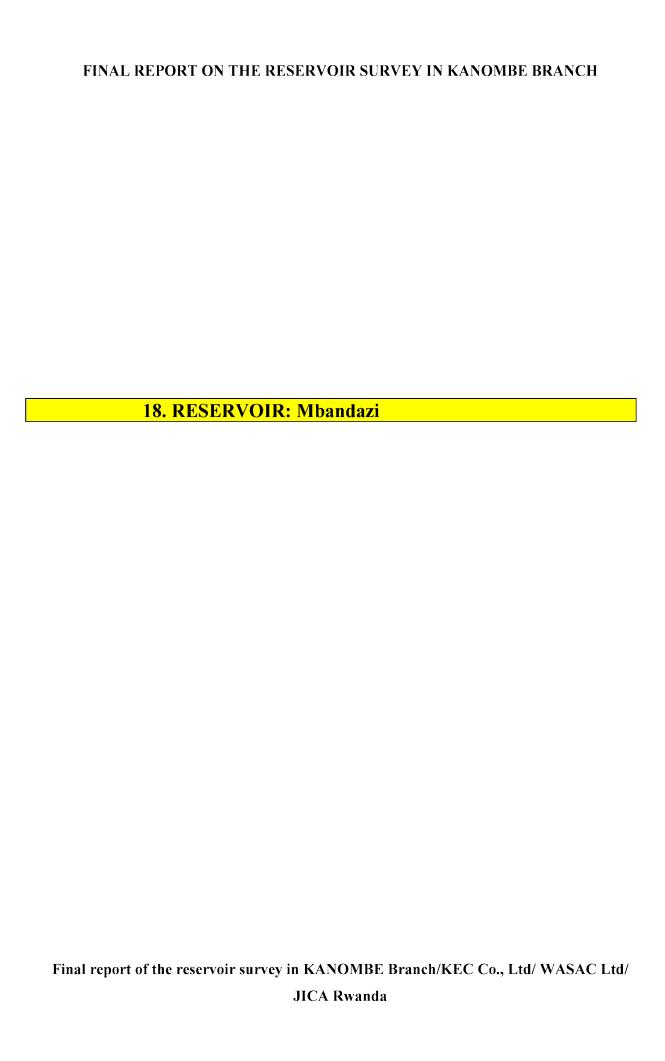
### **SCHEMATIC DRAWING**



### Comments:

All accessories are buried underground and we were not able to open for measurement.

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**BRANCH: KANOMBE** 

Reservoir: Mbandazi

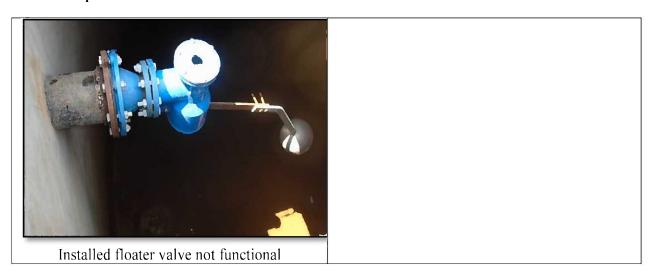
No.:

# I. Status and Functionality issues description

Replacement of Floater need, because there is no nearby inlet Valve

# II. Required Action and Requirements

Action	Requirements
Installation of a floater valve	• 1 Floater valve DN100



# **Attachement-3 Reservoir Survey Sheet**

Date: \*\*/\*\*/2020

No.	Item	Details
<b>A</b> :	General	
1	Number of Reservoir	185
2	Name of Reservoir	Mbandazi
3	ID Code	
4	Ward	Sector: Rusororo, District: Gasabo, Cell: Mbandazi, Village: Samuduha
5	Branch Office	Kanombe
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2019
9	Storage Capacity	m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always low level
8	Issue on Functional Condition	Cleaning needed.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.50m, H: 2.90m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1.	Floater Valve	Malfunction
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical
		Function
		Location: Inlet Pipe
4	Inlet pipe No.1	DIP, DN: 150, Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	DIP, DN: 80
	Outlet pipe No.2	DIP, DN: 80
7	Outlet valve No.1	DN: 80, Function: YES
	Outlet valve No.2	DN: 80, Function: YES
8	Overflow Pipe	DIP, DN: 150
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	No inlet valve nearby/ therefore a working floater is needed.

Other Information:

# **Photo Sheet**

Reservoir Name: Mbandazi No:185

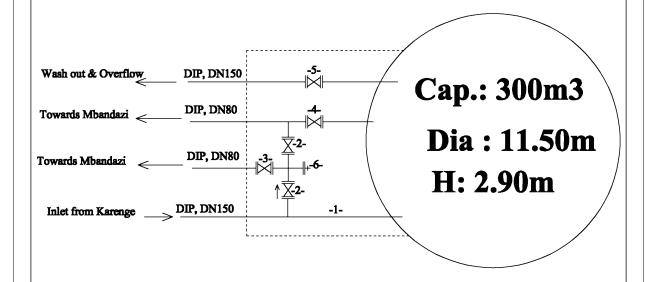


Reservoir No.: XX

Location: Mbandazi

**Material:** Concrete

### **SCHEMATIC DRAWING**



### **LEGEND**

- 1- Inlet Pipe DN150
- 2 Bypass Valve DN80
- 3 Outlet Valve No. 1 DN80
- 4 Outlet Valve No. 2 DN80
- 5 Washout Valve DN150
- 6 Blocked Valve DN150

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**BRANCH: KANOMBE** 

Reservoir: RWINYANGE (RWIMBOGO)

No.: 99

# I. Status and Functionality issues description

Floater valve needed, Outlet for Water taps needed, Outlet and drainage valves needed.

# II. Required Action and Requirements

Action	Requirements
• Installation of a floater valves for SP 1 1/2"	• 1 Floater Valve DN100
• installation of outlet valve for SP 3/4"	• 6 water tap valves of 3/4"
• installation of Valves for SP 1 1/4"	• 2 Valves 1 1/4"



Outlet and drainage valves needed.



Water tap Valves needed.



Floater needed

Final report of the reservoir survey in KANOMBE Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda

# **Attachement-3 Reservoir Survey Sheet**

Date: \*\*/\*\*/2020

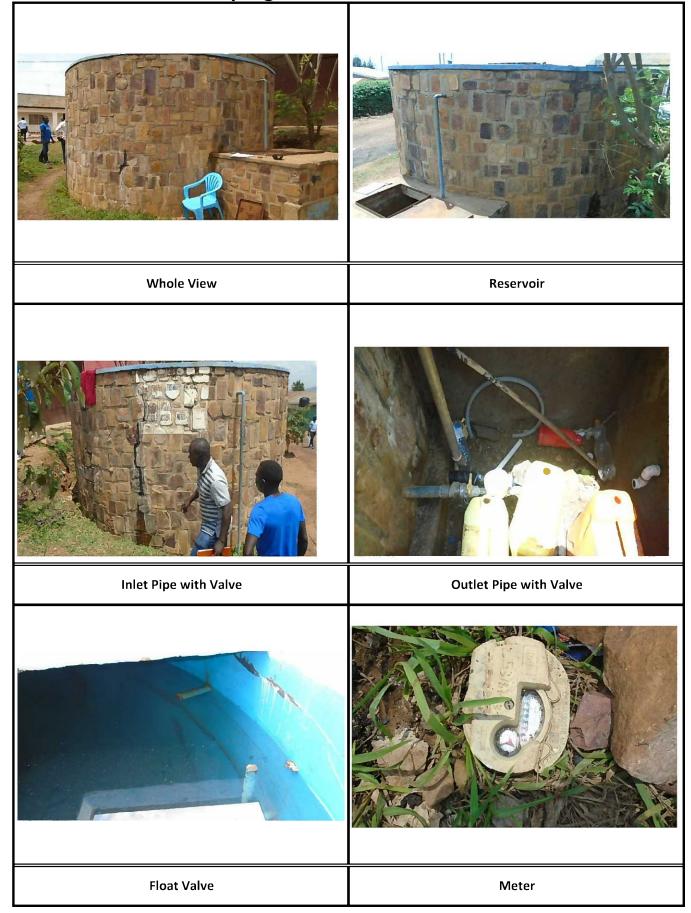
No.	Item	Details
A: (	General	
1	Number of Reservoir	99
2	Name of Reservoir	Rwinyange (Rwimbogo)
3	ID Code	NYARUK2RE2
4	Ward	Sector: Nyarugunga, District: Kicukiro, Cell: Rwimbogo, Village: Rwinyange
5	Branch Office	Kanombe
6	Location	Latitude: 1.959012, Longitude: 30.140309, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year: No Data
9	Storage Capacity	30 m3
10	Service area of the Reservoir	Kiosk with 6 taps
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Oozed (but leaking when full)
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:,
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	Leaking on walls and some valves are not operational.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 4.00m, H: 2.60m
5	Remarks/ Issue	

No.	Item	Details	
D: Equipment			
1	Floater Valve	No installation	
2	Water Level Gauge	No installation	
3	Flow Meter	Mechanical, DN: 3/4", PN(bar):,	
		Function	
		Location: Inlet Pipe	
4	Inlet pipe No.1	SP, DN: 1 1/4", Top	
5	Inlet valve No.1	DN: 1 1/4", Function: YES	
6	Outlet pipe No.1	SP, DN: 1 1/4"	
7	Outlet valve No.1	DN: 1 1/4", Function: No	
8	Overflow Pipe	SP, DN: 1 1/4"	
.9	Drain Pipe	SP, DN: 1 1/4" (valve)	
10	Remarks/ Issue	Water tap need rehabilitation, needed are 6 taps (3/4").	

Other Information:

# **Photo Sheet**

Reservoir Name: Rwinyange No:99

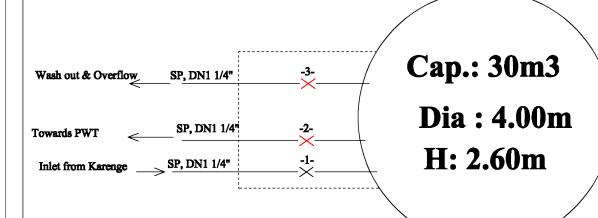


Reservoir No.: 149

Location: Rwimbogo-Rwinyange

**Material: Stone Masonry** 

### **SCHEMATIC DRAWING**



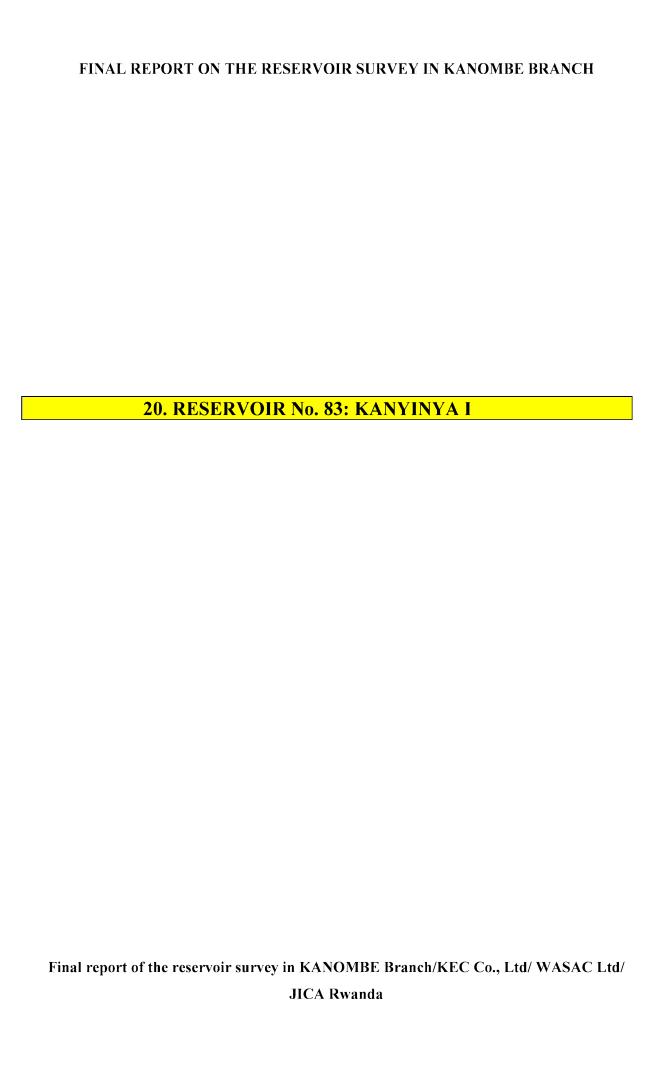
#### LEGEND

- 1- Inlet Valve DN1 4"
- 2 Outlet Valve DN1 4"
- 3 Washout Valve DN1 4"

#### Comments:

• General repairing works for an existing Public Water Tap needed.

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BRANCH: KANOMBE
Reservoir: KANYINYA I
No.: 83
I. Status and Functionality issues description

# II. Required Action and Requirements

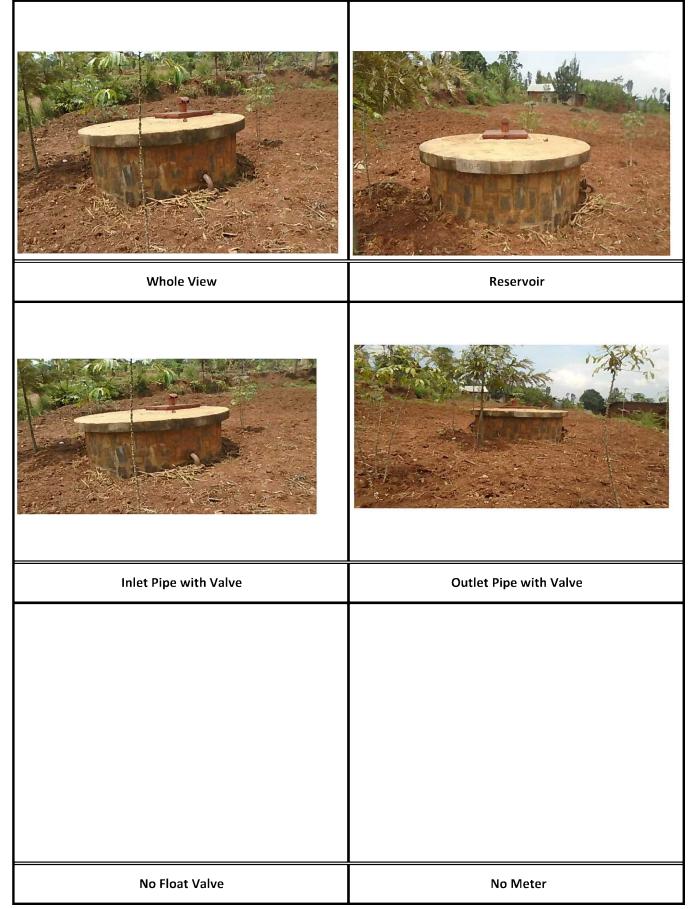
Action	Requirements
•	•

No.	Item	Date: **/**/2020  Details
A: (	General	
1	Number of Reservoir	83
2	Name of Reservoir	Kanyinya I
3	ID Code	MUYL12RE1
4	Ward	Sector: Muyumbu, District: Rwamagana, Cell: Ntebe, Village: Kanyinya
5	Branch Office	Kanombe
6	Location	Latitude: - 1.970887, Longitude: 30.27354 , Altitude
7	Function of Reservoir	BPT
8	Age of Reservoir	Year: No Data
9	Storage Capacity	6.00 m3
10	Service area of the Reservoir	Kanyinya I village area
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge via Ryabaheshwa
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	All accessories are buried underground
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 2.00m, H: 2.10m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1.	Floater Valve	No installation, needed DN: 60
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	SP, DN: 60
7	Outlet valve No.1	DN: 60, Function: YES
8	Overflow Pipe	SP, DN: 60
9	Drain Pipe	No drain
10	Remarks/ Issue	

Other Information:

Reservoir Name: Kanyinya I No:83



Reservoir No.: 62

Location: Kanyinya I

**Material: Stone masonry** 

### **SCHEMATIC DRAWING**

Wash out & Overflow SP, DN60

Towards Kanyinya SP, DN60

Inlet from Karenge  $\longrightarrow$  SP, DN60

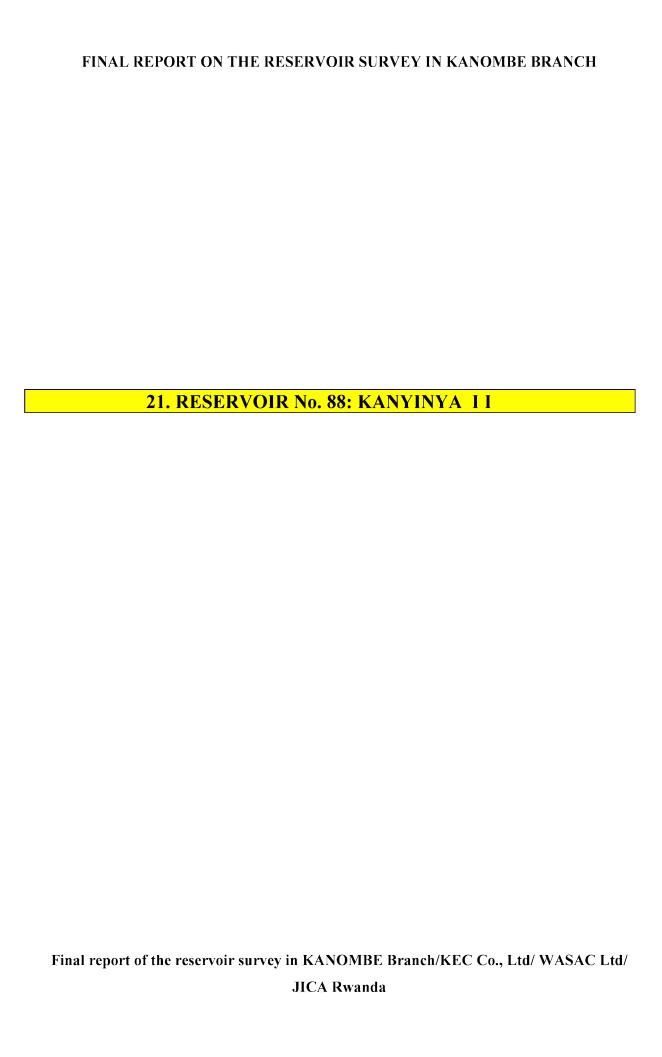
Cap.: 6.5m3

Dia: 2.00m

H: 2.10m

## **Comments:**

All accessories are buried underground and we were not able to open for measurement.



BRANCH: KANOMBE

Reservoir: KANYINYA 11

No.: 88

I. Status and Functionality issues description

## II. Required Action and Requirements

Action	Requirements
•	•

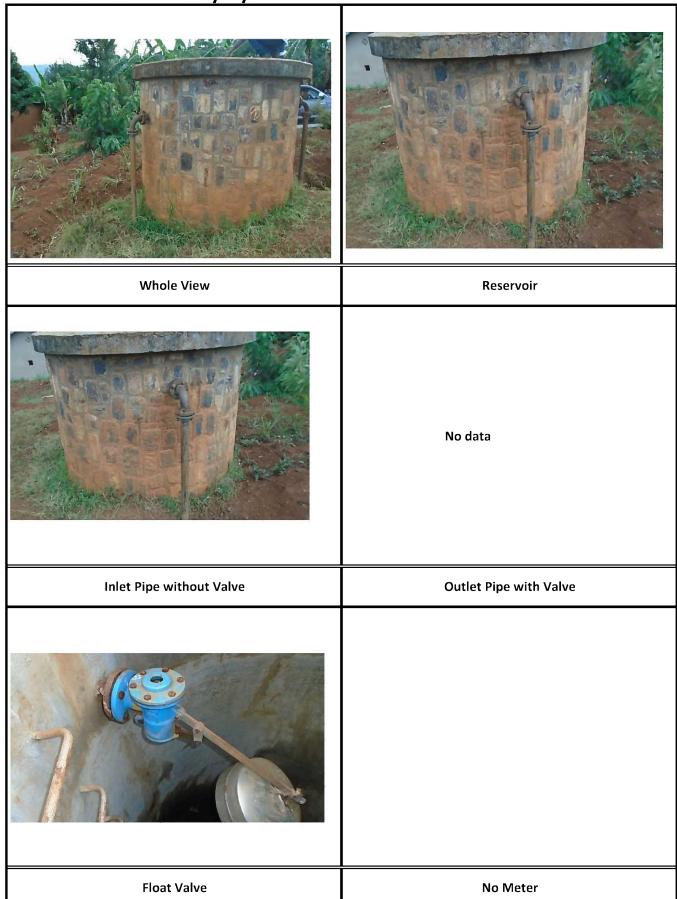
**III. Description Photos** 

No.	Item	Date: 17/1/2020  Details
<b>A</b> :	General	
1	Number of Reservoir	88
2	Name of Reservoir	Kanyinya II
3	ID Code	MUYL12RE2
4	Ward	Sector: Muyumbu, District: Rwamagana, Cell: Ntebe, Village: Kanyinya
5	Branch Office	Kanombe
6	Location	Latitude: - 1.96847, Longitude: 30.274609, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No Data
9	Storage Capacity	6.00 m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge via Ryabaheshwa
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always low level
8	Issue on Functional Condition	No cover / Dirty inside.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 2.00m, H: 2.10m
5	Remarks/ Issue	No cover / Dirty inside.

No.	Item	Details
D:	<b>Equipment</b>	
1	Floater Valve	Malfunction, DN: 60
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	DN: 60, Function: YES (Underground)
6	Outlet pipe No.1	SP, DN: 60
7	Outlet valve No.1	DN: 60, Function: YES
8	Overflow Pipe	SP, DN: 60
9	Drain Pipe	No drain
10	Remarks/ Issue	

Other Information:	The tank is not covered and not in use

Reservoir Name: Kanyinya No:88



Reservoir No.: 64

Location: Kanyinya II

**Material: Stone masonry** 

## **SCHEMATIC DRAWING**

Wash out & Overflow SP, DN60

SP, DN60 Towards Kanyinya <

Inlet from Karenge  $\longrightarrow$  SP, DN60

Cap.: 6.5m3

Dia: 2.00m

H: 2.10m

## Comments:

All accessories are buried underground and we were not able to open for measurement.



**BRANCH: KANOMBE** 

**Reservoir: REBERO-GAKO** 

No.: 37

## I. Status and Functionality issues description

This Reservoir is abandoned.

## II. Required Action and Requirements

Action	Requirements
•	•

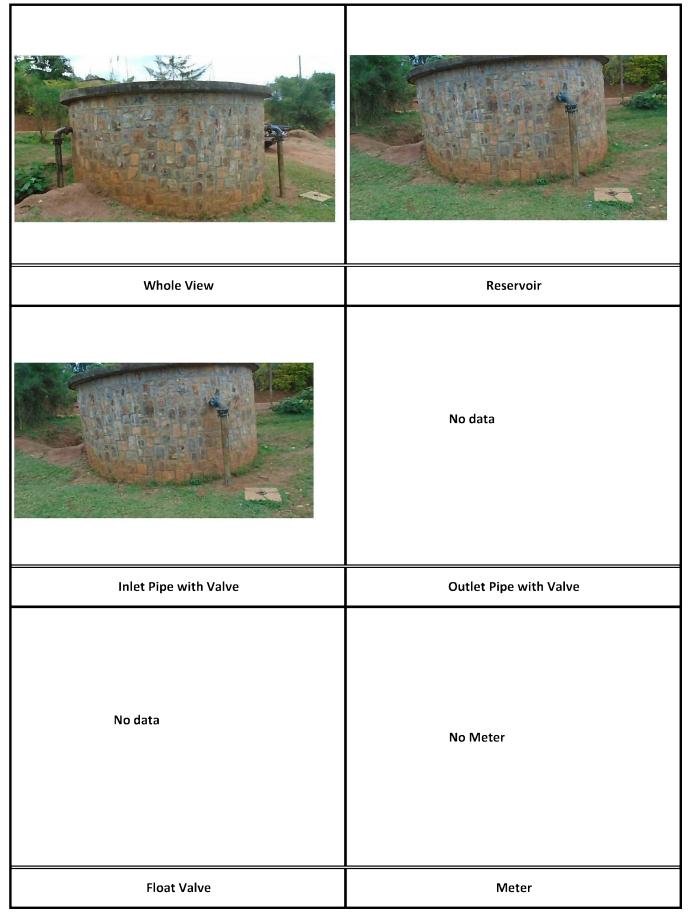
## **III. Description Photos**

No.	Item	Details
A: General		
1	Number of Reservoir	37
2	Name of Reservoir	Rebero-Gako
3	ID Code	MASO8RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Gako, Village: Rebero
5	Branch Office	Kanombe
6	Location	Latitude: - 1.997947, Longitude: 30.216776, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: NO Data
9	Storage Capacity	No data
10	Service area of the Reservoir	Rebero area of Gako Cell
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Bypassed to increase pressure in the network.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: / L: × B: , H:
5	Remarks/ Issue	Abandoned & bypassed to increase pressure in the network.

No.	Item	Details
D:	Equipment	
1.	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 100, Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	No installation
8	Overflow Pipe	SP, DN: -
9	Drain Pipe	No drain
10	Remarks/ Issue	Abandoned

Other Information:

Reservoir Name: Rebero Gako No:37



Reservoir No.: 132

Location: Rebero - Gako

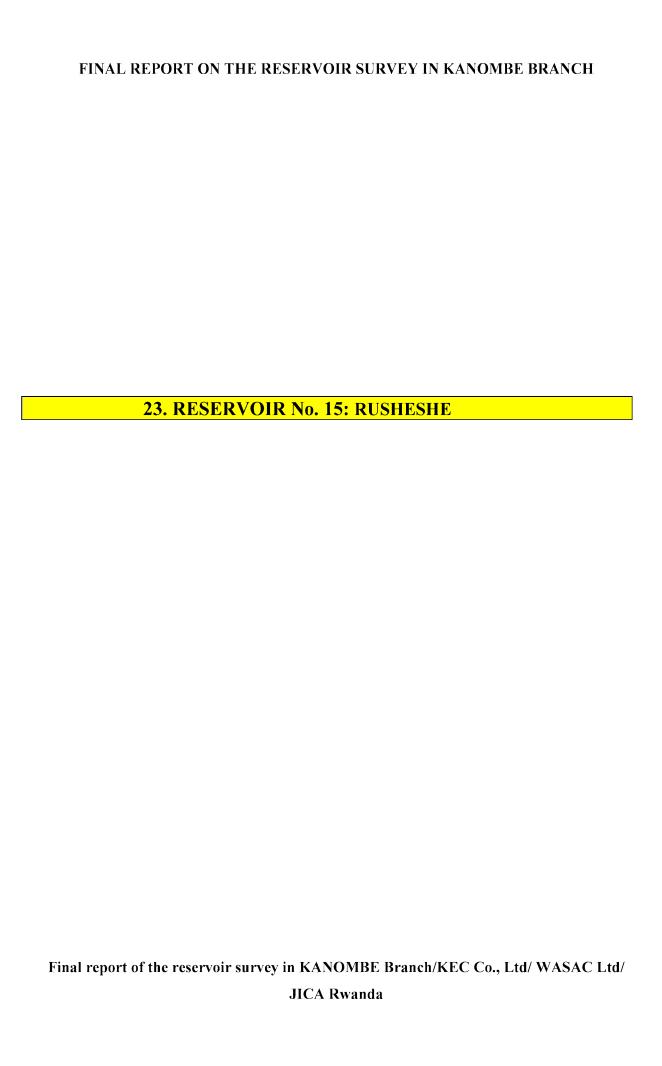
**Material: Stone masonry** 

# **ABANDONED**

#### SCHEMATIC DRAWING

#### Comments:

• All accessories are buried underground and we were not able to open for measurement.



**BRANCH: KANOMBE** 

**Reservoir: RUSHESHE** 

No.: 15

## I. Status and Functionality issues description

This Reservoir is abandoned.

## II. Required Action and Requirements

Action	Requirements
•	•

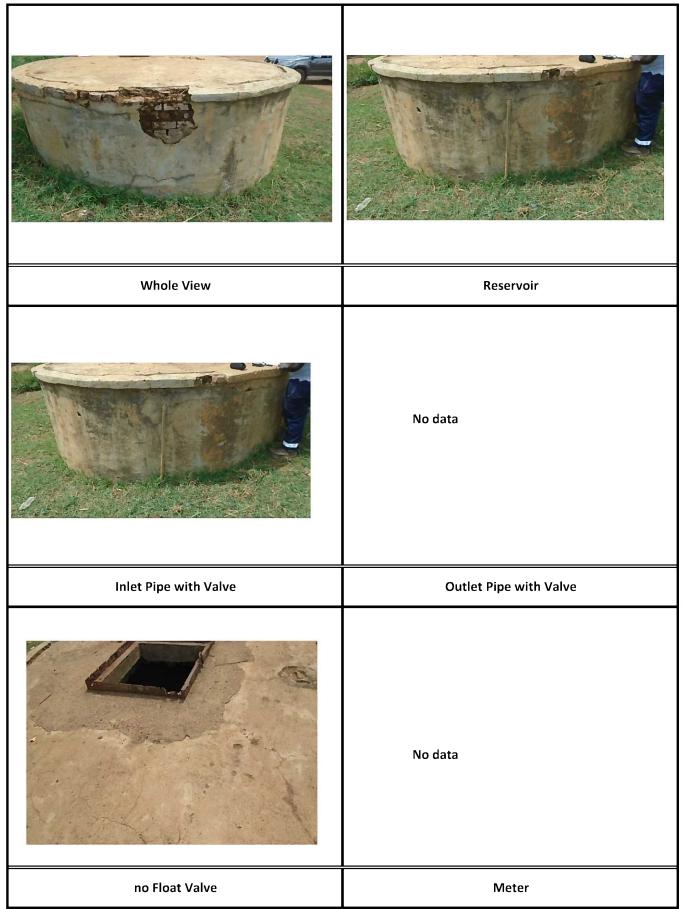
## **III. Description Photos**

No.	Item	Date: **/**/2020  Details
A:	General	
1	Number of Reservoir	15
2	Name of Reservoir	Rusheshe
3	ID Code	MASS6RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Rusheshe, Village: Rusheshe
5	Branch Office	Kanombe
6	Location	Latitude: 2.032717, Longitude: 30.192884, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 1985
9	Storage Capacity	m3
10	Service area of the Reservoir	Rusheshe centre
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Accessories underground, not visible above the ground
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	Reservoir was Closed at the time of the visit, hence no internal data
5	Remarks/ Issue	Abandoned (Totally)

No.	Item	Details
D:	Equipment	
1.	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, 1 1/4"
	Inlet pipe No.2	
5	Inlet valve No.1	
	Inlet valve No.2	
6	Outlet pipe No.1	
	Outlet pipe No.2	
	Outlet pipe No.3	No visible connection.
7	Outlet valve No.1	
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	
9	Drain Pipe	
10	Remarks/ Issue	Abandoned (Totally)

Other Information:

Reservoir Name: Rusheshe No:15



Reservoir No.: 141

**Location: Rusheshe** 

**Material: Stone masonry** 

# **ABANDONED**

#### **SCHEMATIC DRAWING**

Cap.: xxxm3

Dia: xxxm

H: xxxm

Inlet from Karenge SP, DN1 ½"

#### Comments:

All accessories are buried underground and we were not able to open for measurement.



**BRANCH: KANOMBE** 

**Reservoir: KAGESE** 

No.: 10

## I. Status and Functionality issues description

This Reservoir is abandoned.

## II. Required Action and Requirements

Action	Requirements
•	•

## **III. Description Photos**

No.	Item	Date: **/**/2020  Details
A: (	General	
1	Number of Reservoir	10
2	Name of Reservoir	Kagese (abandoned)
3	ID Code	MASS7RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Rusheshe, Village: Kagese
5	Branch Office	Kanombe
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year: 1985
9	Storage Capacity	12 m3
10	Service area of the Reservoir	Kagese areas
B: 0	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Oozed
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge via Ryabaheshwa
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	า
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 3.00m, H: 1.70m
5	Remarks/ Issue	Not being used by WASAC Ltd

No.	Item	Details
D:	Equipment	
1.	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	
	Inlet pipe No.2	
5	Inlet valve No.1	
	Inlet valve No.2	
6	Outlet pipe No.1	
	Outlet pipe No.2	No visible connection
	Outlet pipe No.3	No visible connection.
7	Outlet valve No.1	
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	
9	Drain Pipe	
10	Remarks/ Issue	Abandoned by WASAC Ltd (Totally)

Other Information: The tank was abandoned by WASAC and it is no longer in use.

Reservoir Name: Kagese No:10

reservoir realite. Ragese	110.10
Whole View	Reservoir
	No data
Inlet Pipe with Valve	Outlet Pipe with Valve
No data	No data
Float Valve	Meter

Reservoir No.: 56

**Location: Kagese** 

**Material: Stone masonry** 

# **ABANDONED**

#### SCHEMATIC DRAWING

Drain ← SP, DN1"

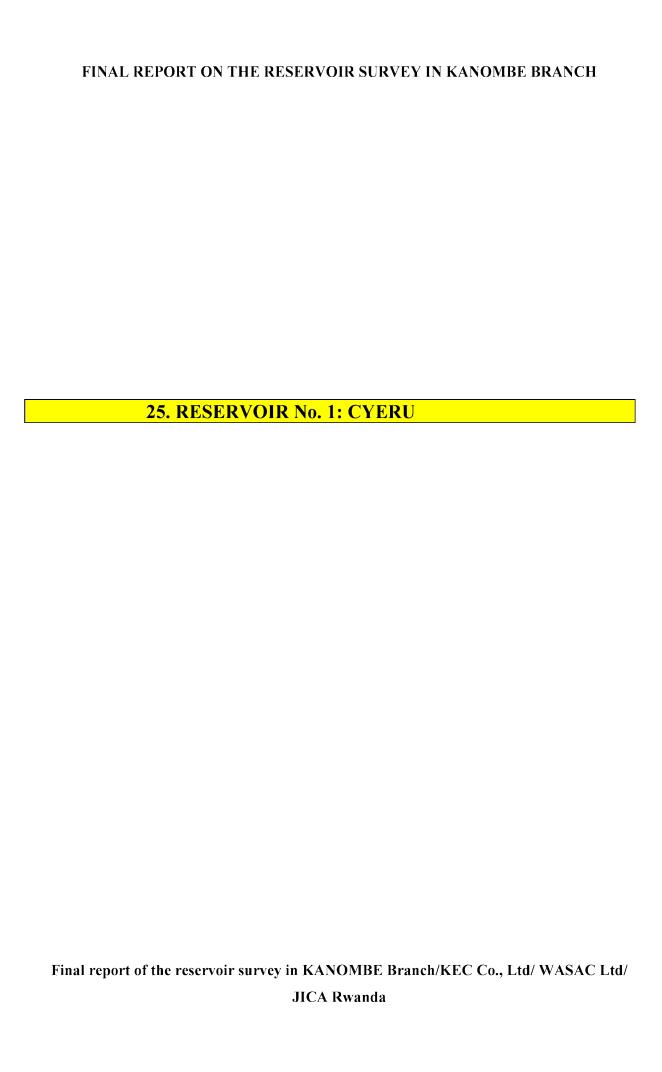
Cap.: 12.00m3

Dia: 3.00m

H: 1.70m

#### Comments:

• All accessories are buried underground and we were not able to open for measurement.



BRANCH: KANOMBE	
Reservoir: CYERU	
No.: 1	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action	Requirements
•	•
III. Description Photos	

No.	Item	Date: **/**/2020  Details
A: (	General	
1	Number of Reservoir	1
2	Name of Reservoir	Cyeru
3	ID Code	MASV7RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Rusheshe, Village: Cyeru
5	Branch Office	Kanombe
6	Location	Latitude: 2.05745, Longitude: 30.206806 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	6 m3
10	Service area of the Reservoir	Cyeru Village
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	1
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 2.00m, H: 2.00m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	DN: 60, Function: YES
6	Outlet pipe No.1	SP, DN: 60
7	Outlet valve No.1	DN: 60, Function: YES
8	Overflow Pipe	SP, DN: 60
9	Drain Pipe	SP, DN: 60
10	Remarks/ Issue	The reservoir was constructed by SOGEA, the tank is underground and it serves as storage and BPT.

Other Information:

Reservoir Name: No:1

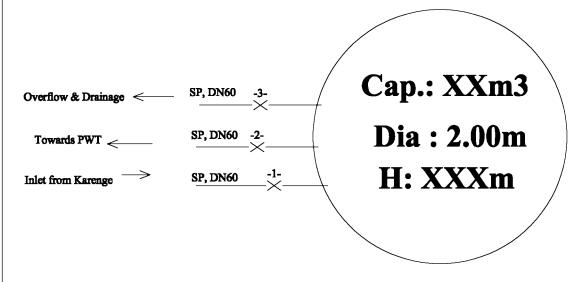


Reservoir No.: 17

Location: Cyeru

Material: Stone masonry

## **SCHEMATIC DRAWING**



## **LEGEND**

- 1- Inlet Valve DN60
- 2 Outlet Valve DN60
- 3 Washout Valve DN60

#### Comments:

• Accessories buried underground, valves size information received via the Operator.



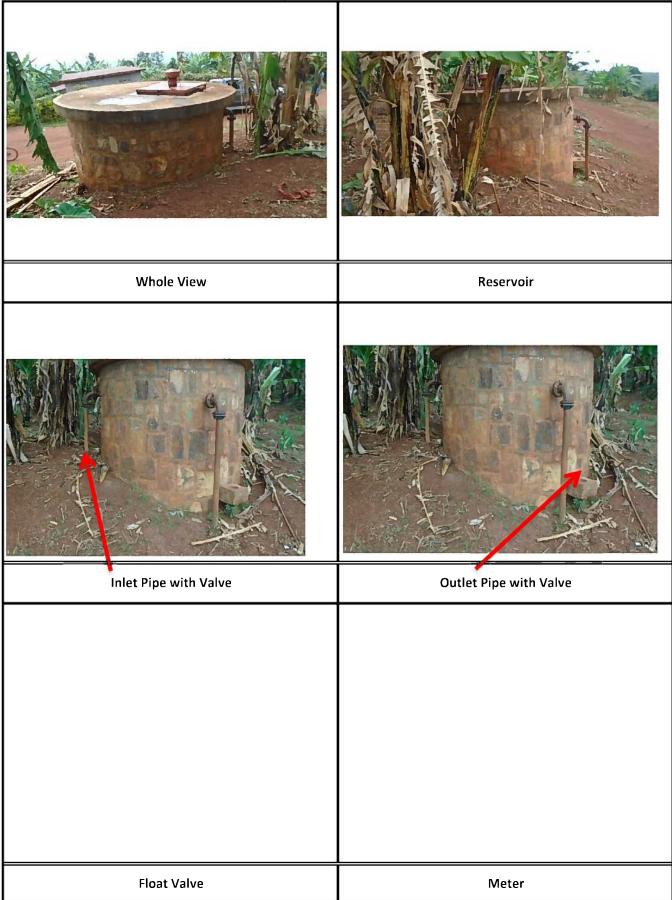
BRANCH: KANOMBE	
Reservoir: MASAKA MBABE - SANGA	NO
No.:	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action •	Requirements
	•
	•
III. Description Photos	•
	•

No.	Item			Details	15a	te: **/**/2020
=	General			2, 0101110		
1	Number of Reservoir					
2	Name of Reservoir	Masaka Mba	abe - Sangano			
3	ID Code					
4	Ward	Sector:	, District:	, Cell:	, Village:	
5	Branch Office	Kanombe	<u>#</u> 1	,	<u> </u>	
6	Location	Latitude:	, Long	itude:	, Altitude	9
7	Function of Reservoir	Storage	, ,		55"	
8	Age of Reservoir			Year:		
9	Storage Capacity			m3		
10	Service area of the Reservoir					
B: 0	Operational Condition					
1	Operational Condition	Operational				
2	Operator Assignment	No operator				
	Action against to overflow					
3	Wall Leakage	Nothing				
4	Overflow observation	no data				
	Phenomenon					
	Reason of overflow					
5	Bypass-flow operation	Nothing				
	Reason of bypass operation					
6	Inflow Condition	Source: Kar	enge			
		Water press	ure at inlet:			
		Frequency a	nd time:			
7	Water level movement	Proper move	ement			
8						
C:S	Structure					
1	Form of Reservoir	Circular				
2	Foundation	Ground				
3	Structure Material	Stones				
4	Inside Dimension	D: 2.00m, H	1: ???????????			
5	Remarks/ Issue					

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	DN: 60, Function: YES
6	Outlet pipe No.1	SP, DN: 60
7	Outlet valve No.1	DN: 60, Function: YES
8	Overflow Pipe	SP, DN: 60
.9	Drain Pipe	SP, DN: 60
10	Remarks/ Issue	

Other Information:

Reservoir Name: Mbabe-Sangano No:

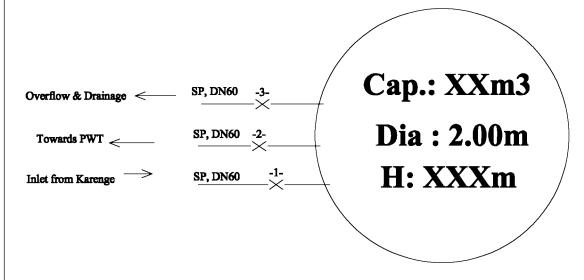


Reservoir No.: XX

Location: Mbabe Sangano

Material: Stone masonry

## **SCHEMATIC DRAWING**

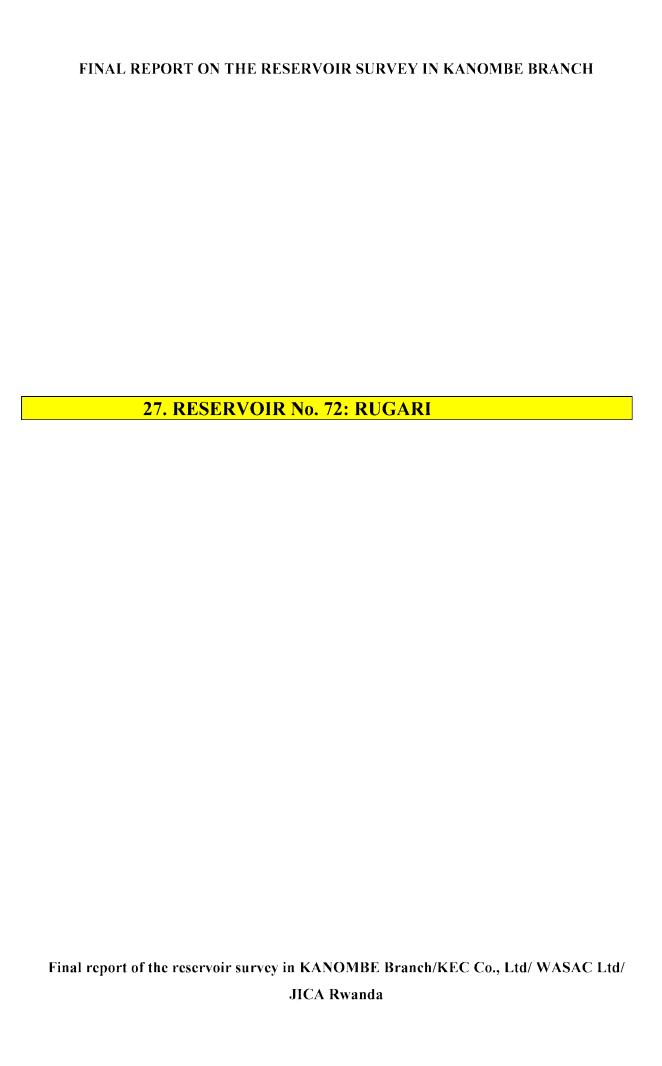


## **LEGEND**

- 1- Inlet Valve DN60
- 2 Outlet Valve DN60
- 3 Washout Valve DN60

#### Comments:

• Accessories buried underground, valves size information received via the Operator.



BRANCH: KANOMBE	
Reservoir: RUGARI	
No.: 72	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action	Requirements
•	•
III. Description Photos	

Final report of the reservoir survey in KANOMBE Branch/KEC Co., Ltd/ WASAC Ltd/

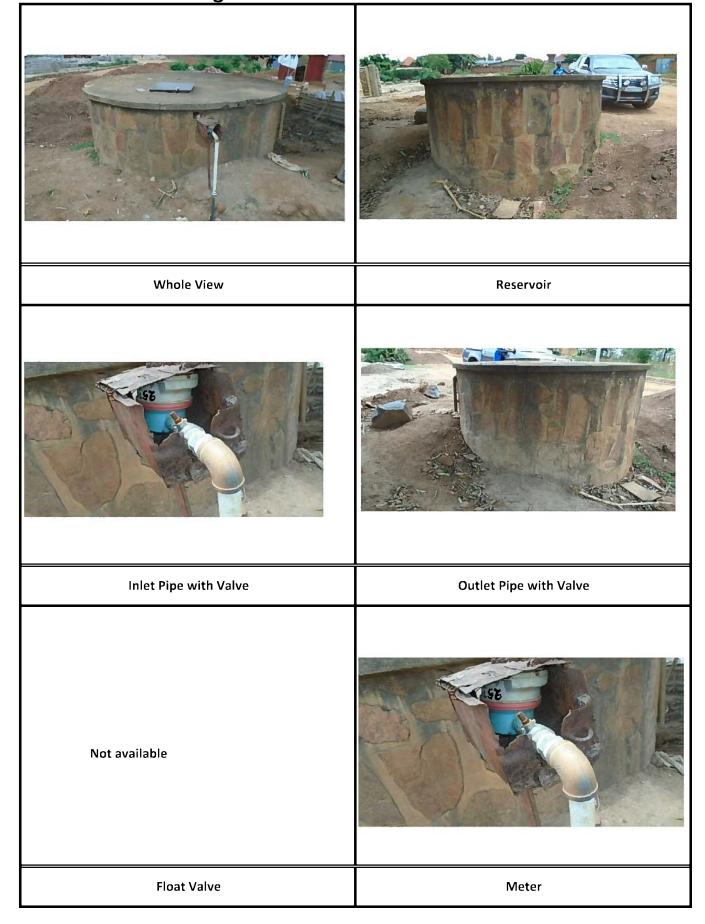
JICA Rwanda

No.	Item	Date: **/**/2020  Details
A:	General	
1	Number of Reservoir	72
2	Name of Reservoir	Rugari
3	ID Code	KANM3RE1
4	Ward	Sector: Nyarugunga, District: Kicukiro, Cell: Nonko, Village: Rugari
5	Branch Office	Kanombe
6	Location	Latitude: 1.976475, Longitude: 30.151369, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No Data
9	Storage Capacity	6.00 m3
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	Nothing
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Reservoir abandoned by WASAC
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 2.30m, H: 1.65m
5	Remarks/ Issue	

No.	Item	Details	
D:	Equipment		
=1	Floater Valve	No installation, DN:	
2	Water Level Gauge	No installation	
3	Flow Meter	Mechanical, DN: 3/4", PN(bar):,	
		Function	
		Location: Inlet Pipe	
4	Inlet pipe No.1	SP, DN: 3/4", Top	
5	Inlet valve No.1	DN: 3/4", Function: YES	
6	Outlet pipe No.1	SP, DN: 3/4"	
7	Outlet valve No.1	DN: 3/4", Function: YES	
8	Overflow Pipe	SP, DN: 1 1/2"	
9	Drain Pipe	SP, DN: 1 1/2"	
10	Remarks/ Issue		

Other Information:

Reservoir Name: Rugari No:72



Reservoir No.: 139

Location: Rugari

Material: Stone masonry



Overflow & Drainage 

SP, DN1 ½" -3
Towards Rugari 

SP, DN 3/4" -2-

**Cap.: 7m3** 

Dia: 2.30m

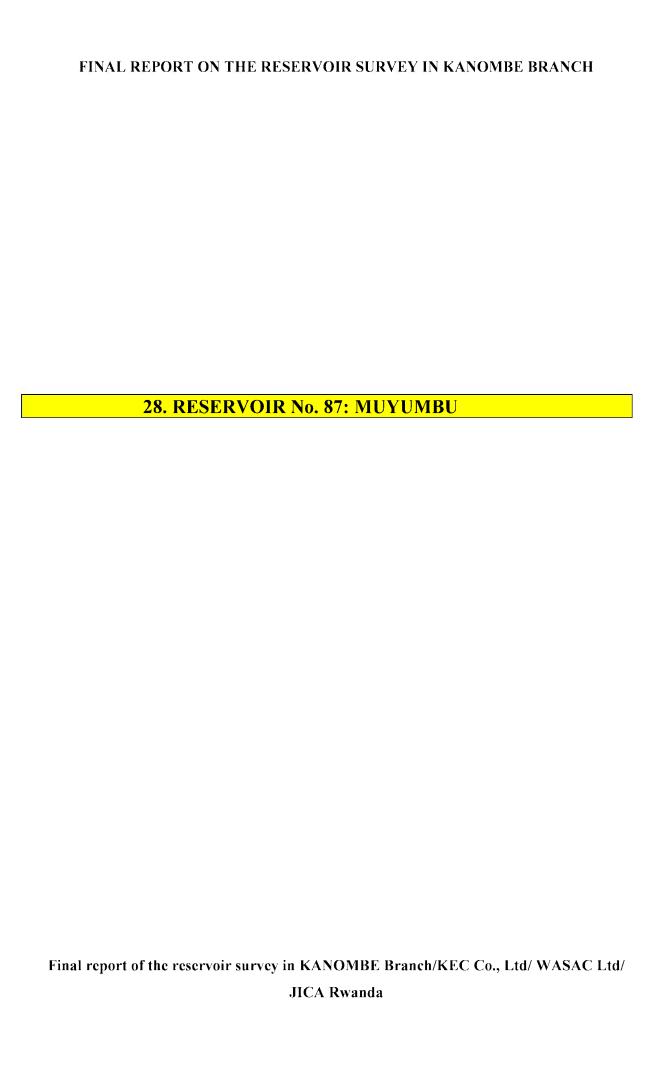
H: 1.65m

## **LEGEND**

- 1- Inlet Valve DN 3 "
- 2 Outlet Valve DN 4"
- 3 Washout Valve DN2 "

#### Comments:

Currently the reservoir is not in use due to ongoing road construction works.



**BRANCH: KANOMBE** 

Reservoir: MUYUMBU

No.: 87

## I. Status and Functionality issues description

This Reservoir is abandoned.

## II. Required Action and Requirements

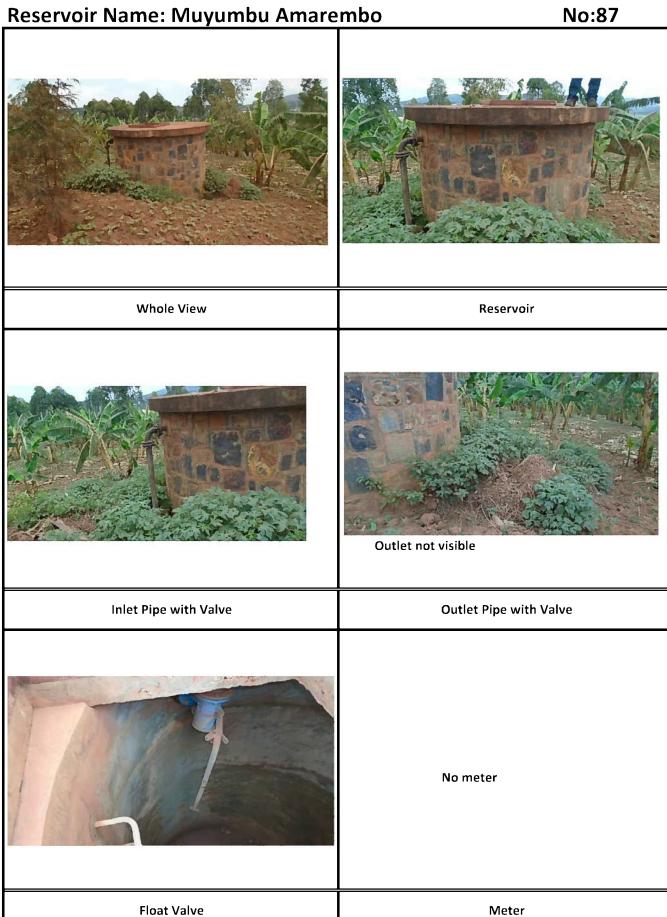
Action	Requirements
•	•

## **III. Description Photos**

No.	Item	Date: **/**/2020  Details
A:	General	
1	Number of Reservoir	87
2	Name of Reservoir	Amarembo (Muyumbu)
3	ID Code	MUYL10RE1
4	Ward	Sector: Muyumbu, District: Rwamagana, Cell: Nyarukombe, Village: Marembo
5	Branch Office	Kanombe
6	Location	Latitude: 1.969151, Longitude: 30.237658, Altitude
7	Function of Reservoir	BPT
8	Age of Reservoir	Year: No Data
9	Storage Capacity	10 m3
10	Service area of the Reservoir	Amarembo village area.
B: (	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Bypassed to increase the pressure in the network.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 2.40m, H: 2.30m
5	Remarks/ Issue	Cover stolen.

No.	Item	Details
D:	Equipment	
-1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	DN: 60, Function: YES
6	Outlet pipe No.1	SP, DN: 40
7	Outlet valve No.1	DN: 40, Function: No information
8	Overflow Pipe	SP, DN: 60
9	Drain Pipe	SP, DN: 60
10	Remarks/ Issue	

Other Information:	The tank is no longer inuse, it was bypassed in order to increase pressure in the network.
--------------------	--



Reservoir No.: 92

Location: Kayumbu - Marembo

Material: Stone masonry

# **ABANDONED**

## **SCHEMATIC DRAWING**

Overflow & Drainage < SP, DN63 -3
Towards Amarembo < SP, DN40 -2
Inlet from Karenge > SP, DN63 -1-

Cap.: 6.5m3

Dia: 2.20m

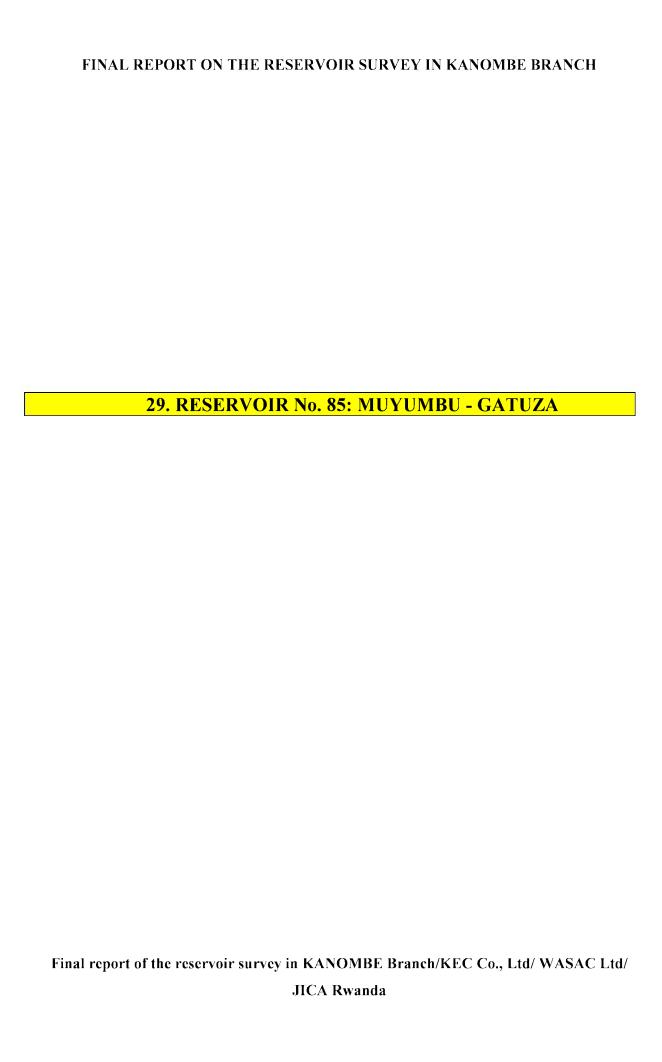
H: 1.65m

## LEGEND

- 1- Inlet Valve DN 63
- 2 Outlet Valve DN 40
- 3 Washout Valve DN63

#### Comments:

- Currently the reservoir was bypassed to increase pressure in the network.
- Cover stolen.



Reservoir: MUYUMBU - GATUZA

**BRANCH: KANOMBE** 

No.: 85

I. Status and Functionality issues description

## II. Required Action and Requirements

Action	Requirements
•	•

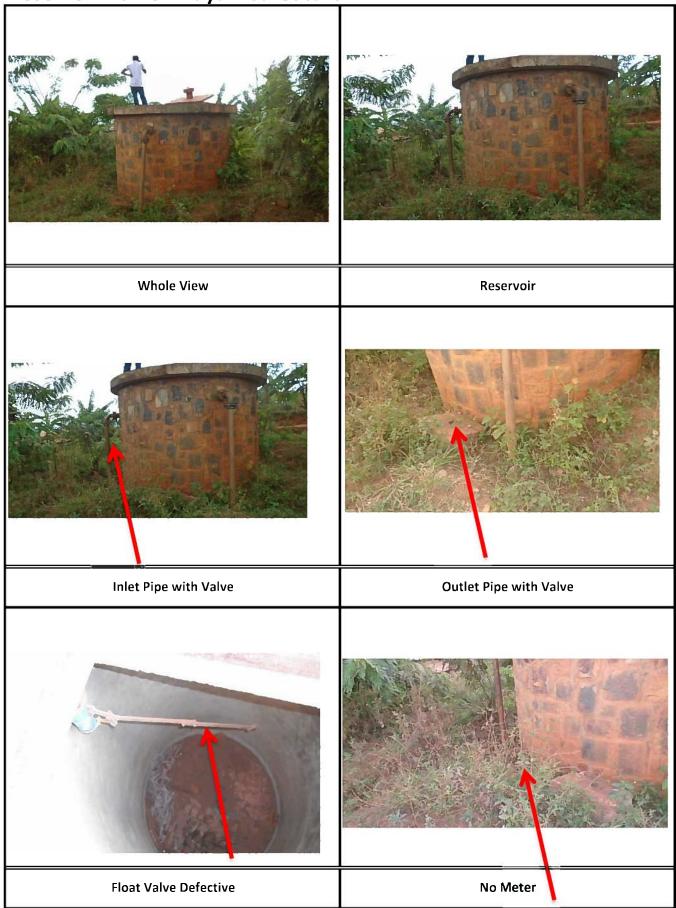
**III. Description Photos** 

No.	Item	Details		
A:	General			
1	Number of Reservoir	85		
2	Name of Reservoir	Muyumbu - Gatuza		
3	ID Code	MUYL11RE2		
4	Ward	Sector: Muyumbu, District: Rwamagana, Cell: Nyarukombe, Village: Gatuza		
5	Branch Office	Kanombe		
6	Location	Latitude: - 1.969952, Longitude: 30.251363, Altitude		
7	Function of Reservoir	ВРТ		
8	Age of Reservoir	Year:		
9	Storage Capacity	m3		
10	Service area of the Reservoir			
B: (	Operational Condition			
1	Operational Condition	Not Operational		
2	Operator Assignment	No operator		
	Action against to overflow			
3	Wall Leakage	Nothing		
4	Overflow observation	no data		
	Phenomenon			
	Reason of overflow			
5	Bypass-flow operation	Always		
	Reason of bypass operation	Increasing pressure in the network		
6	Inflow Condition	Source: Karenge		
		Water pressure at inlet:		
		Frequency and time:		
7	Water level movement	always no water		
8	Issue on Functional Condition			
C:S	Structure			
1	Form of Reservoir	Circular		
2	Foundation	Underground		
3	Structure Material	Stones		
4	Inside Dimension	D: / L: × B: , H:		
5	Remarks/ Issue			

No.	Item	Details
D: Equipment		
-1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 60, Top
5	Inlet valve No.1	DN: 60, Function: YES
6	Outlet pipe No.1	SP, DN: 40
7	Outlet valve No.1	DN: 40, Function: No information
8	Overflow Pipe	SP, DN: 60
9	Drain Pipe	SP, DN: 60
10	Remarks/ Issue	

Other Information:

Reservoir Name: Muyumbu Gatuza No:85



Reservoir No.: 27

Location: Gatsata-gatuza

Material: Stone masonry

# **ABANDONED**

## **SCHEMATIC DRAWING**

Overflow & Drainage SP, DN63 -3
Towards Amarembo SP, DN40 -2
Inlet from Karenge SP, DN63 -1-

Cap.: 6.5m3

Dia: 2.20m

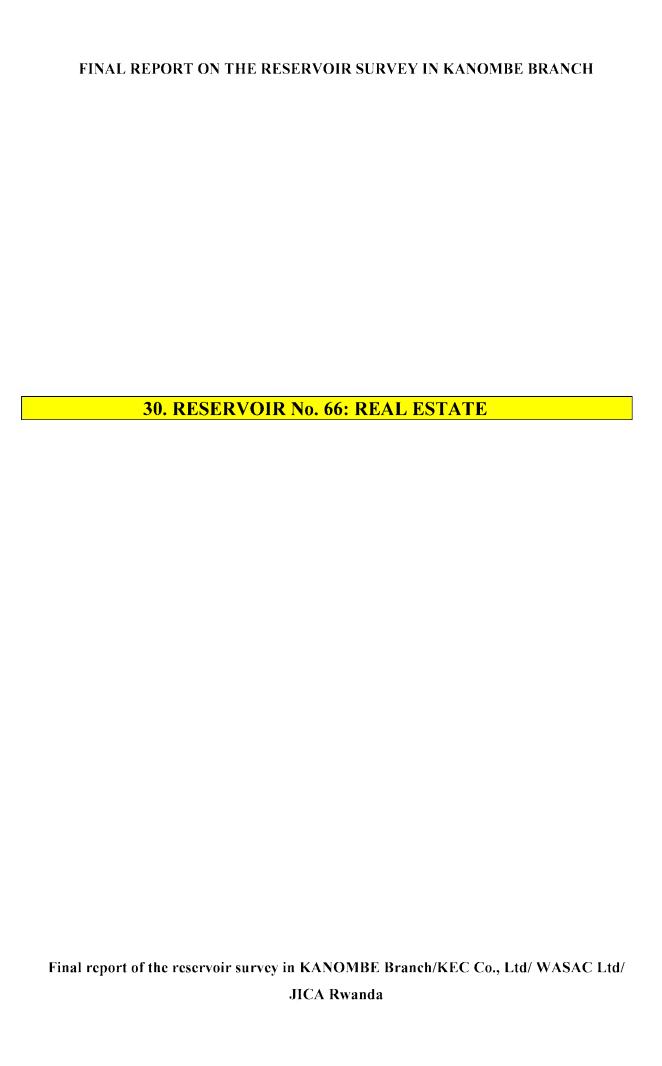
H: 1.65m

## LEGEND

- 1- Inlet Valve DN 63
- 2 Outlet Valve DN 40
- 3 Washout Valve DN63

#### Comments:

- Currently the reservoir was bypassed to increase pressure in the network.
- Cover stolen.



**BRANCH: KANOMBE** 

**Reservoir: REAL ESTATE** 

No.: 66

## I. Status and Functionality issues description

This Reservoir is abandoned.

## II. Required Action and Requirements

Action	Requirements
•	•

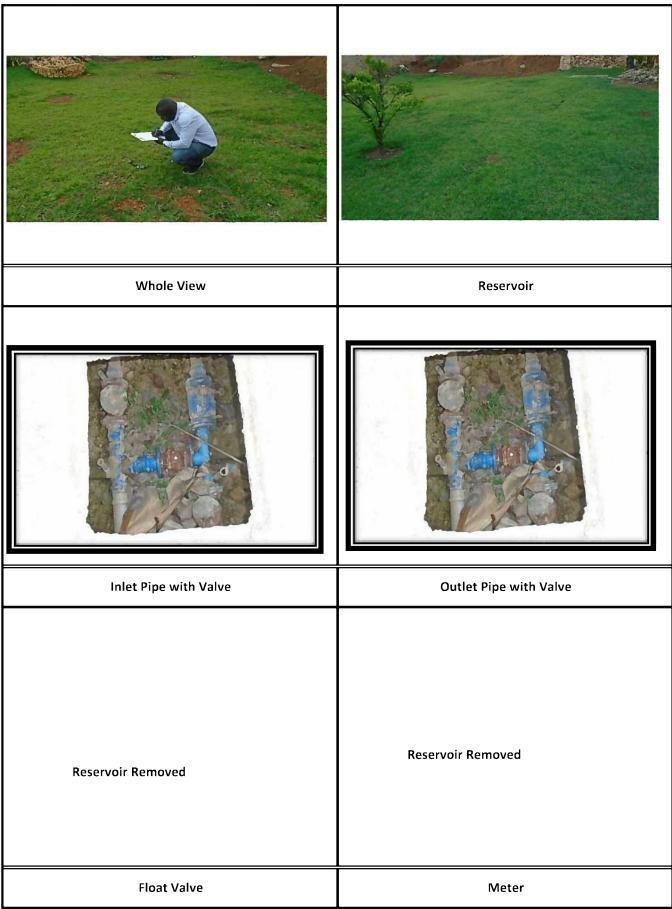
## **III. Description Photos**

		Date: **/**/2020
No.		Details
<b>A</b> :	General	
1	Number of Reservoir	66
2	Name of Reservoir	Real Estate
3	ID Code	RUSM7RE1
4	Ward	Sector: Rusororo, District: Kicukiro, Cell: Nyagahinga, Village: Real Estate
5	Branch Office	Kanombe
6	Location	Latitude: - 1.980606, Longitude: 30.200269, Altitude
7	Function of Reservoir	Storage, Kiosk Reservoir, BPT
8	Age of Reservoir	Year: No Data
9	Storage Capacity	250 m3 (Information from resident)
10	Service area of the Reservoir	
B: (	Operational Condition	
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	times/month,times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
	Issue on Functional Condition	
C:S	Structure	
1	Form of Reservoir	Rectangular
2	Foundation	Elevated
3	Structure Material	Steel
4	Inside Dimension	Reservoir Removed
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	
2	Water Level Gauge	
3	Flow Meter	
4	Inlet pipe No.1	
	Inlet pipe No.2	
5	Inlet valve No.1	
	Inlet valve No.2	Reservoir Removed
6	Outlet pipe No.1	
	Outlet pipe No.2	
	Outlet pipe No.3	
7	Outlet valve No.1	
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	
9	Drain Pipe	
10	Remarks/ Issue	

Other Information:

Reservoir Name: Real Estate No:



Reservoir No.: 131

Location: Real Estate

Material: Stone masonry

# REMOVED

#### Comments:

Reservoir removed after the construction of Hillside Estate.



**BRANCH: KANOMBE** 

Reservoir: KANYETABI No.: 20	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action Requirements	
III. Description Photos	

No.	Item	Date: **/**/2020  Details
A:	General	
1	Number of Reservoir	20
2	Name of Reservoir	Kanyetabi
3	ID Code	MASR7RE1
4	Ward	Sector: Masaka, District: Kicukiro, Cell: Rusheshe, Village: Kanyetabi
5	Branch Office	Kanombe
6	Location	Latitude: - 2.024548, Longitude: 30.195401, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year: No Data
9	Storage Capacity	15 m3
10	Service area of the Reservoir	Surrounding part of the village
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Flowing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Karenge
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	1
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 3.10m, H: 2.00m
5	Remarks/ Issue	

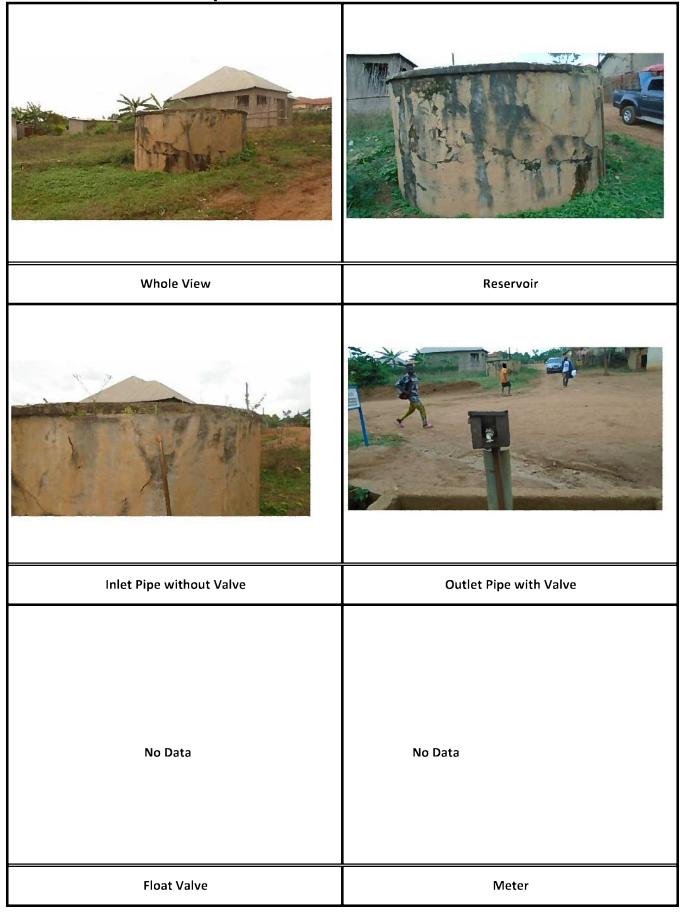
No.	Item	Details
D:	Equipment	
-1	Floater Valve	No installation, DN: 1" (As per the Operator)
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 1", Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	SP, DN: 1"
7	Outlet valve No.1	No installation
8	Overflow Pipe	SP, DN: 2"
9	Drain Pipe	No data
10	Remarks/ Issue	The reservoir was closed, on the day of our visit.
		I

internal pictures

Other Information:

Reservoir closed with a welded bolt and we can't access, reason there are no

Reservoir Name: Kanyetabi No:20

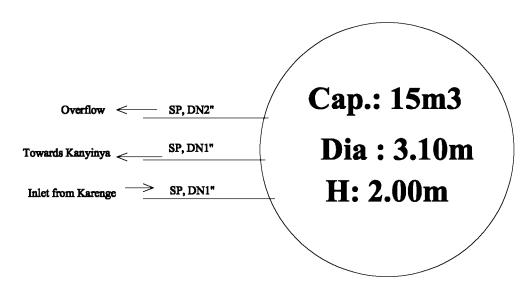


Reservoir No.: 61

Location: Kanyetabi

Material: Stone masonry

## **SCHEMATIC DRAWING**



#### Comments:

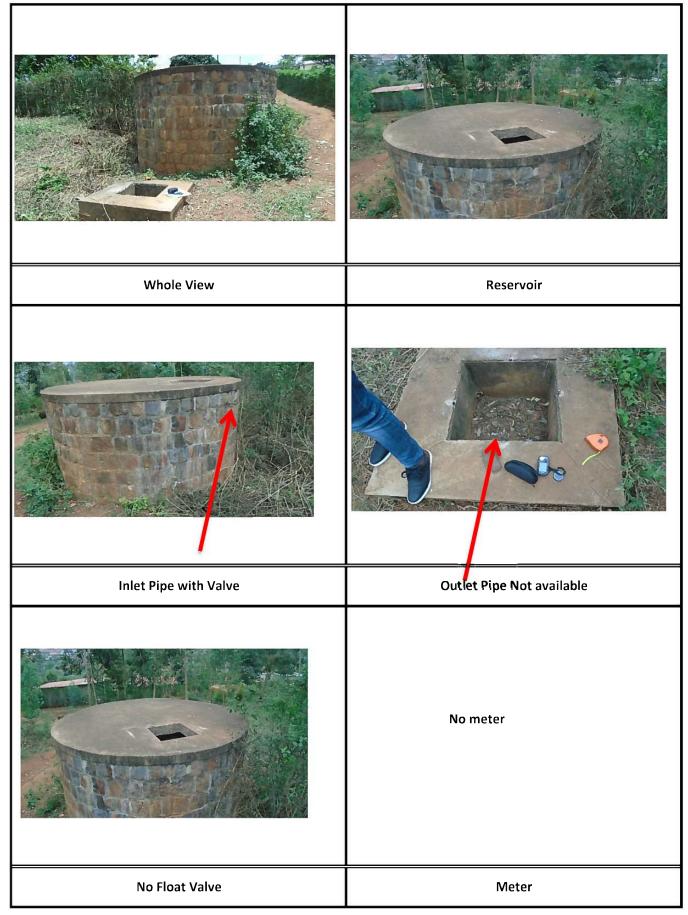
All accessories are buried underground and we were not able to open for measurement.



Reservoir: GIHUKE No.: 39  1. Status and Functionality issues description  II. Required Action and Requirements  Action Requirements  III. Description Photos	BRANCH: KANOMBE	
I. Status and Functionality issues description  II. Required Action and Requirements  Action Requirements  •	Reservoir: GIHUKE	
II. Required Action and Requirements  Action Requirements  •	No.: 39	
Action Requirements  •	I. Status and Functionality issues description	
•		
		500
III. Description Photos	•	•

# **Photo Sheet**

Reservoir Name: Gihuke No:39



#### KANOMBE BRANCH

Reservoir No.: 31

Location: Gihuke

**Material: Stone masonry** 

# **ABANDONED**

#### **SCHEMATIC DRAWING**

Cap.: 18.00m3

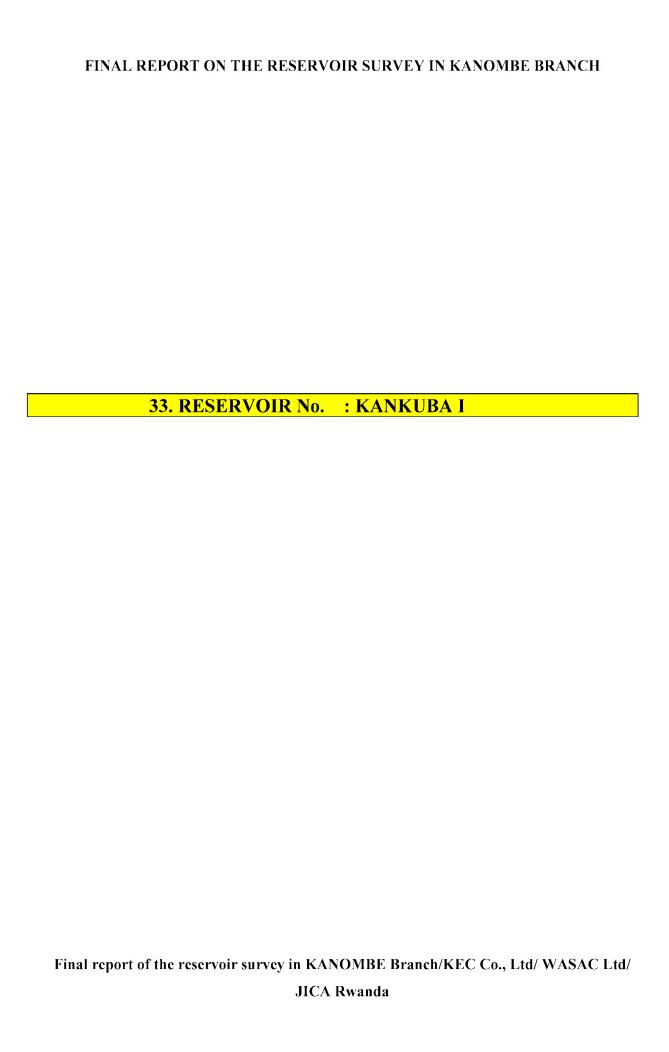
Dia: 3.30m

H: 2.20m

#### Comments

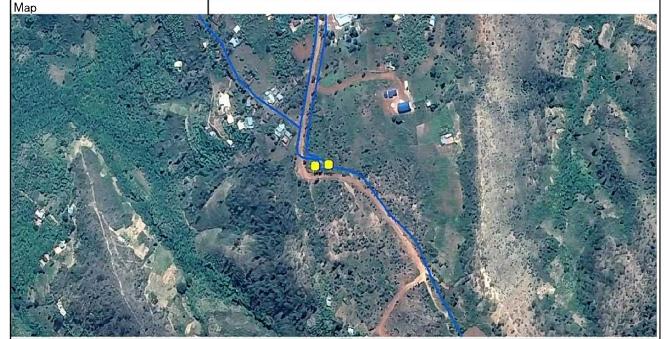
- Abandoned (more than 20 years)
- Cover stolen

KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

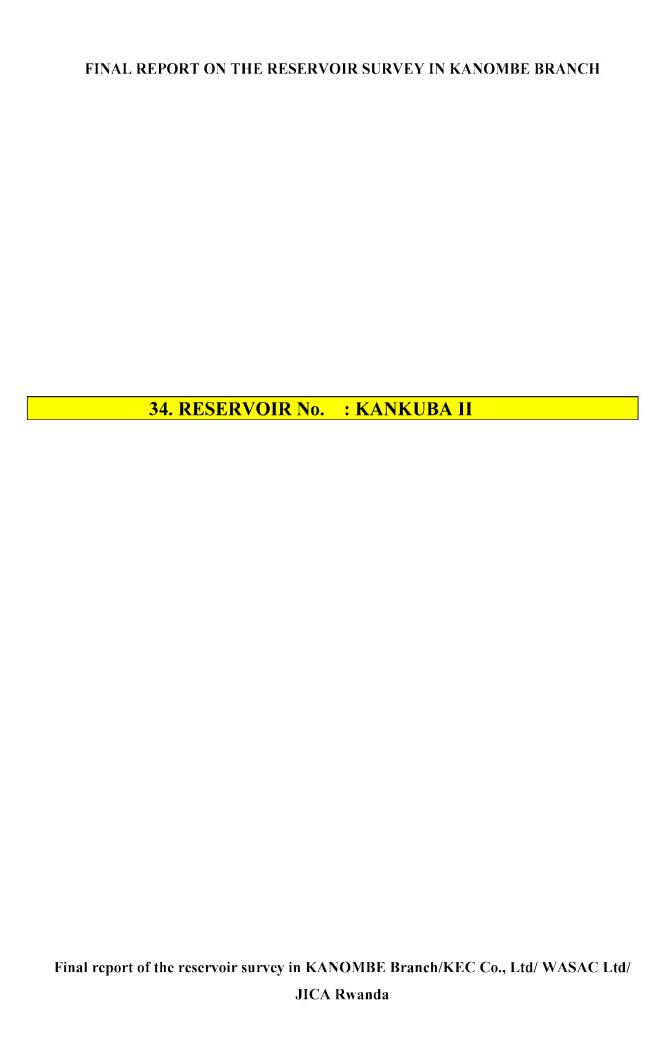


BRANCH: KANOMBE	
Reservoir: KANKUBA I	
No.:	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action	Requirements
•	•
III. Description Photos	

	Location of Reservoir		
Subject	Data	,	Remarks
Reservoir number			
Reservoir Name	Kankuba I		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Kankuba		
Village	Nyarurama		
Street	RN		
GPS Coordinates Latitude	-2.03687	у	]
GPS Coordinates Longitude	30.030035	х	







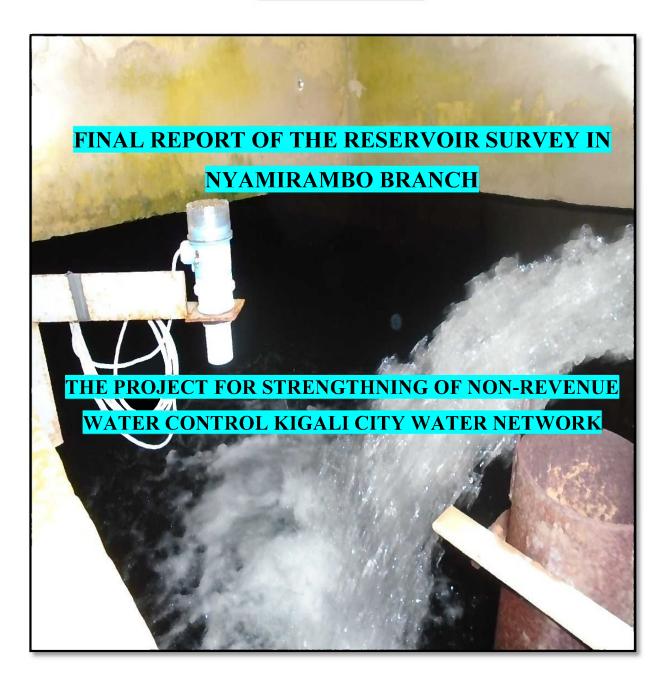
BRANCH: KANOMBE	
Reservoir: KANKUBA II	
No.:	
I. Status and Functionality issues description	
II. Required Action and Requirements	
Action	Requirements
•	•
III. Description Photos	

Location of Reservoir			
Subject	Data		Remarks
Reservoir number			
Reservoir Name	Kankuba II		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Kankuba		
Village	Nyarurama		
Street	RN		
GPS Coordinates Latitude	-2.03689	У	
GPS Coordinates Longitude	30.029813	X	

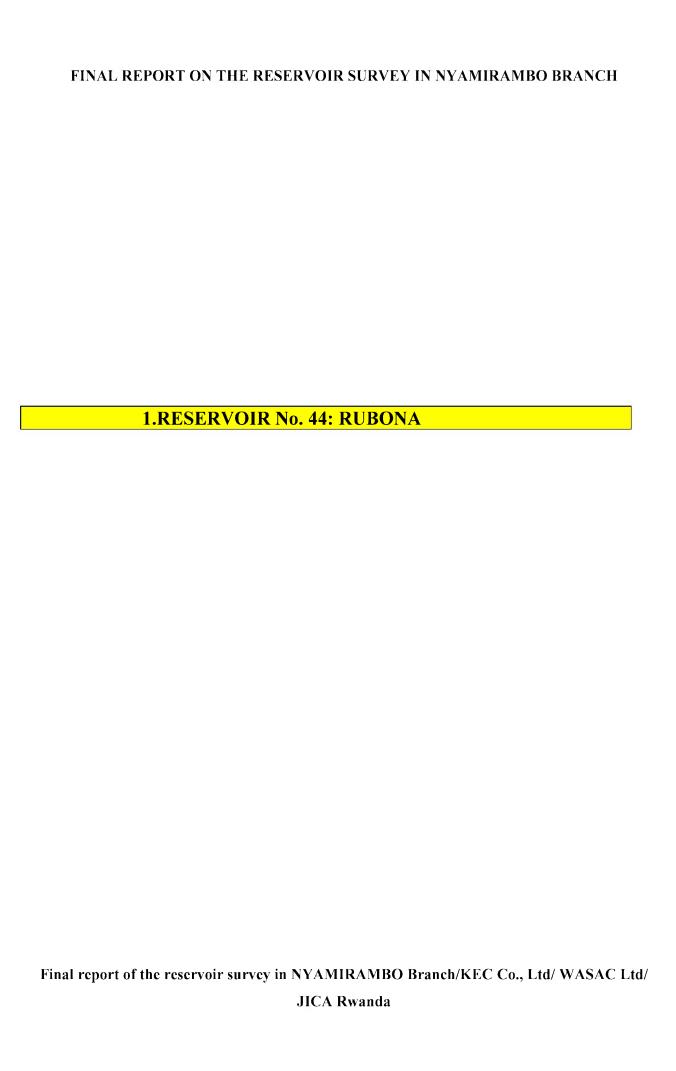




# THE REPUBLIC OF RWANDA KIGALI CITY



Final report of the reservoir survey in NYAMIRAMBO Branch/KEC Co., Ltd/ WASAC Ltd/ JICA Rwanda



**BRANCH: NYAMIRAMBO** 

Reservoir: RUBONA

No.: 44

#### I. Status and Functionality issues description

The tank receive water from Mont Kigali haut through Mont Kigali Bas, it receives water 7 days a week but because of low pressure at the outlet due to non functioning valve, water cannot reach the supplied areas, therefore the branch decided to keep it bypassed.

The issue is that even though not being used it is still receiving water and wasting it.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Revision of the existing installation</li> <li>Replacement of valves</li> <li>Installation of a floater valve</li> <li>Sealing the leaking part of the reservoir</li> <li>Manhole drainage pipes</li> </ul>	<ul> <li>4 Valves DN80</li> <li>1 Floater valve DN80</li> <li>Plastering the inside part</li> <li>Drainage system</li> </ul>

#### **III. Description Photos**



Inlet valve not operational



Wall leaks at the connection of the manhole

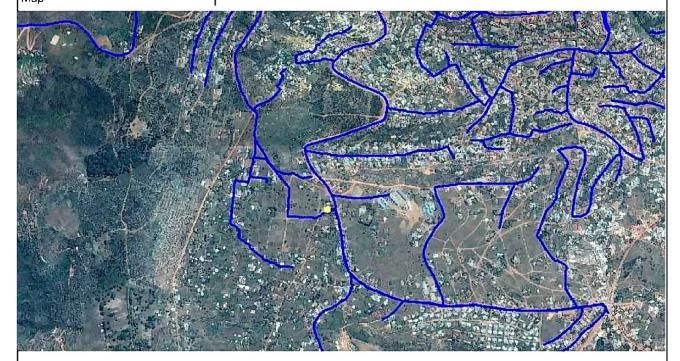


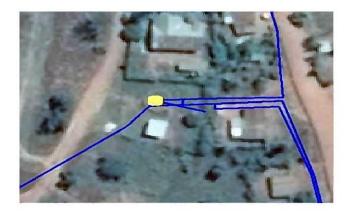
All the existing valves not functioning



Floater valve needed + general maintenance of the tank

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	44	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Nyamirambo	
Cell	Rugarama	
Village	Rubona	
Street	KN 260 St	
GPS Coordinates Latitude	-1.9921604 y	
GPS Coordinates Longitude	30.0392965 x	
Map		-





# Attachement-3 Reservoir Survey Sheet

Date:28/05/2020

No.	Item	Details
<b>A</b> :	General	
1	Number of Reservoir	44
2	Name of Reservoir	Rubona
3	ID Code	NYE4RE1
4	Ward	Sector: Nyamirambo, District: Nyarugenge, Cell: Rugarama, Village: Rubona
5	Branch Office	Nyamirambo
6	Location	Latitude: -1.9921604, Longitude: 30.0392965, Altitude:
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: N.A
9	Storage Capacity	50 m3
10	Service area of the Reservoir	RUGARAMA-MIDUHA
B: (	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Flowing
4	Overflow observation	7 times/week
	Phenomenon	Receiving water but not consumed
	Reason of overflow	Defective operation valves,
5	Bypass-flow operation	Nothing
	Reason of bypass operation	Low pressure if water passes through the tank
6	Inflow Condition	Source: Nzove via Mont Kigali Haut
		Water pressure at inlet: to be calculated in the final report
		Frequency and time: Permanent flow
7	Water level movement	Proper movement
8	Issue on Functional Condition	Tank receiving water through the outlet pipe, leaking walls, No floater valve, valves not operating, very old and weary valves.
C:S	Structure	
1	Form of Reservoir	Circular
2	Foundation	Semi-ground Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.00m / L: × B: , H: 2.50m
5	Remarks/ Issue	

No.	Item	Details
D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 80, Top
5	Inlet valve No.1	DN: 80 , Function: YES even though not in use.
6	Outlet pipe No.1	SP, DN: 80
7	Outlet valve No.1	DN: 80 , Function: Not Operational
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 80
10	Remarks/ Issue	The way the outlet system is installed, it needs replacement due to valves not working, the installation was made using threaded nipples and other accessories.

#### Other Information:

#### Proposal:

- Revised (revisit) existing installation to rectify the inlet and outlet
   Replacing all the 4 weary valves

# **Photo Sheet**



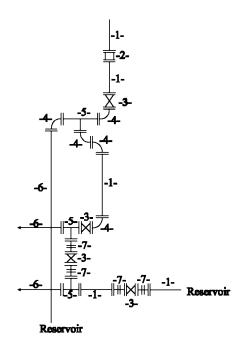
# **NYAMIRAMBO BRANCH** Reservoir No.: 138 **Location: RUGARAMA** Material: Stone masonry Cap.: 50m3 Washout & Overflow Ømæ Dia: 5.00m Towards Rugarama and Miduha network H: 2.50m From Mont Kigali Haut Towards Rugarama & Miduha network LEGEND 1, 2, 3, 4 - Valve DN 100 5, 6, 7 - Tee DN 100 In red color means with issues KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

#### **NYAMIRAMBO BRANCH**

Reservoir No.: 138

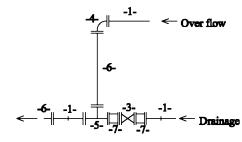
**Location: RUGARAMA** 

#### \* Inlet, Bypass and Outlet (All accessories are DN80)



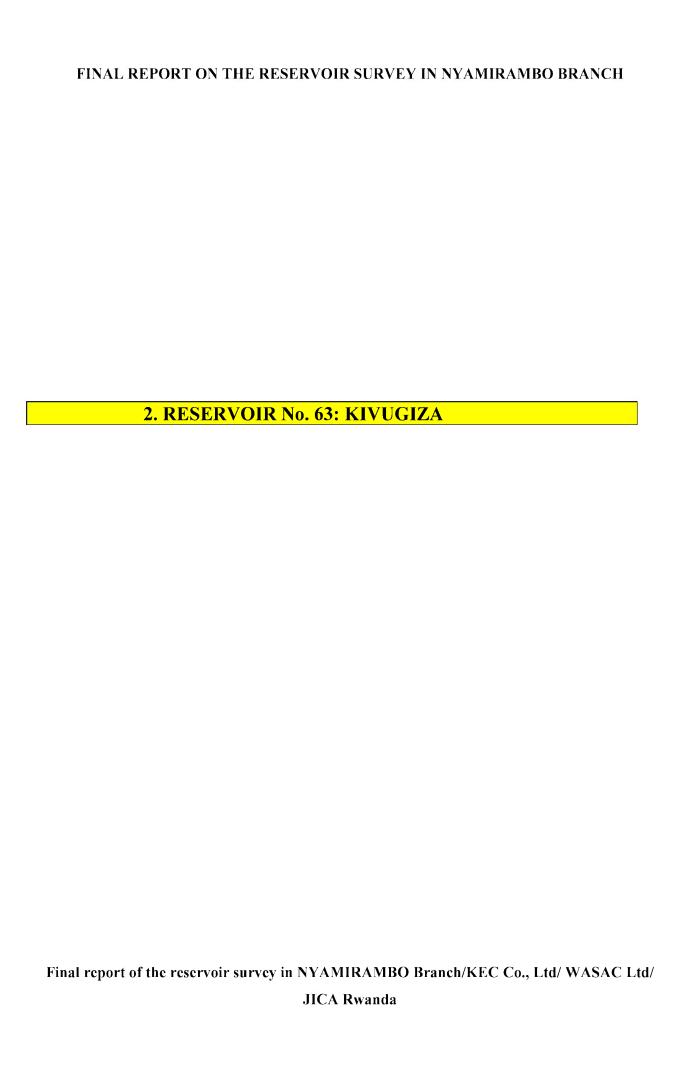
- 1- Straight Pipe with Double Flange
- 2- Flange Adaptor 3- Valve
- 4-90 Degree Elbow with Double Flange
- 5- Tee with Triple Flange
- 6- Straight Pipe
- 7- Union Joint

#### \* Overflow and Drainage (All accessories are DN80)



- 1- Straight Pipe with Flange
- 2- Flange Adaptor 3- Valve
- 4-90 Degree Elbow with Double Flange
- 5- Tee with Triple Flange
- 6- Straight Pipe
- 7- Dismantling Joint

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**BRANCH: NYAMIRAMBO** 

Reservoir: KIVUGIZA

No.: 63

#### I. Status and Functionality issues description

The METALLIC tank receive water from Mont Kigali BAS, it serves a nearby Public Tap (BF), the inlet pipe (Ganga pipe) is disconnected and they use a flexible pipe for water to reach their reservoir.

It is under management of locals and no fence is there, while it is needed for safety and security purposes.

No floater valve installed, hence opening water while standing there the whole duration of filling.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Rehabilitation and reconnection of the tank</li> <li>Replacement of drainage valves</li> <li>Installation of a floater valve</li> <li>Rehabilitation of water taps</li> </ul>	<ul> <li>1 Valves DN100</li> <li>1 Floater valve DN80</li> <li>Painting outside</li> <li>Fencing the area</li> <li>Drainage canal</li> <li>Construction works for water tap</li> </ul>

#### **III. Description Photos**



Outlet valve need to be replaced.



Inlet pipe need to be fixed and connected to the roof opening of the tank.

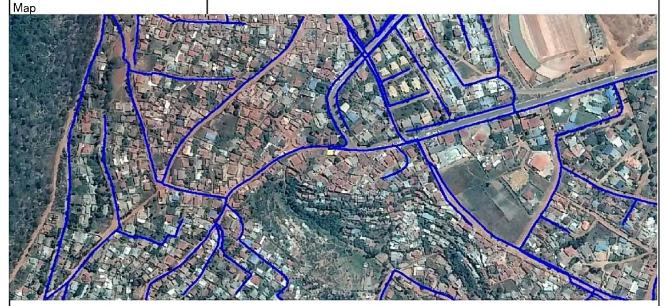


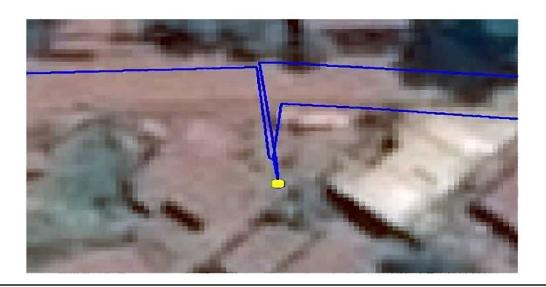
This water tap is dirty and it needs some construction works



Drain pipe need a valve and a manhole

Location of Reservoir		
Subject	Data	Remarks
Reservoir number	63	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Nyamirambo	
Cell	Kivugiza	
Village	Mpano	
Street	KN 2 Av	
GPS Coordinates Latitude	-1.9804695 y	
GPS Coordinates Longitude	30.0400498 x	
Man		





# Attachement-3 Reservoir Survey Sheet

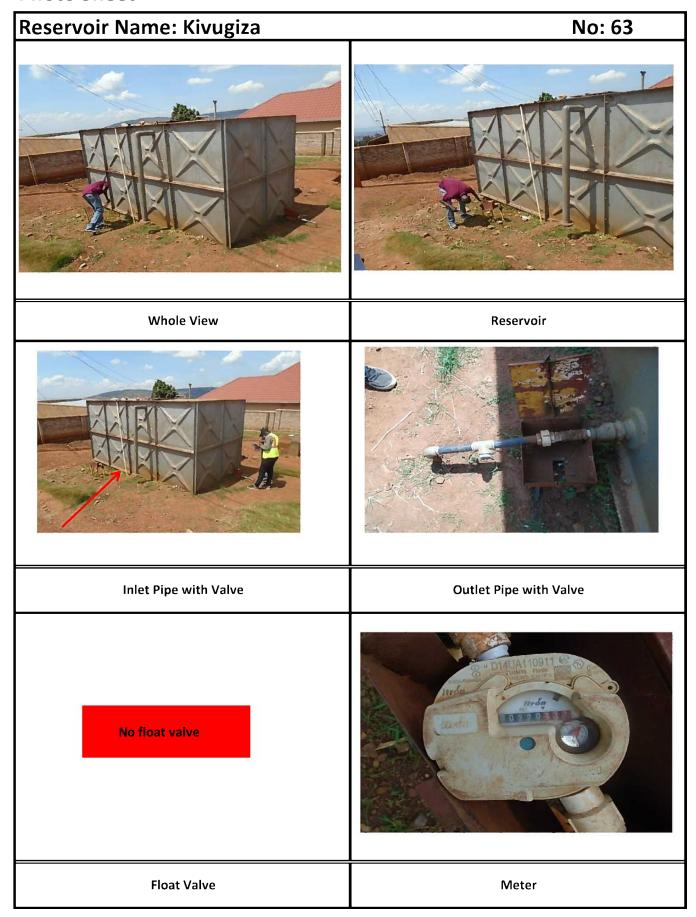
Date: 28/05/2020

No.	Item	Details
<b>A</b> :	General	
1	Number of Reservoir	63
2	Name of Reservoir	Kivugiza
3	ID Code	NYD4RE1
4	Ward	District: Nyarugenge, Sector: Nyamirambo, Cell: Kivugiza, Village: Mpano
5	Branch Office	Nyamirambo
6	Location	Latitude: -1.9804965, Altitude: 30.0400948, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	year
9	Storage Capacity	25 m3
10	Service area of the Reservoir	Reservoir BF Kivugiza
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing:,
	Reason of bypass operation	
6	Inflow Condition	Source: Mont Kigali Bas
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:S	tructure	
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Steel
4	Inside Dimension	L: $4.9 \times B$ : $2.4$ , H: $2.4$ :: All dimensions in meter (m)
5	Remarks/ Issue	

D:	Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical
		Function: YES
		Location: Inlet Pipe
4	Inlet pipe No.1	PVC, DN: 32, Roof
5	Inlet valve No.1	DN: 32 , Function: YES
6	Outlet pipe No.1	PVC, DN: 32
7	Outlet valve No.1	DN: 32, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 101
10	Remarks/ Issue	The tank was given t a local for management, there is no leakage even though they open on the roof in order to be able to get water in the tank.

Other Information:

# **Photo Sheet**



#### **NYAMIRAMBO BRANCH**

Reservoir No.: 84

**Location: KIVUGIZA** 

Material: Steel pannel

Washout

4" SP

-3
Towards BF

2" SP

-1
| SP

-1-

Cap.: 50m3

Dia: 6.50m

H: 2.50m

#### **LEGEND**

- 1 Valve 1"
- 2 Valve 2"
- 3 Valve 4"

In red color means with issues

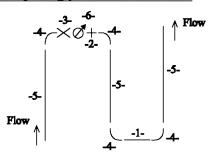
KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

#### **NYAMIRAMBO BRANCH**

Reservoir No.: 84

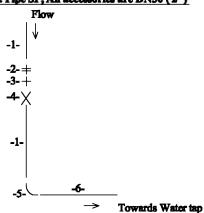
**Location: KIVUGIZA** 

#### \* Inlet Pipe Ganga, All accessories are DN25



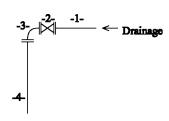
- 1- Straight Pipe
- 2- Nipple
- 3- Valve
- 4-90 Degree Elbow
- 5- Pipe
- 6- Water Meter

#### \* Outlet Pipe SP, All accessories are DN50 (2")



- 1- Straight Pipe
- 2- Coupling 3- Nipples
- 4- Valve
- 5-90 Degree Elbow with Double Flange
- 6- Supply straight Pipe

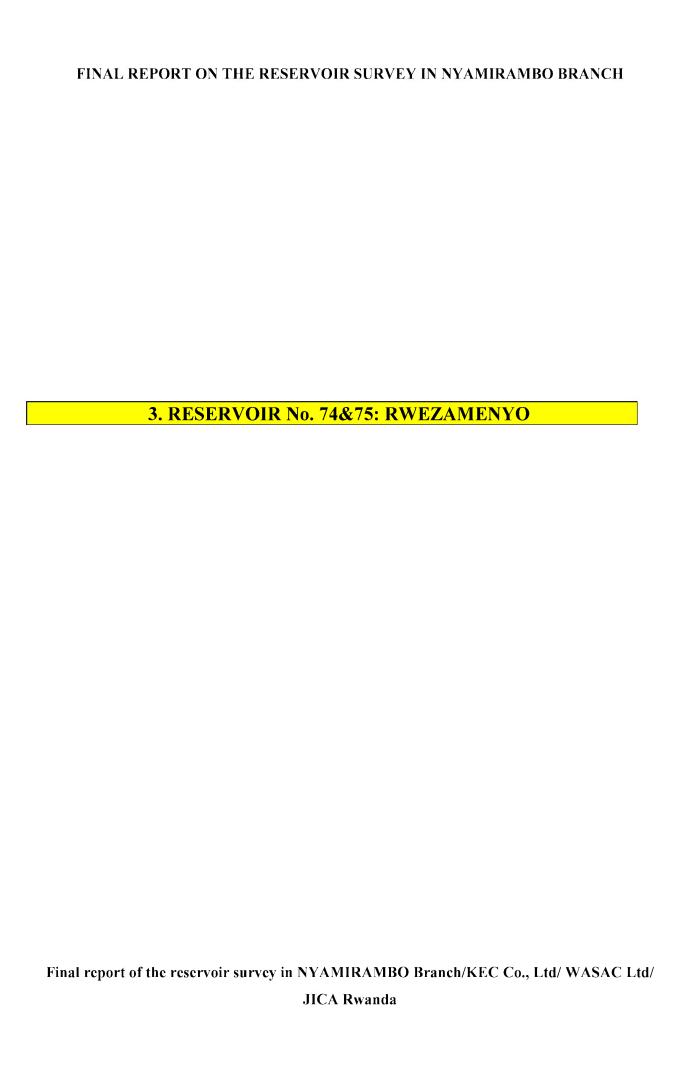
#### \* Drainage (DIP, DN100)



- 1- Straight Pipe with Flange
- 2- Valve with double flange
- 3-90 Degree Elbow with Double Flange
- 4- Straight Pipe

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**BRANCH: NYAMIRAMBO** 

Reservoir: RWEZAMENYO

No.: 74&75

#### I. Status and Functionality issues description

The tank receive water from Mont Kigali haut through Mont Kigali Bas, they serve the areas of Nyakabanda, Kabusunzu and Kamuhoza. They have no floater and the Operator has to climb up to check for level for him to be able to close inlet valve without overflow and water wastage.

For Reservoir No. 74 the outlet valve leaks.

For Reservoir No. 75 Inlet valve leaks, Outlet valve DN 200 leaks, Outlet valve DN 80 leaks and all of them face backflow sometimes.

#### II. Required Action and Requirements

Action	Requirements
<ul> <li>Replacement of Outlet valve at Res 146</li> <li>Replacement of Outlet valves at Res 148</li> <li>Replacement of Inlet valves at Res 148</li> <li>Installation of a floater valves at Res 146&amp;148</li> <li>Checking why they face backflow at the Outlet pipes and behavior of the meter in that case??</li> <li>Backfilling the excavated areas which exposes the pipes and may undermine the stability of thrust blocks.</li> </ul>	<ul> <li>1 Valves DN200</li> <li>1 Valves DN200 and 1 Valves 80</li> <li>1 Valves DN200</li> <li>2 Floater valve DN200</li> </ul>

#### **III. Description Photos**



Leaking Outlet Valves



General accessories cleaning needed as soon as possible



Non operational water level indicators

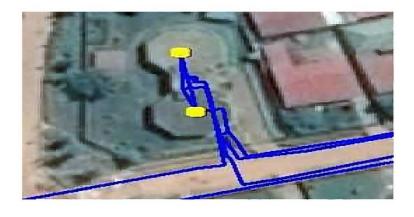


Floater valve need

Location of Reservoir		
Data	Remarks	
74 & 75		
Nyamirambo		
Nyarugenge		
Rwezamenyo		
Kabuguru II		
Mutara		
KN 188 St		
-1.9756117 y		
30.0486049 x		
	Data 74 & 75 Nyamirambo Nyarugenge Rwezamenyo Kabuguru II Mutara KN 188 St -1.9756117 y	

Мар





# Attachement-3 Reservoir Survey Sheet

Date: 28/05/2020

No.	Item	Details
A: General		
1	Number of Reservoir	74
2	Name of Reservoir	RWEZAMENYO I (Golf4-Nyakabanda P.S.)
3	ID Code	RWC5RE3
4	Ward	District: Nyarugenge, Sector: Rwezamenyo, Cell: Kabuguru II, Village: Mutara
5	Branch Office	Nyamirambo
6	Location	Latitude: -1.9756117, Altitude: 30.0486049, Altitude:
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	600 m3
10	Service area of the Reservoir	RWEZAMEYO-MUMENA
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing Valve
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	Except in case the Operators are not arround.
	Reason of overflow	No Float Valve
5	Bypass-flow operation	Always
	Reason of bypass operation	Supplying Nyakabanda, Kabusunzu, Kamuhoza
6	Inflow Condition	Source: Mont Kigali Haut through Mont Kigali Bas
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	: No floater valve
C:S	Structure	
1	Form of Reservoir	Hexagon
$\vdash$	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.60M, H: 4.00M
5	Remarks/ Issue	

D:	D: Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	Malfunction
3	Flow Meter	Mechanical
		Function
		Outlet Pipe
4	Inlet pipe No.1	SP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	SP, DN: 200
	Outlet pipe No.2	SP, DN: 100
7	Outlet valve No.1	DN: 200 , Function: YES with a leak
	Outlet valve No.2	DN: 80 , Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	

Other Information:

# Attachement-3 Reservoir Survey Sheet

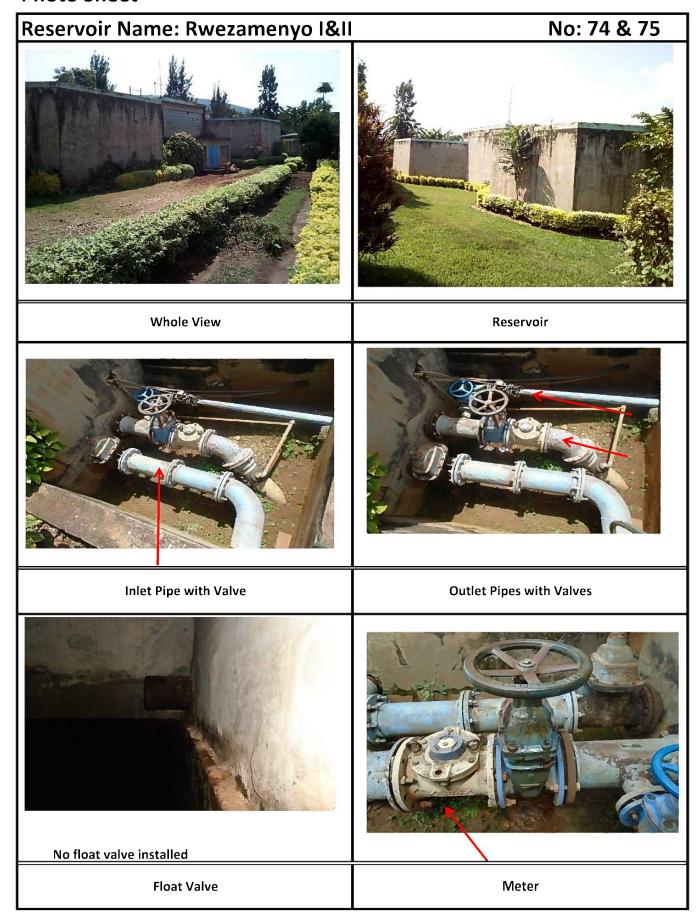
Date: 28/05/2020

No.	Item	Details
A:	General	
1	Number of Reservoir	75
2	Name of Reservoir	RWEZAMENYO II (Golf4-Nyakabanda)
3	ID Code	RWC5RE2
4	Ward	District: Nyarugenge, Sector: Rwezamenyo, Cell: Kabuguru II, Village: Mutara
5	Branch Office	Nyamirambo
6	Location	Latitude: -1.9756117, Altitude: 30.0486049, Altitude:
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	600 m3
10	Service area of the Reservoir	RWEZAMEYO-MUMENA
B: 0	Operational Condition	
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing Valve
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	Except in case the Operators are not arround.
	Reason of overflow	No Float Valve
5	Bypass-flow operation	Always
	Reason of bypass operation	Supplying Nyakabanda, Kabusunzu, Kamuhoza
6	Inflow Condition	Source: Mont Kigali Haut through Mont Kigali Bas
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	: No floater valve
C:S	Structure	
1	Form of Reservoir	Hexagon
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.60M, H: 4.00M
5	Remarks/ Issue	

D:	D: Equipment	
1	Floater Valve	No installation
2	Water Level Gauge	Malfunction
3	Flow Meter	Mechanical
		Function
		Outlet Pipe
4	Inlet pipe No.1	SP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: Not Applied but it has a leak
6	Outlet pipe No.1	SP, DN: 200
	Outlet pipe No.2	SP, DN: 80
7	Outlet valve No.1	DN: 200, Function: Not Applied but it has a leakage and it has backflow
	Outlet valve No.2	DN: 80, Function: YES but it has a leakage and it has backflow sometimes
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	For Floater Valve Installation, We need to weld a flanged part.

Other Information:

# **Photo Sheet**



# **NYAMIRAMBO BRANCH Reservoir No.: 146&148 Location: RWEZAMENYO Material: Concrete** Cap.: 600m3 Cap.: 600m3 E a: 7.60m a: 7.60m H: 4.00m H: 4.00m LEGEND 1-6 : Valve DN 200 7: Valve DN 80 Outlet pipe Inlet pipe Bypass A - Inlet from Mont Kigali Haut via Mont Kigali Bas B- Outlet towards Mumena, DN80 C-Outlet towards Rwezamenyo areas, DN200 D- Bypass system DN200 E-Drain pipe DN200 In red color means with issues KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA