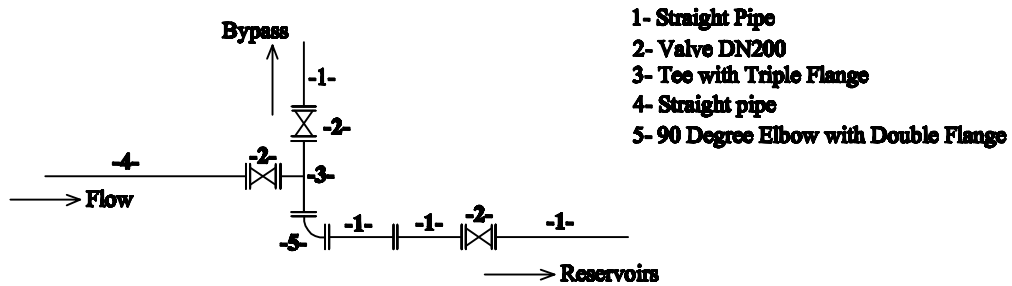


NYAMIRAMBO BRANCH

Reservoir No.: 146 & 148

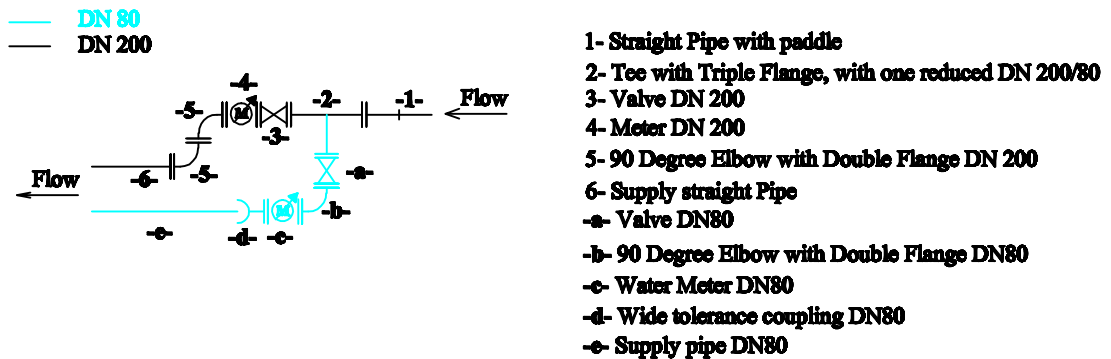
Location: RWEZAMENYO

*** Inlet Pipe DIP, All accessories are DN200**



- 1- Straight Pipe
- 2- Valve DN200
- 3- Tee with Triple Flange
- 4- Straight pipe
- 5- 90 Degree Elbow with Double Flange

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



- 1- Straight Pipe with paddle
- 2- Tee with Triple Flange, with one reduced DN 200/80
- 3- Valve DN 200
- 4- Meter DN 200
- 5- 90 Degree Elbow with Double Flange DN 200
- 6- Supply straight Pipe
- a- Valve DN80
- b- 90 Degree Elbow with Double Flange DN80
- c- Water Meter DN80
- d- Wide tolerance coupling DN80
- e- Supply pipe DN80

4.RESERVOIR No. 78: GOLF MIKE

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: GOLF MIKE

No.: 78

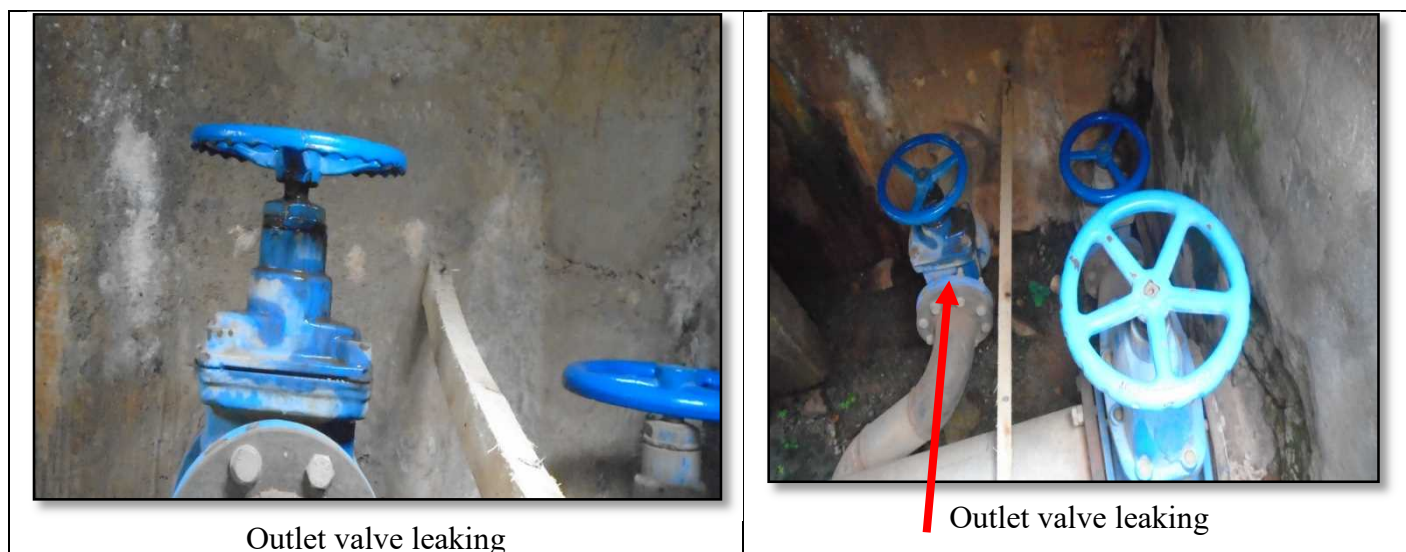
I. Status and Functionality issues description

The tank receives water from Mont Kigali haut through.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Replacement of valves• Installation of a floater valve	<ul style="list-style-type: none">• 1 Valve DN150• 1 Floater valve DN150

III. Description Photos



Attachement-3 Reservoir Survey Sheet

Date: 29/10/2020

No.	Item	Details
A: General		
1	Number of Reservoir	71
2	Name of Reservoir	Golf Mike
3	ID Code	NYAKC4RE2
4	Ward	Sector: Nyakabanda, District: Nyarugenge, Cell: Nyakabanda II, Village: Nyakaba
5	Branch Office	Nyamirambo
6	Location	Latitude: 1.58619 , Longitude : 30.02385 , Altitude: 1678
7	Function of Reservoir	BPT
8	Age of Reservoir	year
9	Storage Capacity	320 m3
10	Service area of the Reservoir	
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	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: Nzove via Mont Kigali Haut
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	We can not take a picture of Inlet pipe (end) due to the entrance window which is defective and it is always closed to avoid accidents
C:Structure		
1	Form of Reservoir	Hexagon
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	a : 4.80m , H: 5.2m
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 , Roof/ Top/ Bottom
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: 150 , Function: YES
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP, DN: 100
	Outlet pipe No.2	SP, DN: 100
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: 100, Function: Defective
	Outlet valve No.2	DN: 100, Function: YES
	Outlet valve No.3	DN: , Function:
8	Overflow Pipe	SP/ DIP/ PVC/ Others (), DN: 125
9	Drain Pipe	SP/ DIP/ PVC/ Others (), DN: 100 (being used as Outlet No.2)
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: **Golf Mike**

No: **71**



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

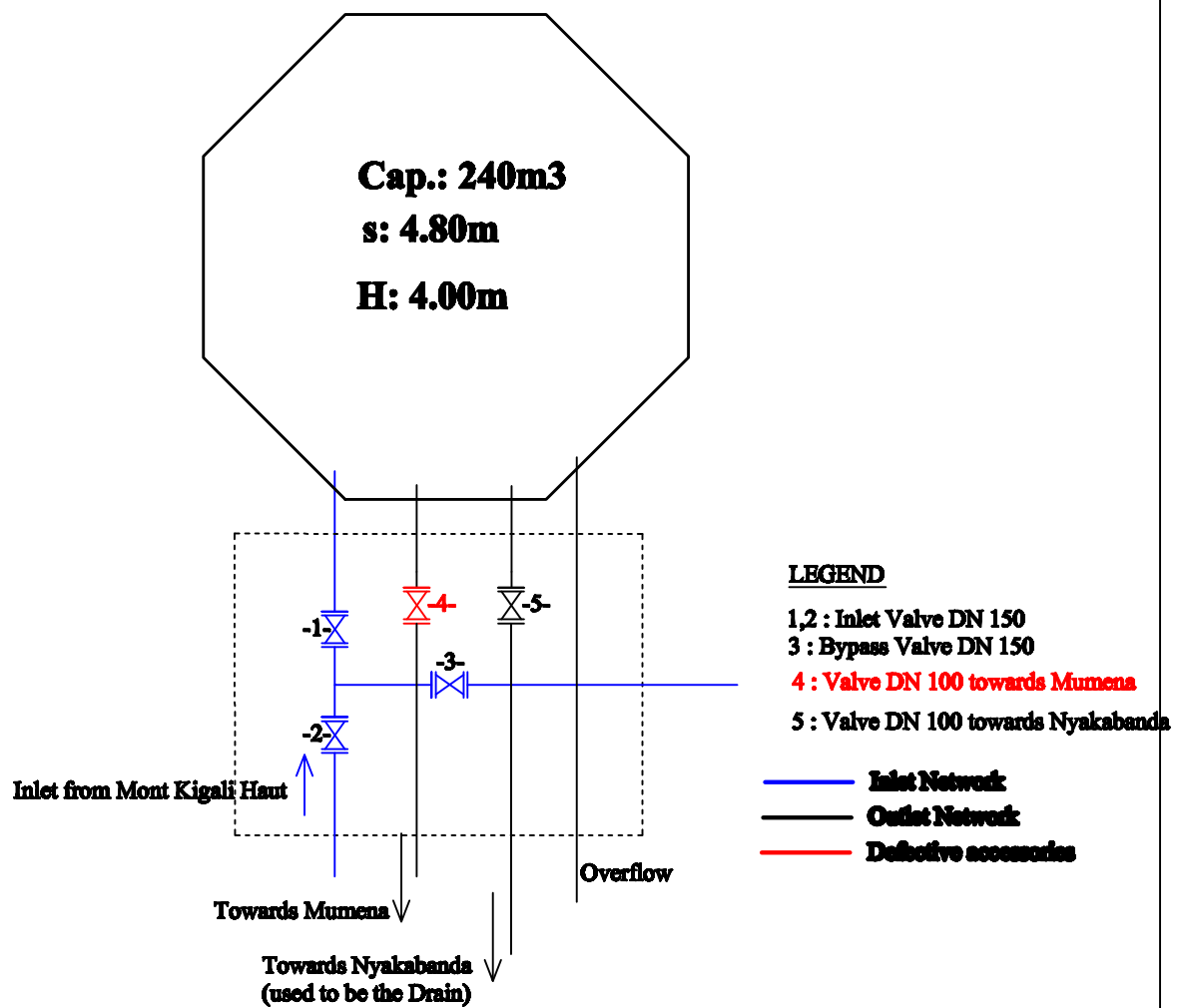
NYAMIRAMBO BRANCH

Reservoir No.: 113

Location: GOLF MIKE

Material: Concrete

SCHEMATIC DRAWING



5. RESERVOIR No.6: KAVUMU

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: KAVUMU

No.: 6

I. Status and Functionality issues description

The installed floater valve is OK but due to the height of the reservoir, it overflow before the floater can close. In order to find a solution, we need to lower the floater a little bit, by the use of Two (2) elbows of 90 Degrees.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Insertion of 2 elbows to allow the reservoir floater to go down and be on level with the inlet pipe.	<ul style="list-style-type: none">• 2 Elbows of 90 degrees

III. Description Photos



Floater Valve which doesn't fully close.



Floater Valve which doesn't fully close.

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	6		
Reservoir Name	Kavumu		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Kavumu		
Village	Mubura		
Street	RN		
GPS Coordinates Latitude	-2.047332	y	
GPS Coordinates Longitude	29.995042	x	
Map			



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	6
2	Name of Reservoir	KAVUMU(Ayabatanga)
3	ID Code	110502RE2
4	Ward	Sector: Mageragere , District: Nyarugenge, Cell: Kavumu, Village: Mubura
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.047332 , Longitude : 29.995042 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: no data
9	Storage Capacity	50 m3
10	Service area of the Reservoir	Mubura village area and some parts of Kavumu Cell
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 times/month, no data times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 2.50m, H:2.60m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 80,
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 80, Top
5	Inlet valve No.1	DN: 80, Function: YES
6	Outlet pipe No.1	DIP, DN: 80
7	Outlet valve No.1	DN: 80, Function: YES
8	Overflow Pipe	DIP, DN: 80
9	Drain Pipe	DIP, DN: 80
10	Remarks/ Issue	The reservoir is new

Other Information:	The installed floater valve is OK but due to the height of the reservoir, it overflow before the floater can close.
---------------------------	---

Photo Sheet

Reservoir Name: Kavumu(Ayabatanga)

No:6



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

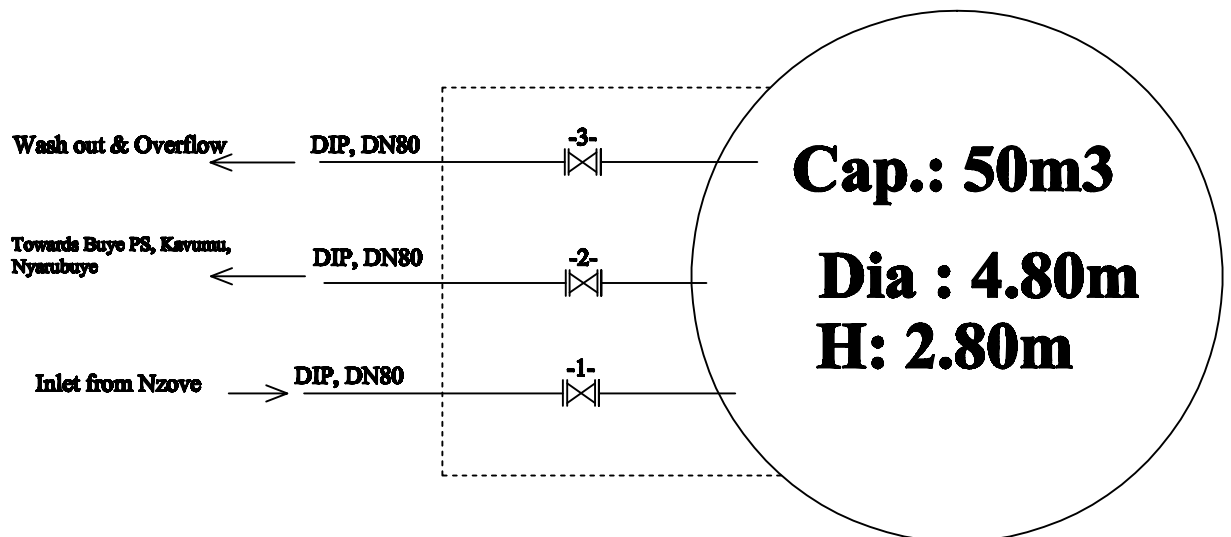
NYAMIRAMBO BRANCH

Reservoir No.: 69

Location: KAVUMU

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN80
- 2 - Outlet Valve DNDN80
- 3 - Washout Valve DN80

6. RESERVOIR No.4: NTUNGAMO

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: NTUNGAMO

No.: 4

I. Status and Functionality issues description

Outlet Valve DN100 leaking.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Replacement of Outlet Valve	<ul style="list-style-type: none">1 Valve DN100

III. Description Photos



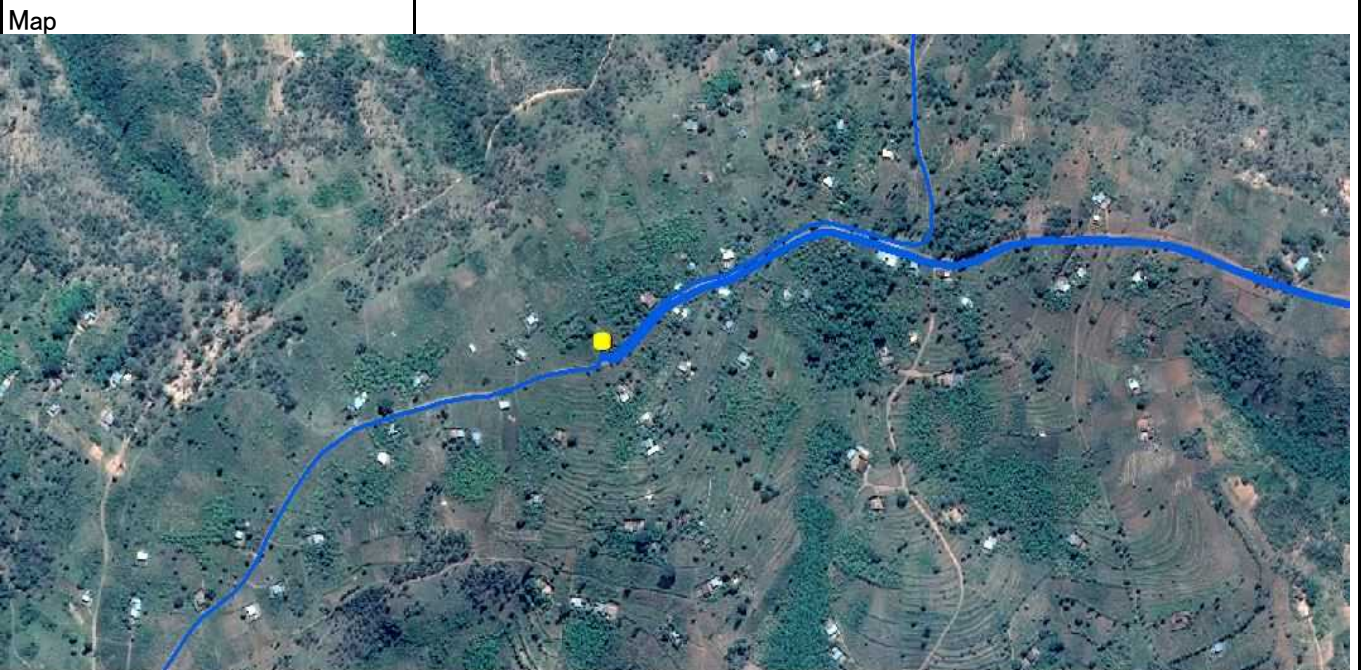
Leaking Outlet Valve



Valve leaks when opened

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	4		
Reservoir Name	Ntungamo		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Kavumu		
Village	Mubura		
Street	RN		
GPS Coordinates Latitude	-2.044871	y	
GPS Coordinates Longitude	30.014892	x	



Attachement-3 Reservoir Survey Sheet

No.	Item	Details
A: General		
1	Number of Reservoir	4
2	Name of Reservoir	Ntungamo (Gatovu)
3	ID Code	110502RE1
4	Ward	Sector: Mageragere, District: Nyarugenge , Cell: Kavumu , Village: Mubura
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.044871 , Longitude : 30.014892 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2017
9	Storage Capacity	200 m3
10	Service area of the Reservoir	Gatovu Village
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 8.80m , H: 3.00m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function , DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	No installation
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: 200
7	Outlet valve No.1	DN: 200, Function: YES
	Outlet valve No.2	DN: 100, Function: DEFECTIVE
8	Overflow Pipe	DIP, DN: 150
9	Drain Pipe	DIP, DN: 150 with Valve
10	Remarks/ Issue	The installed Outlet No.2 valve leaks when closed (Outlet towards RCS)

Other Information:

Photo Sheet

Reservoir Name: Ntungamo

No:4



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

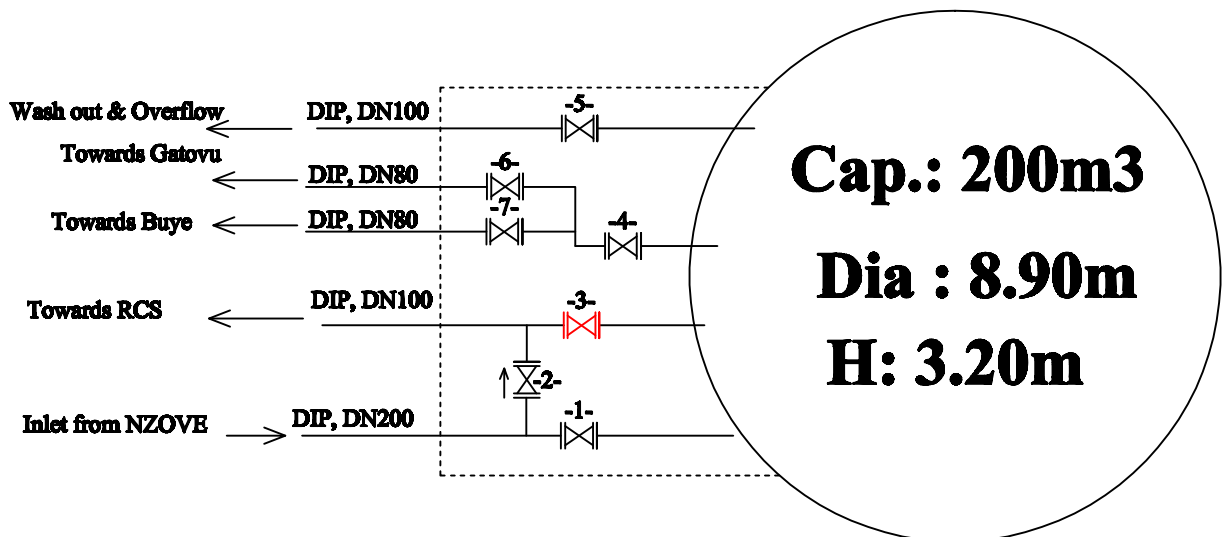
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: GATOVU

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN200
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Outlet No. 2 Valve DN200
- 5 - Washout Valve DN100
- 6 - Network Valve DN80
- 7 - Network Valve DN80

7. RESERVOIR No. : BUREMA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: BUREMA

No.: XX

I. Status and Functionality issues description

Floater valve needed.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Installation of a floater valve	<ul style="list-style-type: none">1 Floater valve DN100

III. Description Photos



Floater is needed

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	13	
Reservoir Name	Rushyubi	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Mataba	
Village	Burema	
Street	RN	
GPS Coordinates Latitude	-2.034721 y	
GPS Coordinates Longitude	30.066768 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	9
2	Name of Reservoir	Tete (Burema)
3	ID Code	110503RE3
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Mataba , Village: Burema
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.031288, Longitude : 30.063645, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	180 m3
10	Service area of the Reservoir	Karambi, Mataba, Amahoro and Nyarurenzi
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	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	No functional issue, the reservoir look new and accessories are operational
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 10m, H: 2.30m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (not needed)
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
	Outlet pipe No.2	SP, DN: 100
	Outlet pipe No.3	SP, DN: 100
7	Outlet valve No.1	DN: 100, Function: YES
	Outlet valve No.2	DN: 100, Function: YES
	Outlet valve No.3	DN: 100, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Tete

No:9



Whole View



Reservoir



Inlet Pipe without



Outlet Pipe with Valve



No Float Valve



No Meter

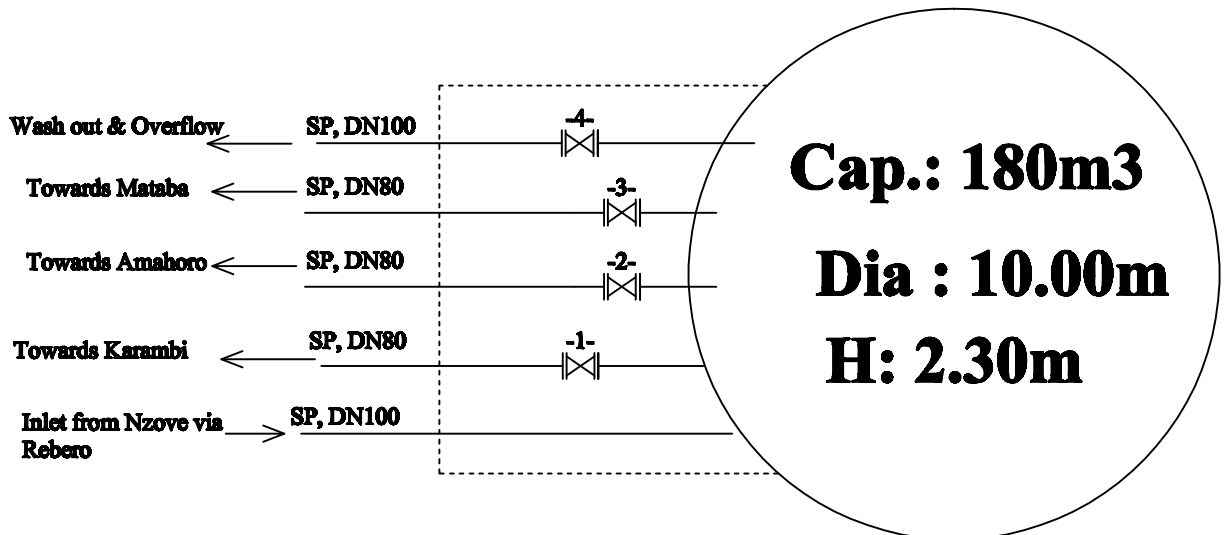
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **BUREMA**

Material: **Concrete**

SCHEMATIC DRAWING



LEGEND

1,2,3 - Outlet Valve DN80

4 - Washout Valve DN80

8. RESERVOIR No. : CAMP MILITAIRE HILL

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: CAMP MILITAIRE HILL

No.: XX

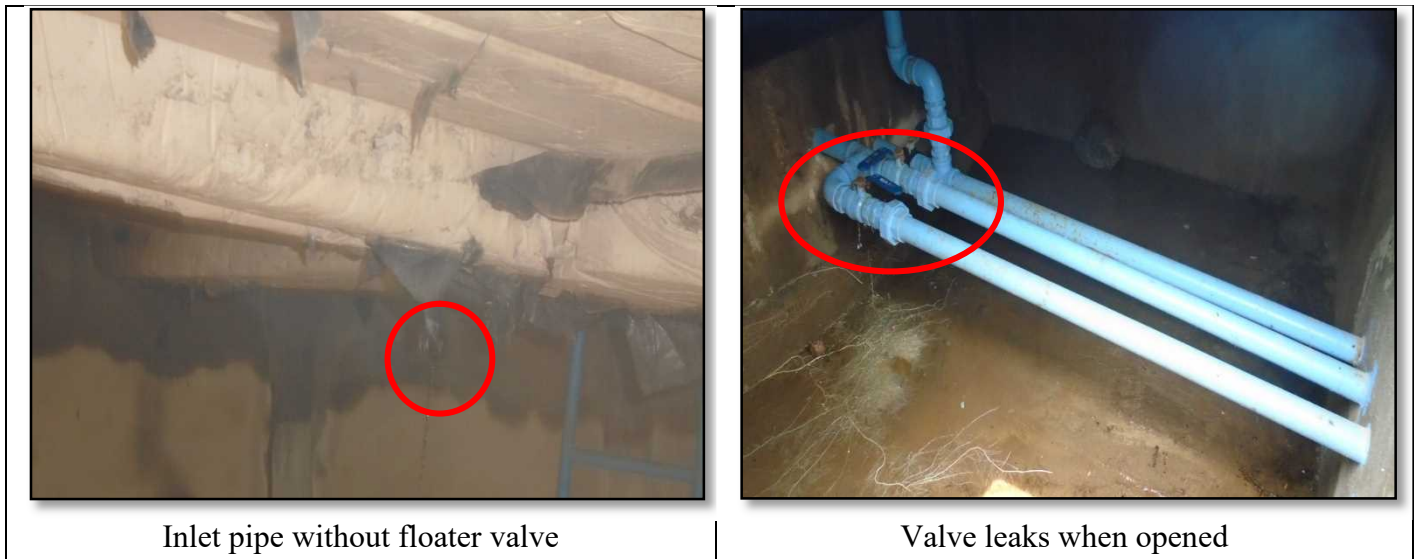
I. Status and Functionality issues description

No Floater valve, Outlet valves leaking.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of a floater valve• Installation of valve 2" (DN50)	<ul style="list-style-type: none">• 1 Floater Valve DN50• 2 valves DN50

III. Description Photos



Inlet pipe without floater valve

Valve leaks when opened

Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	No data
2	Name of Reservoir	Karembure (CAMP MILITAIRE HILL)
3	ID Code	No data
4	Ward	Sector: Gahanga, District: Kicukiro, Cell: Karembure, Village: Kabeza
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.03433, Longitude : 30.080037, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	25m3
10	Service area of the Reservoir	Gahanga new village, and a nearby military camp
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing, Timing: _____,
	Reason of bypass operation	
6	Inflow Condition	Source: Kajande - via Mataba - Kicukiro Camp Militaire
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 4.20m, H: 2.10m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, 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	No installation
6	Outlet pipe No.1	SP, DN: 50
	Outlet pipe No.2	SP, DN: 50 (Towards BF)
7	Outlet valve No.1	DN: 50, Function: DEFECTIVE
	Outlet valve No.2	DN: 50, Function: DEFECTIVE
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: **CAMP MILITAIRE HILL(Karembure)**

No:



Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe with Valve



Float Valve



Meter

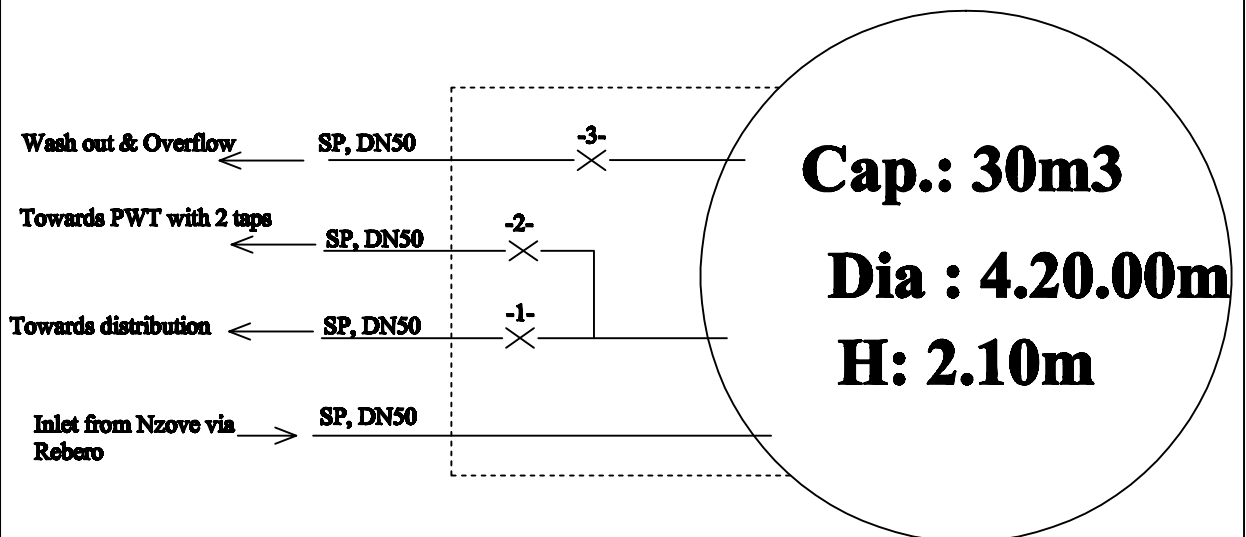
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **Camp militaire Village**

Material: **Stone masonry**

SCHEMATIC DRAWING



LEGEND

- 1 - Outlet Valve DN50 - Towards network
- 2 - Outlet Valve DN50 - Towards PWT
- 3 - Washout Valve DN50

9. RESERVOIR No. 18 : AKARAMBI

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: AKARAMBI

No.: 18


I. Status and Functionality issues description

No Floater valve, Outlet valve leaking.

II. Required Action and Requirements

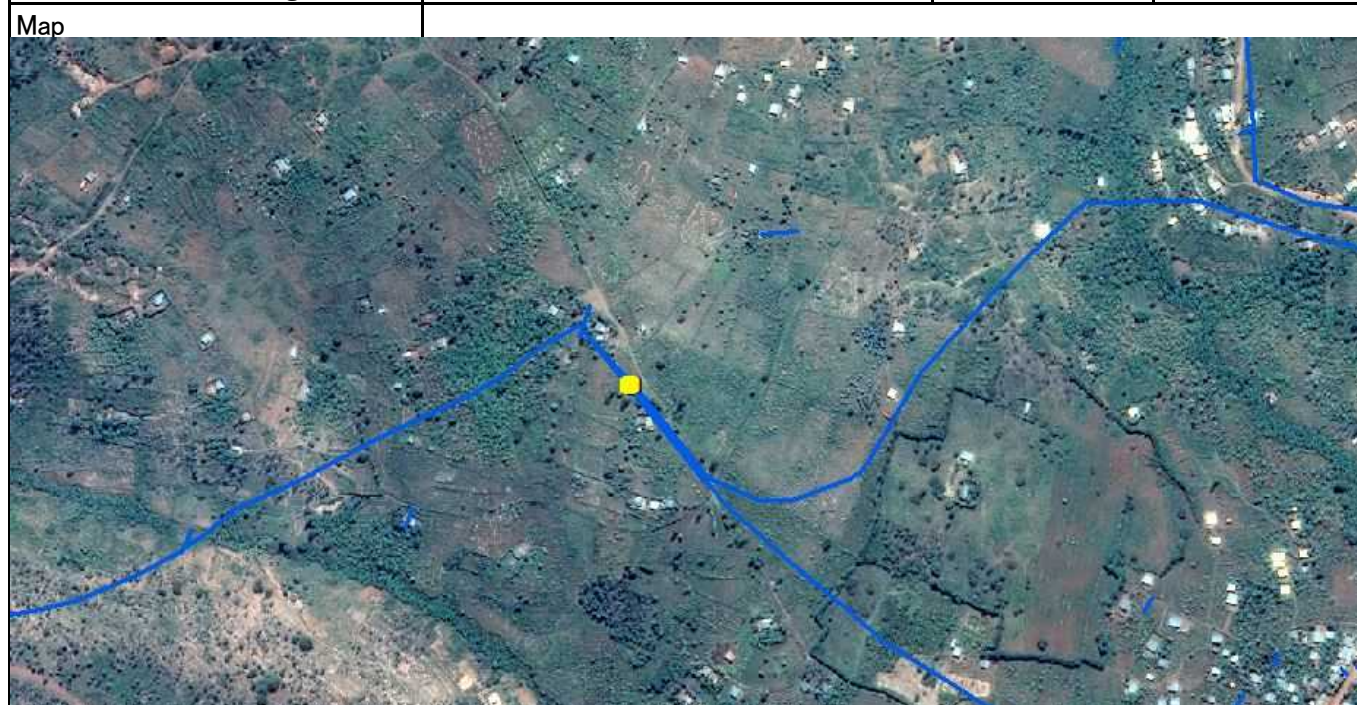
Action	Requirements
<ul style="list-style-type: none">• Installation of floater valve SP DN 2" (DN50)• Installation of valve SP DN 2" (DN50)	<ul style="list-style-type: none">• 1 floater valve DN50• 1 valve DN50

III. Description Photos

	<p>Can't open the reservoir to take a picture of the inlet without a floater</p>
<p>Leaking Outlet Valve</p>	

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	18		
Reservoir Name	Akarambi		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Mataba		
Village	Karambi		
Street	RN		
GPS Coordinates Latitude	-2.029057	y	
GPS Coordinates Longitude	30.070052	x	



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	18
2	Name of Reservoir	Akarambi
3	ID Code	110503RE5
4	Ward	Sector: Mageregere, District: Nyarugenge, Cell: Mataba, Village: Karambi
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.029057 , Longitude : 30.070052 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No data
9	Storage Capacity	15 m3
10	Service area of the Reservoir	Gahombo village + Camp Militaire reservoir
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Kajande Pumping Station
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	A leaking Outlet Valve Number 2, others are ok
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 3.00m, H: 2.10m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, 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	No installation
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 50, Function: YES
	Outlet valve No.2	DN: 50, Function: Defective (leaking)
8	Overflow Pipe	SP, DN: 50
9	Drain Pipe	SP, DN: 50
10	Remarks/ Issue	Reservoir Cover stolen.

Other Information:

Photo Sheet

Reservoir Name: Akarambi

No:18



Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe with Valve



Float Valve



Meter

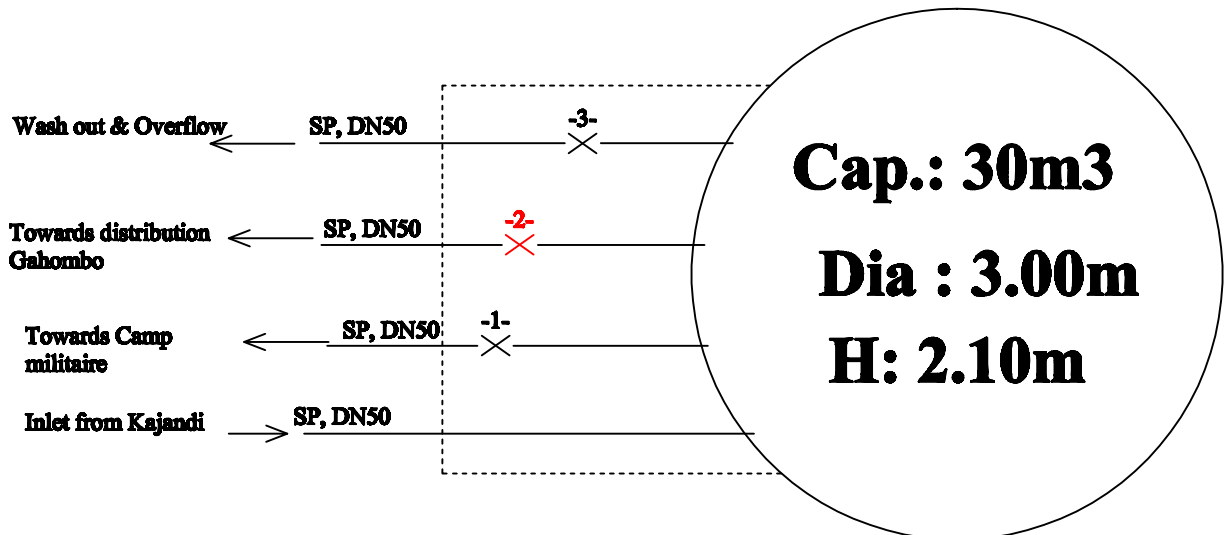
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: Akarambi

Material: Stone masonry

SCHEMATIC DRAWING



LEGEND

1 - Outlet Valve DN50

2 - Outlet Valve DN50

3 - Washout Valve DN50

10. RESERVOIR No. : NYARURENZI (Amahoro Village)

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: NYARURENZI (Amahoro Village)

No.: XX

I. Status and Functionality issues description

PVC Valve 110 leaking, no floater valve installed.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of PVC Valve 110• Installation of floater valve SP DN 2"	<ul style="list-style-type: none">• 1PVC Valve 110• Floater valve SP DN 2"

III. Description Photos



Leaking Inlet PVC Valve

Can't open the reservoir to take a picture of the inlet without a floater

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	3	
Reservoir Name	Nyarurenzi/Amahoro	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Nyarurenzi	
Village	Amahoro	
Street	RN	
GPS Coordinates Latitude	-2.040961 y	
GPS Coordinates Longitude	30.058276 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	3
2	Name of Reservoir	Nyarurenzi Amahoro
3	ID Code	110506RE1
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Nyarurenzi, Village: Amahoro
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.040961, Longitude : 30.058276, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	18 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: Kajande Pumping Station
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C: Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 3.20m, H: 2.25m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 2" (needed)
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 2", Top
5	Inlet valve No.1	DN: 2", Function: YES
6	Outlet pipe No.1	SP, DN: 2 1/2"
7	Outlet valve No.1	DN: 2 1/2", Function: YES
8	Overflow Pipe	SP, DN: 2"
9	Drain Pipe	SP, DN: 2"
10	Remarks/ Issue	PVC Valve DN110 (Defective)

Other Information:

Photo Sheet

Reservoir Name: Nyarurenzi Amahoro

No:3



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



NO Meter

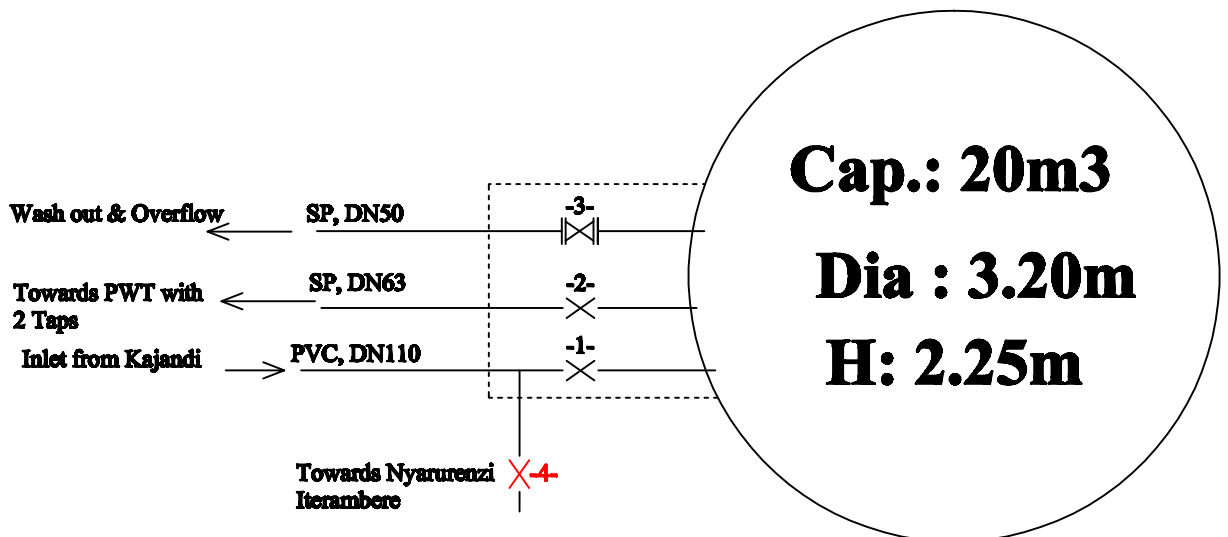
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: NYARURENZI (Amahoro Village)

Material: Stone masonry

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet PVC Valve DN2"
- 2 - Outlet towards WTP Valve DN63
- 3 - Washout Valve DN2"
- 4 - Network towards Iterambere, Valve DN110

11. RESERVOIR No. : NYARURENZI (Iterambere)

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: NYARURENZI (Iterambere)

No.: XX

I. Status and Functionality issues description

No floater valve installed.

II. Required Action and Requirements

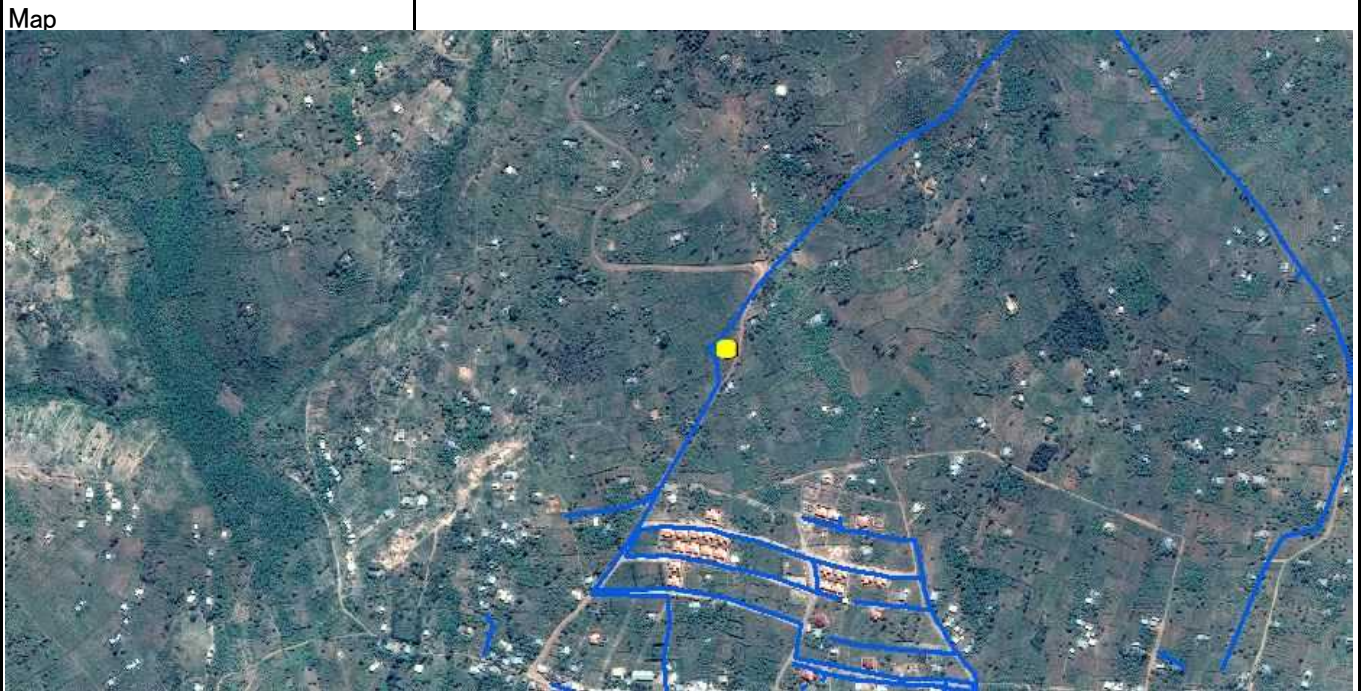
Action	Requirements
<ul style="list-style-type: none">Installation floater valve SP DN80	<ul style="list-style-type: none">1 Floater Valve DN80

III. Description Photos

Can't open the reservoir to take a picture of the inlet without a floater.

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number		
Reservoir Name	Nyarurenzi	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Nyarurenzi	
Village	Nyarurenzi	
Street	RN	
GPS Coordinates Latitude	-2.045738 y	
GPS Coordinates Longitude	30.05363 x	



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	No data
2	Name of Reservoir	Nyarurenzi
3	ID Code	No data
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Nyarurenzi, Village:
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.045738, Longitude: 30.05363, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	m3
10	Service area of the Reservoir	Nyarurenzi area, Centre de Sante
B: Operational Condition		
1	Operational Condition	Operational
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: Kajande
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 8.00m, H: 1.85m
5	Remarks/ Issue	




No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (info by operator)
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	No installation
6	Outlet pipe No.1	SP, DN: 65
7	Outlet valve No.1	DN: 65, Function: YES
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 80
10	Remarks/ Issue	No floater installed

Other Information:

Photo Sheet

Reservoir Name: Nyarurenzi

No:

<p>Whole View</p>	<p>Reservoir</p>
	
<p>Inlet Pipe without Valve</p>	<p>Outlet Pipe with Valve</p>
	
<p>Float Valve</p>	<p>Meter</p>

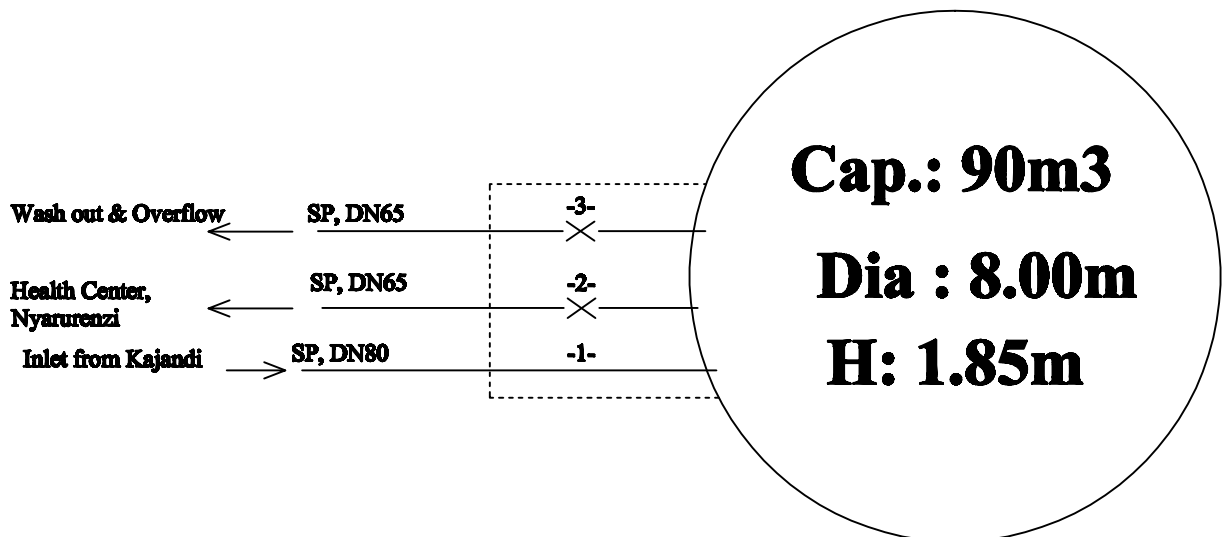
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **NYARURENZI (Iterambere Village)**

Material: **Concrete**

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Pipe DN80
- 2 - Outlet Valve DN80
- 3 - Wash out Valve DN80

12. RESERVOIR No. 93 : KARAMA PS

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: KARAMA PS

No.: 93

I. Status and Functionality issues description

Issue on Functional Condition. All accessories are new.

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Attachement-3 Reservoir Survey Sheet

Date: 29/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	93
2	Name of Reservoir	Karama PS
3	ID Code	11030RE5
4	Ward	District: Nyarugenge, Sector: Kigali , Cell: Kigali, Village: Ryasharangabo
5	Branch Office	Nyamirambo
6	Location	Latitude: 1.965779, Longitude : 30.028796 , Altitude:
7	Function of Reservoir	BPT
8	Age of Reservoir	year: 2019
9	Storage Capacity	100m3
10	Service area of the Reservoir	Karama village, Karama PS
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Mont Kigali Haut
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 2.80 , H: 3.00m
5	Remarks/ Issue	The installed Floater valve is new and operational

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	DIP, DN: 150, Top
5	Inlet valve No.1	DN: 150 , Function: YES
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: 80
9	Drain Pipe	DIP, DN: 80 - With an operational valve
10	Remarks/ Issue	All accessories are new.

Other Information:

Flow Meter 1: DN80 Operational and supplying to Karama Areas
Flow Meter 2: DN40 Operational and supplying to Fire hydrant
Flow Meter 3: DN80 Operational and Distribution

Photo Sheet

Reservoir Name: Karama PS

No:93



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter



Meter

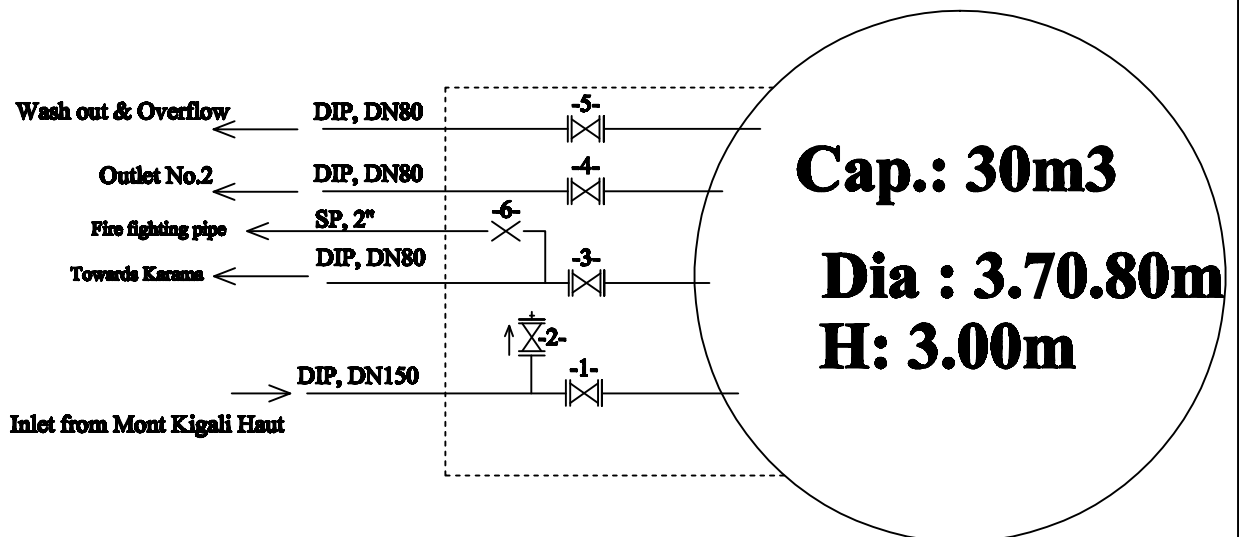
NYAMIRAMBO BRANCH

Reservoir No.: **xx**

Location: **KARAMA PRIMARY**

Material: **Concrete**

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Valve DN150
- 2 - Closed Bypass Valve DN150
- 3 - Outlet Valve DN80
- 4 - Outlet Valve DN80
- 5 - Washout Valve DN200
- 6 - Firefighting Valve DN2"

13. RESERVOIR No. 5 : NYARUMANGA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: NYARUMANGA

No.: 5

I. Status and Functionality issues description

The reservoir is new and under RF Management.

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	5	
Reservoir Name	Nyarumanga	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Kankuba	
Village	Nyarumanaga	
Street	RN	
GPS Coordinates Latitude	-2.043546 y	
GPS Coordinates Longitude	30.031791 x	



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	5
2	Name of Reservoir	Nyarumanga
3	ID Code	110501RE3
4	Ward	Sector: Mageragere , District: Nyarugenge, Cell: Kankuba, Village: Nyarumanga
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.043546, Longitude: 30.031791, Altitude
7	Function of Reservoir	Storage, Kiosk Reservoir, BPT
8	Age of Reservoir	Year: NO DATA
9	Storage Capacity	250 m3
10	Service area of the Reservoir	Gatovu, RCS and Nyarumanga
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 9.00m , H: 3.30m
5	Remarks/ Issue	Still under Reserve Force Management

No.	Item	Details
D: Equipment		
1	Floater Valve	Function
2	Water Level Gauge	No installation
3	Flow Meter	No installation
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: 200
7	Outlet valve No.1	DN: 200, Function: YES
	Outlet valve No.2	DN: 200, Function: YES
8	Overflow Pipe	SP/ DIP/ PVC/ Others (), DN:
9	Drain Pipe	SP/ DIP/ PVC/ Others (), DN:
10	Remarks/ Issue	The reservoir is new and under RF Management

Other Information:

Photo Sheet

Reservoir Name: Nyarumanga

No:5



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

Meter

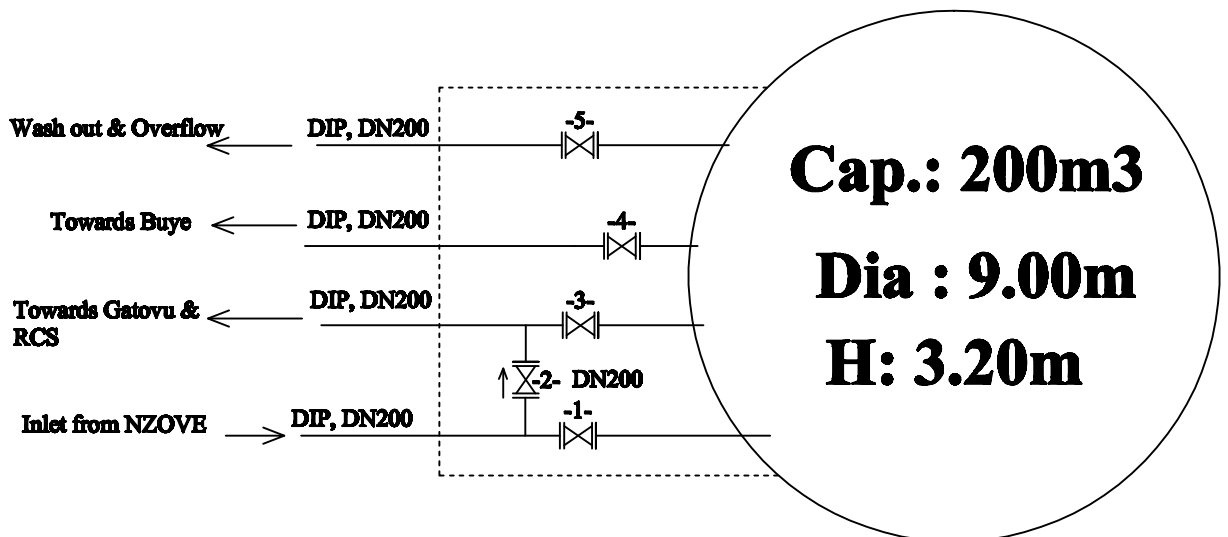
NYAMIRAMBO BRANCH

Reservoir No.: 117

Location: NYARUMANGA I

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN200
- 2 - Bypass Valve DN200
- 3 - Outlet Valve DN200
- 4 - Outlet Valve DN200
- 5 - Washout Valve DN200

14. RESERVOIR No. : MATABA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: MATABA

No.: XX

I. Status and Functionality issues description

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	16		
Reservoir Name	Mataba		
Branch	Nyamirambo		
District	Nyarugenge		
Sector	Mageregere		
Cell	Mataba		
Village	Burema		
Street	RN		
GPS Coordinates Latitude	-2.031288	y	
GPS Coordinates Longitude	30.063645	x	
Map			



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	
2	Name of Reservoir	Mataba
3	ID Code	
4	Ward	Sector: Mageragere , District: Nyarugenge , Cell: Nyarurenzi , Village: Mataba
5	Branch Office	Nyamirambo
6	Location	Latitude: , Longitude : , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: No data
9	Storage Capacity	50 m3
10	Service area of the Reservoir	Mataba village of Nyarurenzi Cell
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	Johnson joint leaking, and non functioning Floater valve
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 6.00m, H: 2.00m
5	Remarks/ Issue	

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	No installation
6	Outlet pipe No.1	SP, DN: 80
7	Outlet valve No.1	DN: 80 , Function: YES
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 80
10	Remarks/ Issue	Johnson joint leaking

Other Information:

Photo Sheet

Reservoir Name: Mataba

No:



Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe with Valve



Float Valve



No Meter

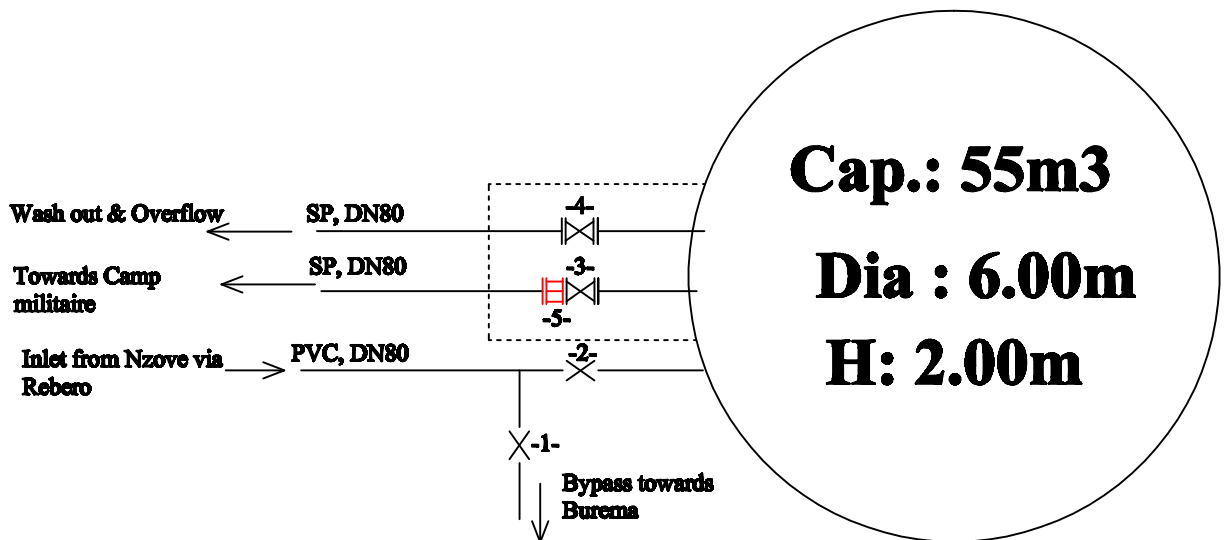
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **MATABA**

Material: **Stone masonry**

SCHEMATIC DRAWING



LEGEND

- 1- Bypass Valve DN80
- 2 - Inlet Valve DN80
- 3 - Outlet Valve DN80
- 4 - Washout Valve DN80
- 5 - Johnson Joint DN80

15. RESERVOIR No. 8: MATA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: MATA

No.: 8

I. Status and Functionality issues description

No enough water from the connected source, more sources are available WASAC can use them.

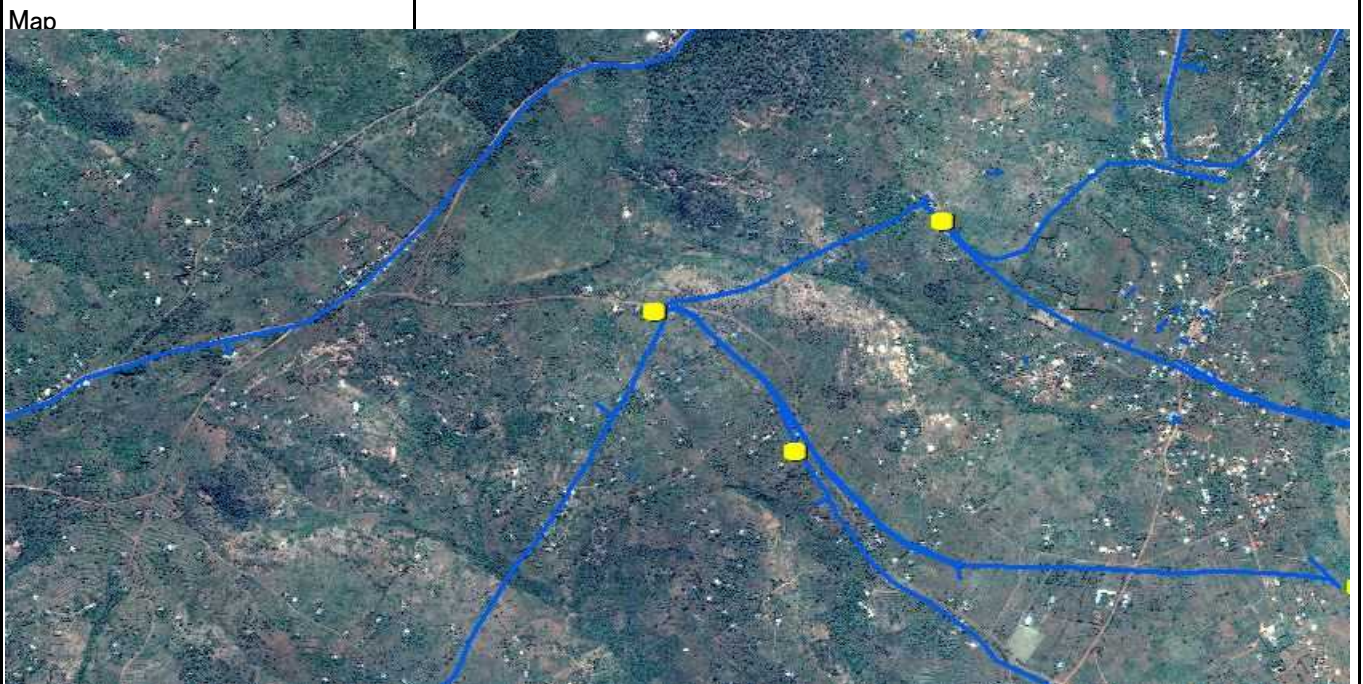
II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	8	
Reservoir Name	Mata	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Mataba	
Village	Kabeza	
Street	RN	
GPS Coordinates Latitude	-2.038098 y	
GPS Coordinates Longitude	30.079325 x	



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	8
2	Name of Reservoir	Mata
3	ID Code	110503RE4
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Mataba , Village: Kabeza
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.038098, Longitude : 30.079325, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: No data
9	Storage Capacity	100 m3
10	Service area of the Reservoir	
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	
3	Wall Leakage	Flowing
4	Overflow observation	No data times/month, No data times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Kajande marshland
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Stones
4	Inside Dimension	D: 8.00 , H: 2.00
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	Not available
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: 80
9	Drain Pipe	No data
10	Remarks/ Issue	No enough water from the connected source, more sources are available WASAC can use them.

Other Information:

. Pump 1:	. Leaking on the top
	. Cooling pipe leaking
. Pump 2:	. Motor broken
. Manhole	. Leaking walls, full of water (infiltration)

Photo Sheet

Reservoir Name: Mata

No:8



Whole View



Reservoir

Inlet Pipe with Valve

Outlet Pipe with Valve

Float Valve

Meter

16. RESERVOIR No. 2: KWA MUGANGA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: KWA MUGANGA

No.: 2

I. Status and Functionality issues description

Since its inauguration, it was never used.

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	2	
Reservoir Name	Kwamuganga	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Nyarurenzi	
Village	Iterambere	
Street	RN	
GPS Coordinates Latitude	-2.050254 y	
GPS Coordinates Longitude	30.052236 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	2
2	Name of Reservoir	Kwa Muganga
3	ID Code	110506RE2
4	Ward	Sector:Mageragere , District: Nyarugenge, Cell: Nyarurenzi, Village:
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.050254, Longitude : 30.052236, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	12 m3
10	Service area of the Reservoir	Kwa muganga
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/ Nothing, Timing:
	Reason of bypass operation	
6	Inflow Condition	Source: Kajandi (not connected)
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always no water
8	Issue on Functional Condition	Since its inauguration, it was never used.
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Elevated
3	Structure Material	Stones
4	Inside Dimension	D: 3.20m, H: 1.60m
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 1/2", Top
5	Inlet valve No.1	DN: 1 1/2", Function: YES
6	Outlet pipe No.1	SP, DN: 1 1/2"
7	Outlet valve No.1	DN: 1 1/2", Function: YES
8	Overflow Pipe	SP, DN: 1 1/2"
9	Drain Pipe	SP, DN: 1 1/2"
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Kwa Muganga

No:2



Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe (Valve inside closed manhole)



No Float Valve But can't open reservoir



No Meter (Manhole closed)

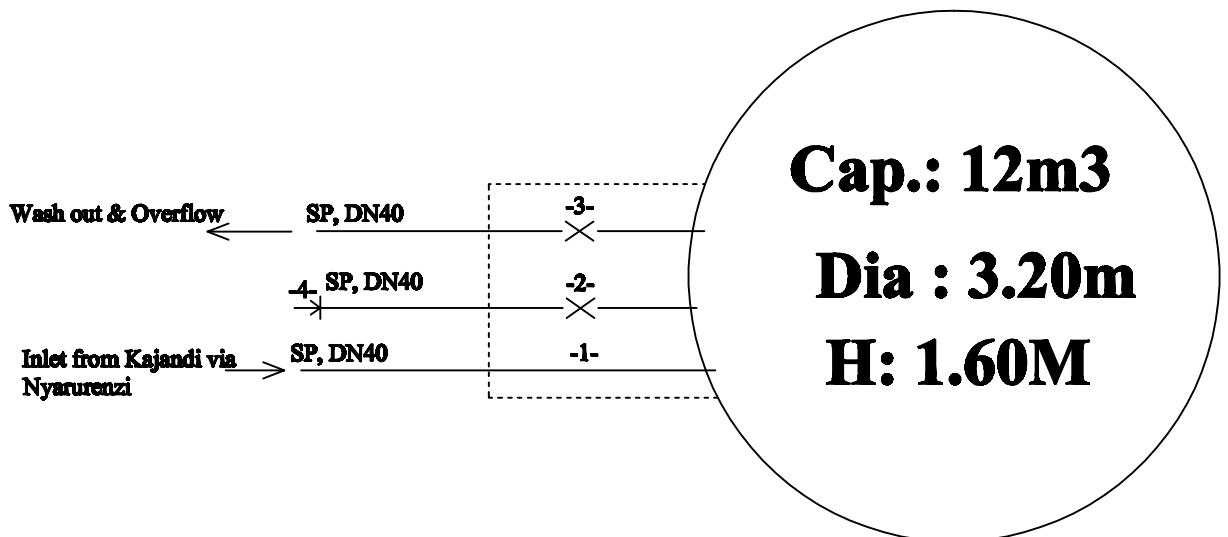
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: KWA MUGANGA

Material: Stone masonry

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Pipe DN1 $\frac{1}{2}$ "
- 2 - Outlet Valve DN1 $\frac{1}{2}$ "
- 3 - Overflow and drainage 1 $\frac{1}{2}$ "
- 4 - End cap

17. RESERVOIR No. 5 : NYARUMANGA II

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: NYARUMANGA II

No.: 5

I. Status and Functionality issues description

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	No data
2	Name of Reservoir	Nyarumanga II
3	ID Code	
4	Ward	Sector: , District: , Cell: , Village:
5	Branch Office	Nyamirambo
6	Location	Latitude: , Longitude : , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
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: Rebero-Nyarumanga I
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.00m, H: 2.00m
5	Remarks/ Issue	

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

Other Information:

Update: handed over to WASAC by Reserve Forces of Rwanda

Photo Sheet

Reservoir Name: Nyarumanga II

No:5

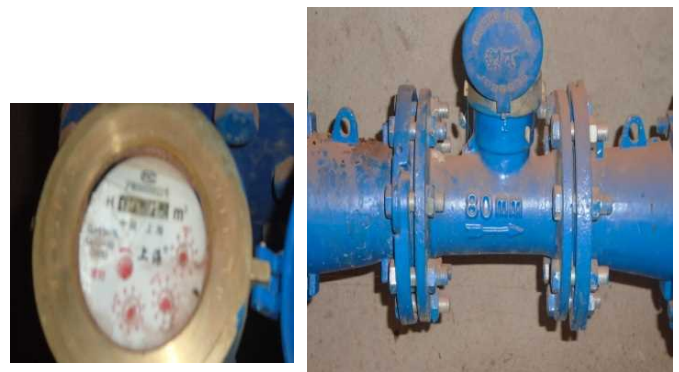
Whole View

Reservoir



Inlet Pipe with Valve

Outlet Pipe with Valve



Float Valve

Meter

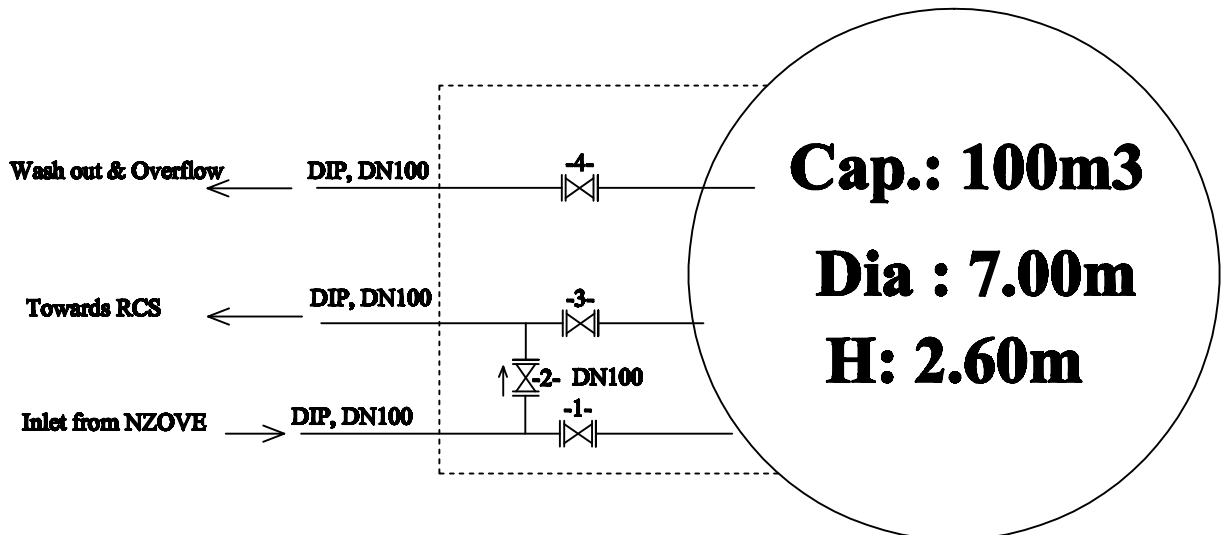
NYAMIRAMBO BRANCH

Reservoir No.: 119

Location: Nyarumanga II

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Valve DN100
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Washout Valve DN100

18. RESERVOIR No. 19 : RUGENDABARI

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: RUGENDABARI

No.: 19

I. Status and Functionality issues description

Under Reserve Force management.

II. Required Action and Requirements

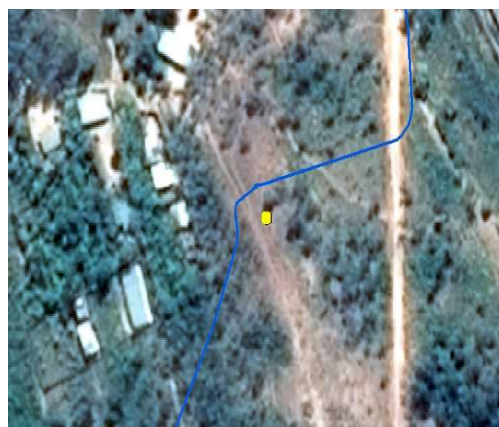
Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	19	
Reservoir Name	Rugendabari	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Kankuba	
Village	Rugendabari	
Street	RN	
GPS Coordinates Latitude	-2.026712 y	
GPS Coordinates Longitude	30.032832 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 30/09/2020

No.	Item	Details
A: General		
1	Number of Reservoir	19
2	Name of Reservoir	Rugendabari
3	ID Code	110501RE4
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Kankuba , Village:
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.026712, Longitude : 30.032832, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
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: Nzove via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.00m, H: 2.60m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, Malfunction No installation, DN:
2	Water Level Gauge	Function/ Malfunction/ No installation
3	Flow Meter	Mechanical, EMFM, UFM, DN: _____, PN(bar): _____,
		Function, Malfunction, No installation
		Location: Inlet Pipe, Outlet Pipe
4	Inlet pipe No.1	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: , Function:
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.2	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: , Function:
	Outlet valve No.2	DN: , Function:
	Outlet valve No.3	DN: , Function:
8	Overflow Pipe	SP/ DIP/ PVC/ Others (), DN:
9	Drain Pipe	SP/ DIP/ PVC/ Others (), DN:
10	Remarks/ Issue	Under Reserve Force management

Other Information:

Photo Sheet

Reservoir Name: Rugendabari

No:19



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

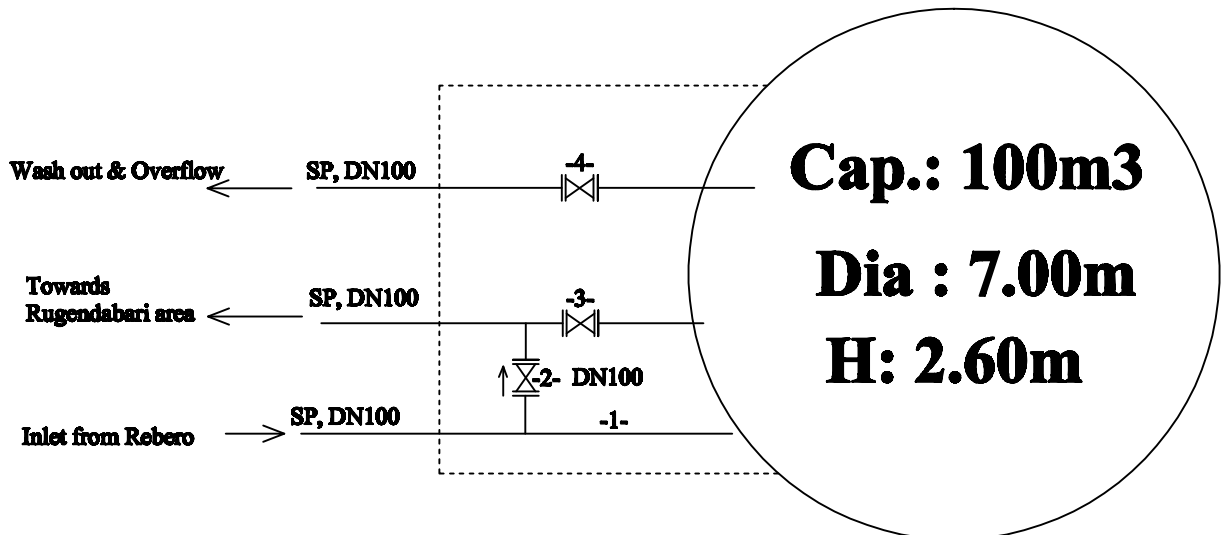
NYAMIRAMBO BRANCH

Reservoir No.: 140

Location: Rugendabari

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Pipe DN100
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Washout Valve DN100

19. RESERVOIR No. : RUGENDABARI MODEL VILLAGE

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: RUGENDABARI MODEL VILLAGE

No.: XX

I. Status and Functionality issues description

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	No data
2	Name of Reservoir	Rugendabari Model Village
3	ID Code	No data
4	Ward	Sector: Mageragere, District: Nyarugenge, Cell: Kankuba , Village: Rugendabari
5	Branch Office	Nyamirambo
6	Location	Latitude: 2.01362, Longitude: 30.001879, Altitude: 1413m
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	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: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C: Structure		
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Concrete
4	Inside Dimension	D: 5.50m, H: 4.20m
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: 100, Top
5	Inlet valve No.1	DN: 100, Function: YES
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	DN: 100, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Rugendabari Model Village

No:



Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe with Valve



No Float Valve



No Meter

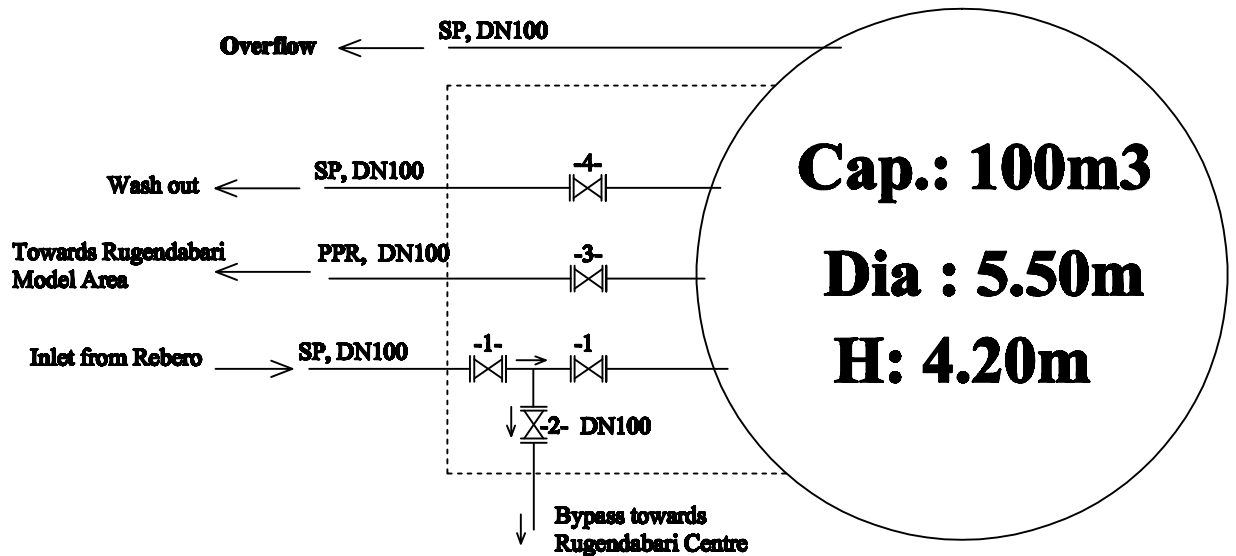
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **Rugendabari Model Village**

Material: **Concrete**

SCHEMATIC DRAWING



LEGEND

- 1,2 - Inlet Valve DN100
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Washout Valve DN100

20. RESERVOIR No. : MIDUHA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: MIDUHA

No.: XX

I. Status and Functionality issues description

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	No data
2	Name of Reservoir	Miduha
3	ID Code	No data
4	Ward	Sector: , District: , Cell: , Village:
5	Branch Office	Nyamirambo
6	Location	Latitude: 1.999769, Longitude : 30.049957 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2019
9	Storage Capacity	250 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: Kimisange Pumping Station (Rwampara or Nzove)
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C: Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: xxxxm, H: 2.70m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Not installed (but available in store)
2	Water Level Gauge	No installation
3	Flow Meter	No installation
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: 200
10	Remarks/ Issue	

Other Information:	Under RF Management
--------------------	---------------------

Photo Sheet

Reservoir Name: Miduha

No:



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

Meter

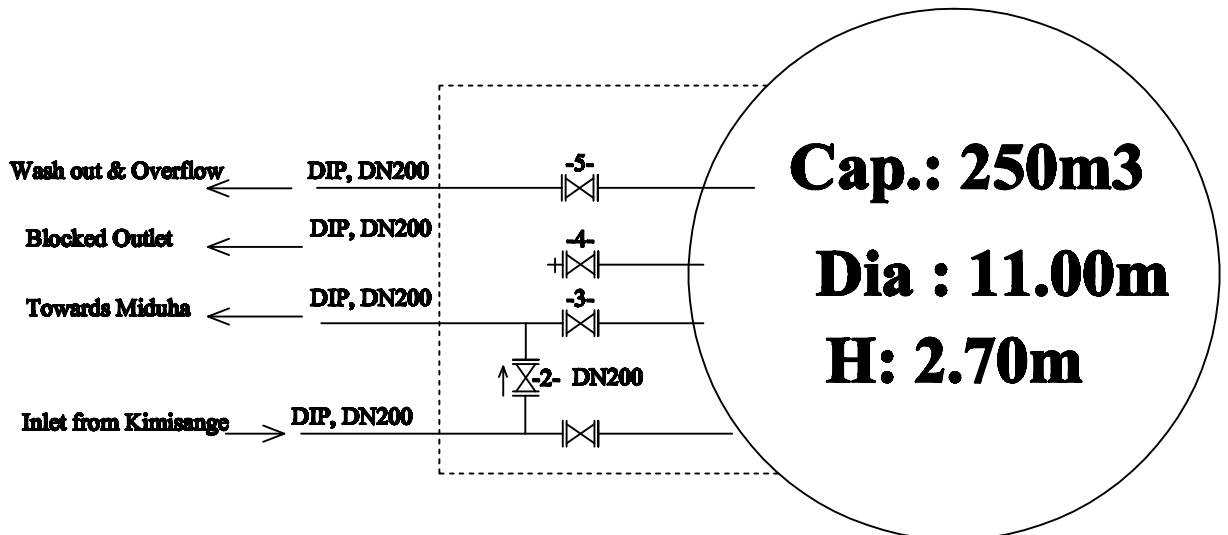
NYAMIRAMBO BRANCH

Reservoir No.: **XX**

Location: **Miduha**

Material: **Concrete**

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Valve DN200
- 2 - Bypass Valve DN200
- 3 - Outlet Valve DN200
- 4 - Blocked Outlet Valve DN200
- 5 - Washout Valve DN200

21. RESERVOIR No. 7 : MAGERAGERE RCS

FINAL REPORT ON THE RESERVOIR SURVEY IN NYAMIRAMBO BRANCH

BRANCH: NYAMIRAMBO

Reservoir: MAGERAGERE RCS

No.: 7

I. Status and Functionality issues description

II. Required Action and Requirements

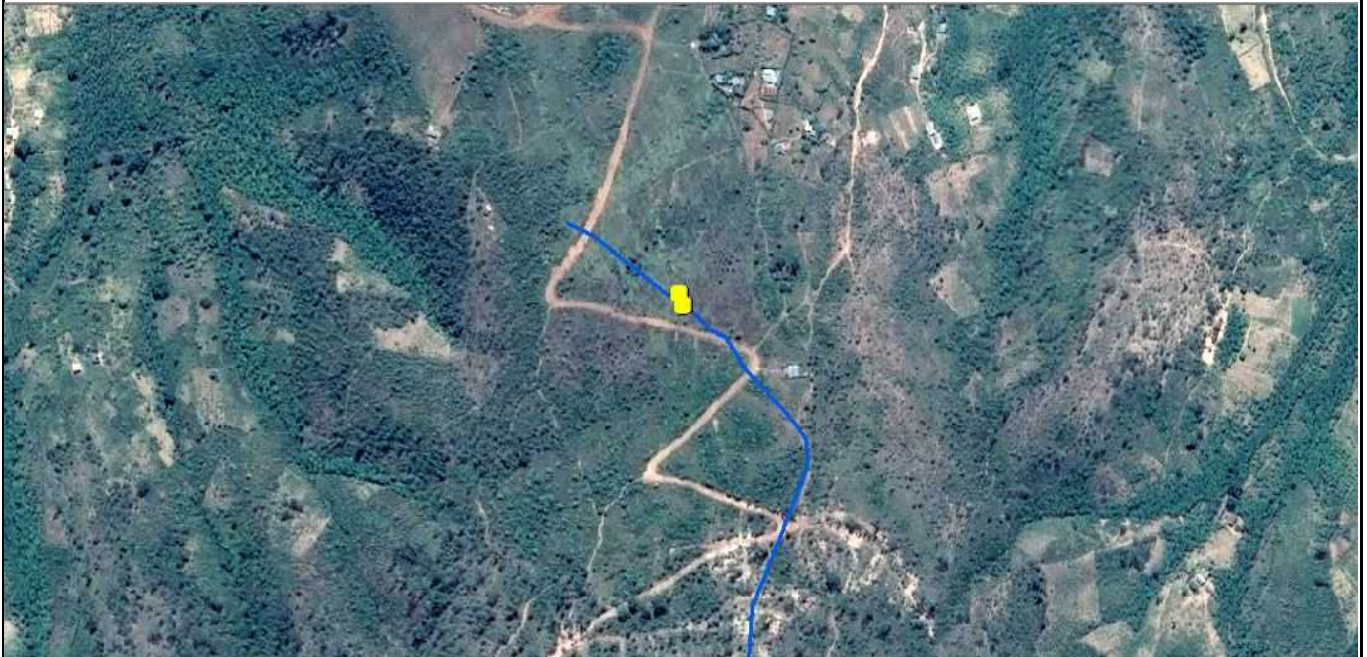
Action	Requirements
•	•

III. Description Photos

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	7	
Reservoir Name	Mageragere RCS1	
Branch	Nyamirambo	
District	Nyarugenge	
Sector	Mageregere	
Cell	Kavumu	
Village	Mubura	
Street	RN	
GPS Coordinates Latitude	-2.038693 y	
GPS Coordinates Longitude	30.01742 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	7
2	Name of Reservoir	Mageragere RCS
3	ID Code	110502RE3
4	Ward	Sector: Mageragere, District: Nyarugenge , Cell: Kavumu, Village: Mubura
5	Branch Office	Nyamirambo
6	Location	Latitude: -2.038772, Longitude: 30.017448, Altitude: 1489m
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	m3
10	Service area of the Reservoir	
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	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: Nzove via Rebero
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.70m, H: 3.70m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 200
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 80, PN(bar): _____,
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 100, Top
5	Inlet valve No.1	DN: 100, Function: YES
6	Outlet pipe No.1	DIP, DN: 200 reduced to 100
7	Outlet valve No.1	DN: 100, Function: YES
8	Overflow Pipe	DIP, DN: 100
9	Drain Pipe	DIP, DN: 100
10	Remarks/ Issue	The tank is operational

Other Information:

Photo Sheet

Reservoir Name: Mageragere RCS

No:7



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

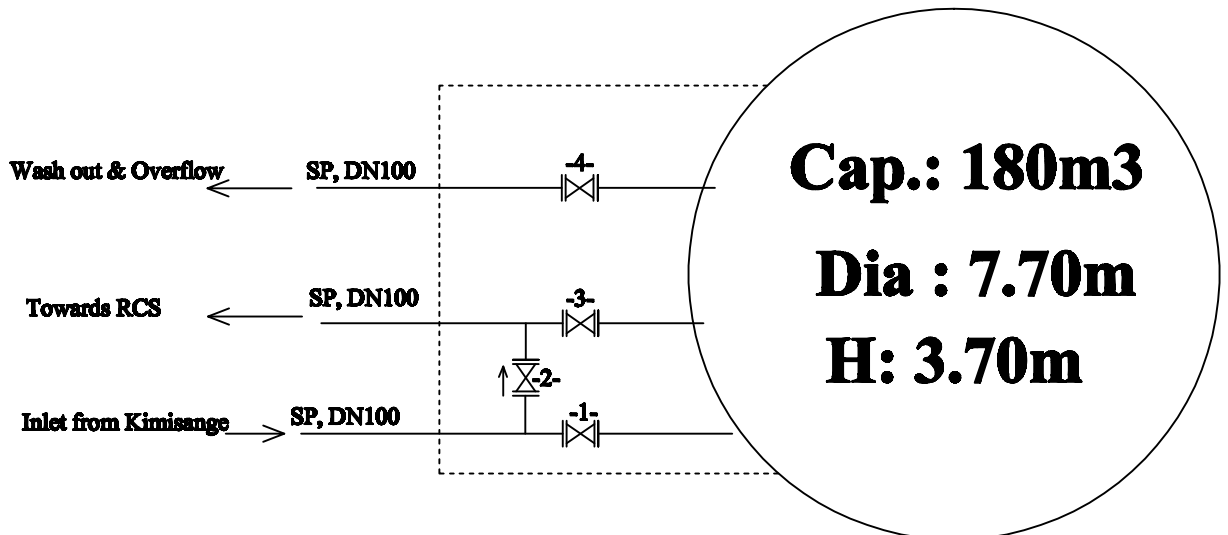
NYAMIRAMBO BRANCH

Reservoir No.: 90

Location: Mageragere RCS

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN100
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Washout Valve DN200

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

THE REPUBLIC OF RWANDA

KIGALI CITY



**FINAL REPORT OF THE RESERVOIR SURVEY IN
NYARUGENGE BRANCH**

**THE PROJECT FOR STRENGTHNING OF NON-REVENUE
WATER CONTROL KIGALI CITY WATER NETWORK**

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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

1. RESERVOIR No. 117: NYABITARE

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: Nyabitare

No.: 117

I. Status and Functionality issues description

The reservoir is located in Runda Sector and was abandoned in order to increase pressure in the network, it was serving Nyabitare area.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Install a floater valves• Install outlet valves and accessories• Install a drainage valve	<ul style="list-style-type: none">• Floater 2 ½'' and 2''• Valve 2 ½'' and 1''• Valve 2 ½''

III. Description Photos



Floater valve needed



Reconnection and outlet accessories needed

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	117		
Branch	Nyarugenge		
District	Kamonyi		
Sector	Runda		
Cell	Ruyenzi		
Village	Nyabitare		
Street	KN		
GPS Coordinates Latitude	-1.9559723	y	
GPS Coordinates Longitude	29.9848863	x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 09/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	117
2	Name of Reservoir	Nyabitare
3	ID Code	RUNDO5RE1
4	Ward	District:Kamonyi, Sector: Runda, Cell: Ruyenzi, Village: Nyabitare
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9559723, Longitude: 29.9848863, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	50m3
10	Service area of the Reservoir	Nyabitare area
B: Operational Condition		
1	Operational Condition	Not Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	To increase pressure in the network
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always no water
8	Issue on Functional Condition	
C: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: 2 1/2", Top
	Inlet pipe No.2	SP, DN: 2 ", Top
5	Inlet valve No.1	DN: , Function:
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP, DN: 2 1/2"
	Outlet pipe No.2	SP, DN: 1"
7	Outlet valve No.1	Not installed
	Outlet valve No.2	Not installed
8	Overflow Pipe	SP, DN: 2 1/2"
9	Drain Pipe	SP, DN: 2 1/2"
10	Remarks/ Issue	

Other Information:	The branch bypassed the tank in order to increase the pressure in the network.
--------------------	--

Photo Sheet

Reservoir Name: Nyabitare

No: 117



Whole View

Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

Meter

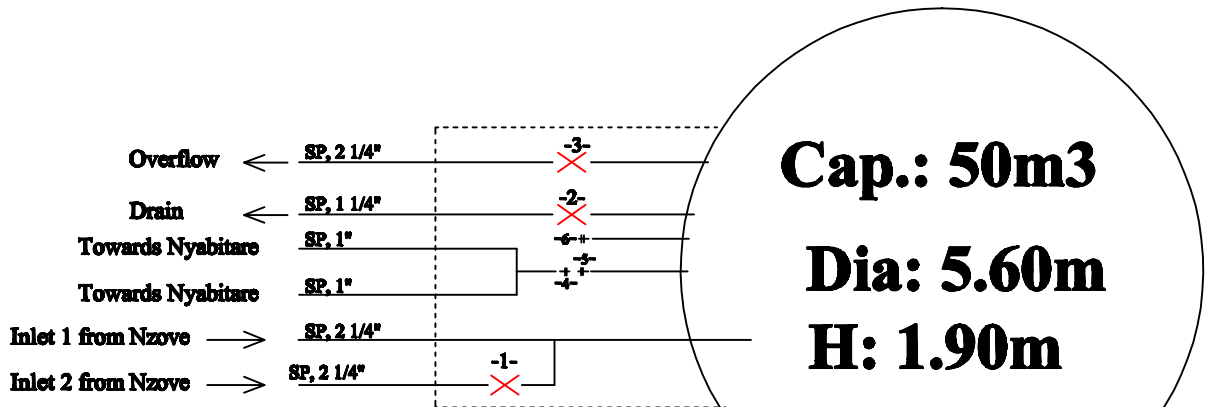
NYARUGENGE BRANCH

Reservoir No.: 53

Location: NYABITARE

Material: Stone Masonry

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve 2 1/4"
- 2 - Drain Valve 2 1/4"
- 3 - Overflow Valve 2 1/4"
- 4, 5 - End caps for outlet 1 closing 1"
- 6 - Outlet 2 end cap 2 1/4"

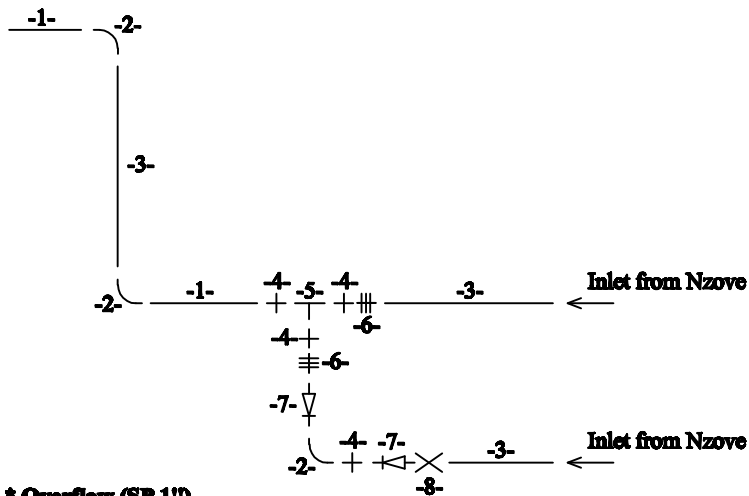
In Red color: valve with issues

NYARUGENGE BRANCH

Reservoir No.: 112

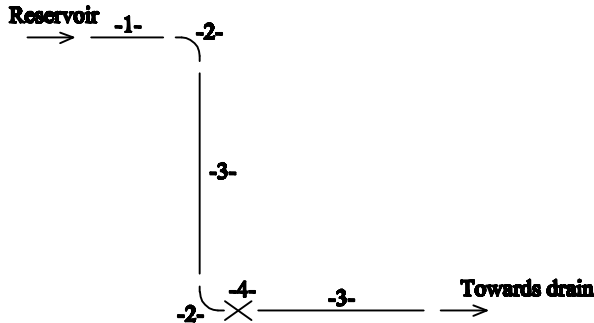
Reservoir Name: Nyabitare

*** Inlet SP 2 1/4"**



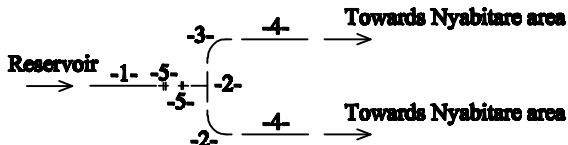
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Nipple
- 5- Tee
- 6- Union joint
- 7- Check valve
- 8- Valve

*** Overflow (SP 1")**



- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Valve

*** Outlet A (SP 1")**



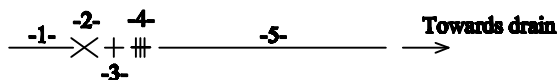
- 1- Straight Pipe
- 2- Tee
- 3- 90 Degree Elbow
- 4- Pipe
- 5- End cap

*** Outlet B (SP 2 1/4")**



- 1- Straight Pipe
- 2- End cap

*** Drainage**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

2. RESERVOIR No. 110: MUSEBEYA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: MUSEBEYA

No.: 110

I. Status and Functionality issues description

The reservoir is located in Runda Sector, it serves Musebeya area.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



All accessories are ok

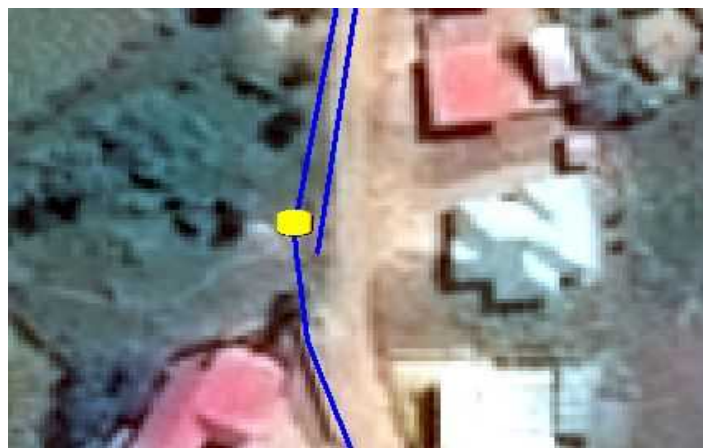


All accessories are ok

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	110		
Branch	Nyarugenge		
District	Kamonyi		
Sector	Runda		
Cell	Muganza		
Village	Musebeya		
Street	KN		
GPS Coordinates Latitude	-1.9546549	y	
GPS Coordinates Longitude	29.9747013	x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 09/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	110
2	Name of Reservoir	MUSEBEYA
3	ID Code	RUNDP5RE1
4	Ward	District: Kamonyi, Sector: Runda, Cell: Muganza, Village: Musebeya
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9546549, Longitude: 29.9747013, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year
9	Storage Capacity	12m3
10	Service area of the Reservoir	Musebeya
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
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: Nzove
		Water pressure at inlet:
		Frequency and time: 3 times a week
7	Water level movement	always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 3.00m, H: 2.00m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function: YES, DN: 80
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 80, Top
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: 80 , Function: YES
6	Outlet pipe No.1	SP, DN: 80
	Outlet pipe No.2	SP, DN: 1"
7	Outlet valve No.1	DN: 80, Function: YES
	Outlet valve No.2	DN: 1", Function: YES
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 80
10	Remarks/ Issue	Tank also connected to a nearby PWT (BF)

Other Information:	Fencing needed.
--------------------	-----------------

Photo Sheet

Reservoir Name: MUSEBEYA

No: 110



Whole View

Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve

Float Valve

Meter

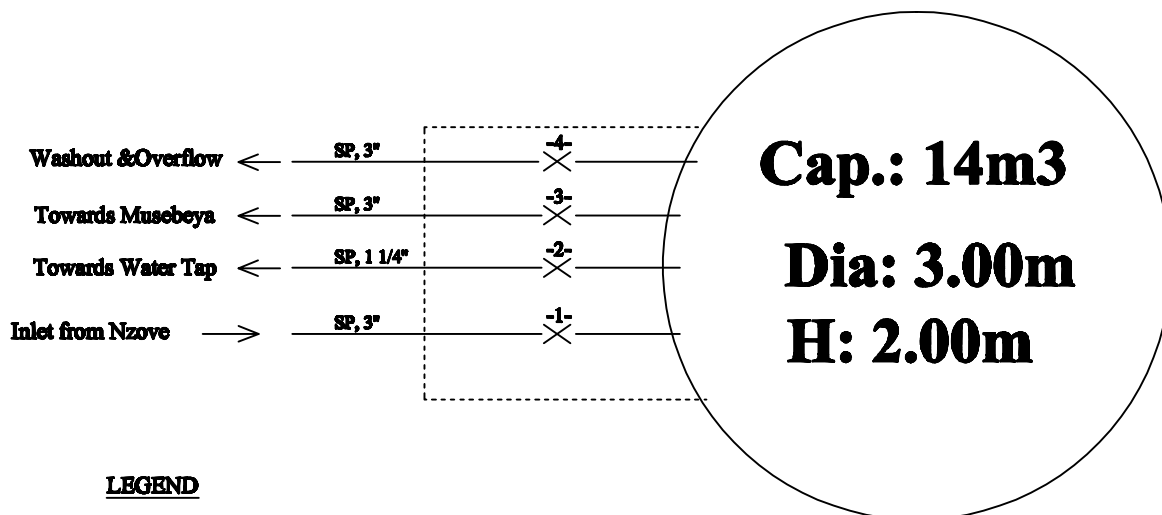
NYARUGENGE BRANCH

Reservoir No.: 106

Location: MUSEBEYA

Material: Stone Masonry

SCHEMATIC DRAWING



LEGEND

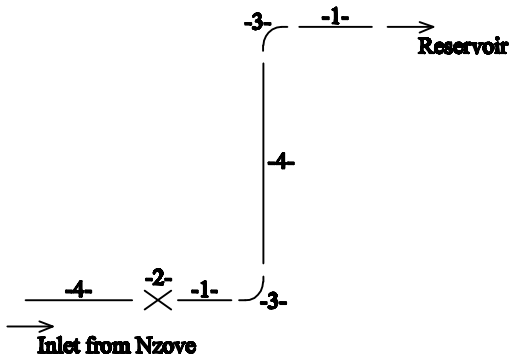
- 1 - Inlet Valve 2 1/4"
- 2 - Outlet Valve 1 1/4"
- 3 - Outlet Valve 3"
- 4 - Drainage Valve 3"

NYARUGENGE BRANCH

Reservoir No.: 106

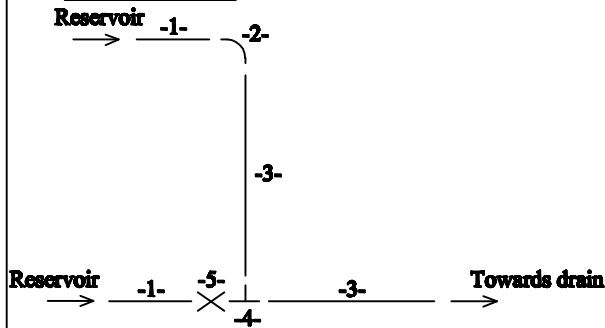
Reservoir Name: Musebeya

*** Inlet SP 3"**



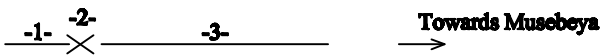
- 1- Straight Pipe
- 2- Valve
- 3- 90 Degree Elbow
- 4- Pipe

*** Overflow (SP 1")**



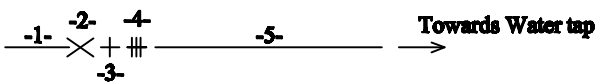
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Tee
- 5- Valve

*** Outlet towards Musebeya (SP 3")**



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

*** Outlet towards BF (SP 1 1/4")**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

3. RESERVOIR No. 48 : NKOTO

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: Nkoto

No.: 48

I. Status and Functionality issues description

The reservoir is located in Nkoto area of Rugalika Sector, it serves Nkoto area but it was bypassed by WASAC in order to increase the pressure in the network.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installing a floater valve• Installing valve on Public Water Tap pipe• Repairing wall cracks which leaks if at full capacity.	<ul style="list-style-type: none">• Floater DN80• Valve 1''

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

III. Description Photos



Outlet towards Public Water Tap Leaking



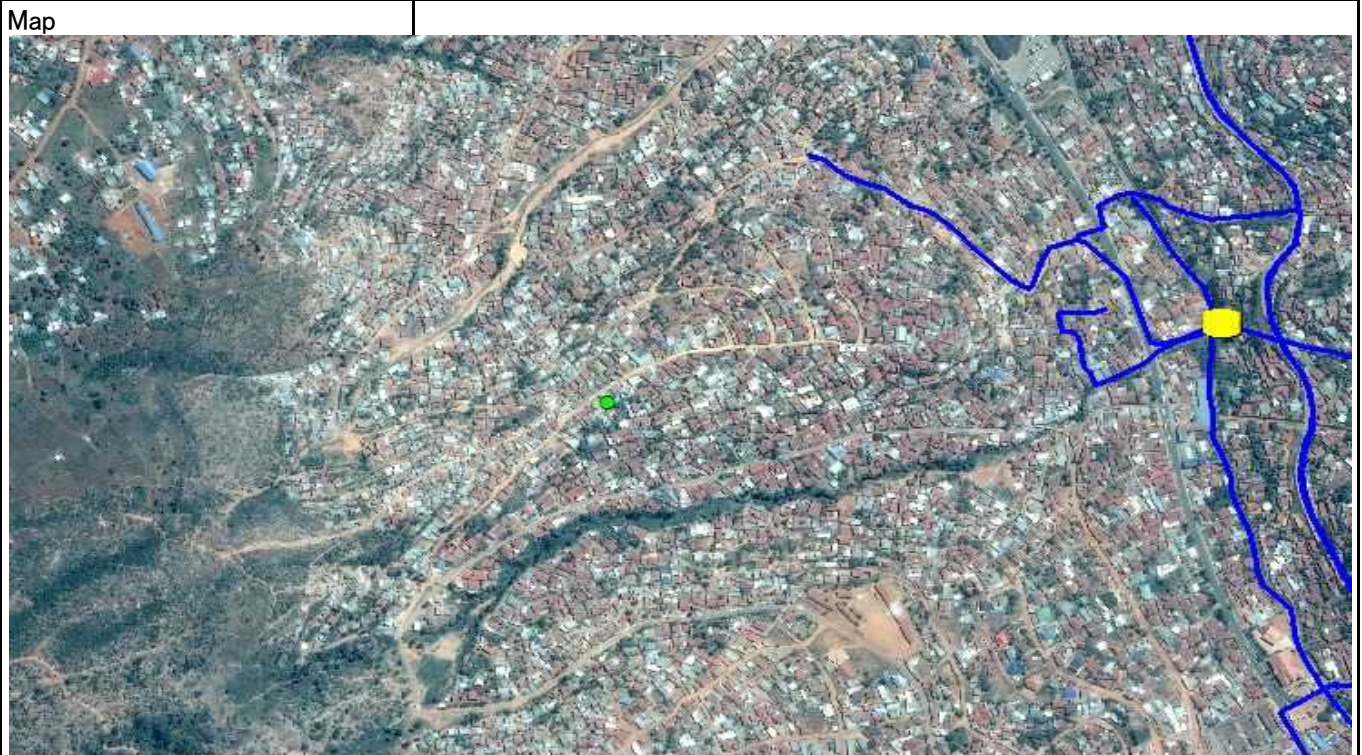
Installed floater not working



Cracks on the wall leaking.

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	48		
Branch	Nyarugenge		
District	Nyarugenge		
Sector	Kimisagara		
Cell	Katabaro		
Village	Inganzo		
Street	KN		
GPS Coordinates Latitude	-1.9554975	y	
GPS Coordinates Longitude	30.0476029	x	



Attachement-3 Reservoir Survey Sheet

Date: 09/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	48
2	Name of Reservoir	Mu Nkoto
3	ID Code	RUGAT2RE1
4	Ward	District: Nyarugenge, Sector: Kimisagara, Cell: Katabaro, Village: Inganzo
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9554975, Longitude: 30.0476029, Altitude
7	Function of Reservoir	Storage&Kiosk Reservoir
8	Age of Reservoir	Year
9	Storage Capacity	50m3
10	Service area of the Reservoir	Nkoto
B: Operational Condition		
1	Operational Condition	Not Operational
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Flowing (according to Michel)
4	Overflow observation	_____ times/month, _____ times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	To increase pressure in the network
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always no water
8	Issue on Functional Condition	Reservoir has cracks and when filled it leaks.
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Stones
4	Inside Dimension	D: 5.00m, H: 2.80m
5	Remarks/ Issue	

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
	Inlet pipe No.2	SP, DN: 2 1/2",Top
5	Inlet valve No.1	DN: 3", Function: YES
	Inlet valve No.2	DN: 2 1/2", Function: YES
6	Outlet pipe No.1	SP, DN: 80, Top
	Outlet pipe No.2	SP, DN: 1",Top
7	Outlet valve No.1	DN: 3", Function: YES
8	Overflow Pipe	SP, DN: 2 1/2",Top
9	Drain Pipe	SP, DN: 2 1/2",Top
10	Remarks/ Issue	Outlet toward PWT (1") leaking

Other Information:	Located inside Sector Office Compound
--------------------	---------------------------------------

Photo Sheet

Reservoir Name: Nkoto

No: 48



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

Meter

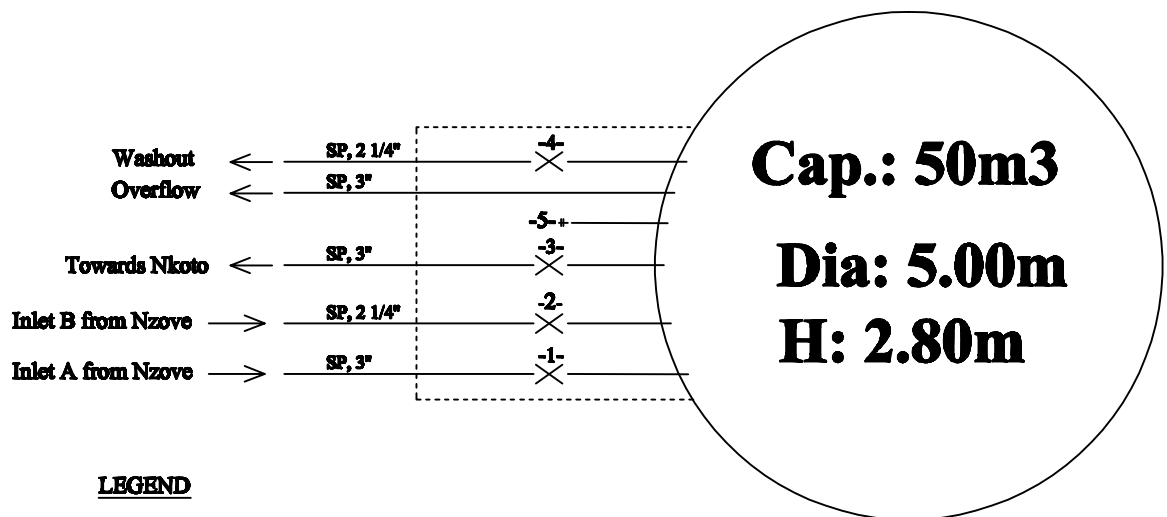
NYARUGENGE BRANCH

Reservoir No.: 103

Location: NKOTO

Material: Stone Masonry

SCHEMATIC DRAWING



LEGEND

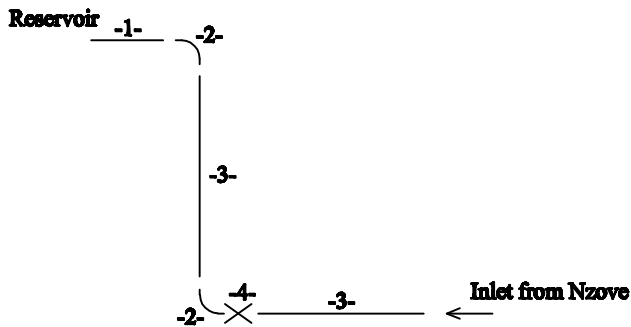
- 1 - Inlet A Valve 3"
- 2 - Inlet B Valve 2 1/4"
- 3 - Outlet Valve 3"
- 4 - Drainage Valve 2 1/4"
- 5 - Blocked Outlet 3/4"

NYARUGENGE BRANCH

Reservoir No.: 103

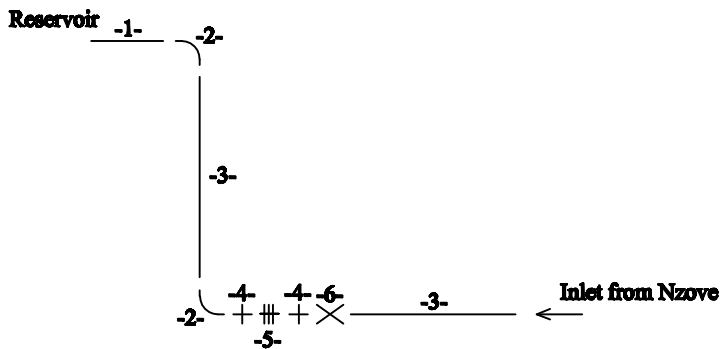
Reservoir Name: Nkoto

*** Inlet A SP 3"**



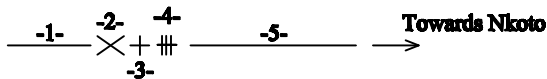
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Valve

*** Inlet B SP 2 1/4"**



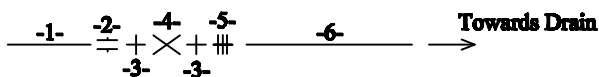
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Nipple
- 5- Union joint
- 6- Valve

*** Outlet SP 3"**



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

*** Drainage SP 2 1/4"**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

4. RESERVOIR No. 45: SHELI 1

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: Sheli 1

No.: 45

I. Status and Functionality issues description

The reservoir is located in Rugalika Sector, it serves Mugomero and Public Water Tap,

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



Reservoir is new and accessories are ok



Reservoir is new and accessories are ok

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	45	
Branch	Nyarugenge	
District	Kamonyi	
Sector	Rugarika	
Cell	Sheli	
Village	Gatovu	
Street	KN	
GPS Coordinates Latitude	-1.9920439 y	
GPS Coordinates Longitude	29.9484628 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 09/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	45
2	Name of Reservoir	Sheli
3	ID Code	RUGAT3RE1
4	Ward	District: Kamonyi, Sector: Rugarika, Cell: Sheli, Village: Gatovu
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9920439, Longitude: 29.9484628, Altitude
7	Function of Reservoir	Storage&Kiosk Reservoir
8	Age of Reservoir	Year
9	Storage Capacity	10m3
10	Service area of the Reservoir	BF&Mugomero
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
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: Nzove
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 3.00m, H: 2.00m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, 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: 50
7	Outlet valve No.1	DN: 50, Function: YES
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	

Other Information:

The reservoir serves also a nearby BF

Photo Sheet

Reservoir Name: Sheli 1

No: 45



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve

Float Valve

Meter

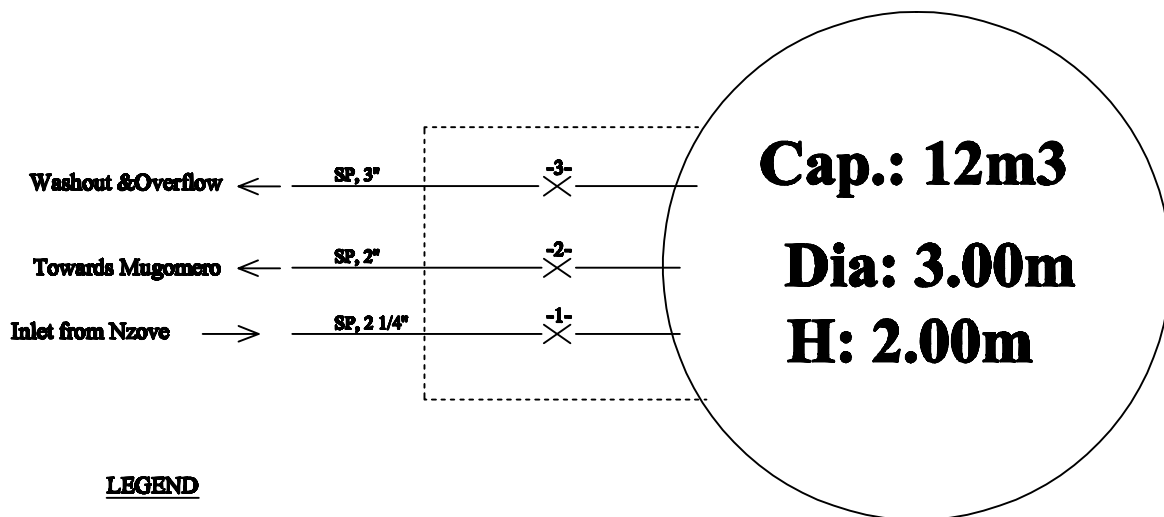
NYARUGENGE BRANCH

Reservoir No.: 151

Location: SHEL I 1

Material: Concrete

SCHEMATIC DRAWING



LEGEND

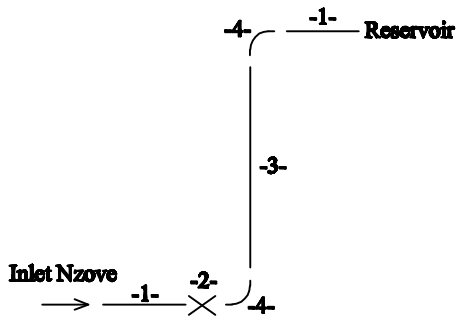
- 1 - Inlet Valve 2 1/4"
- 2 - Outlet Valve 2"
- 3 - Drainage Valve 3"

NYARUGENGE BRANCH

Reservoir No.: 151

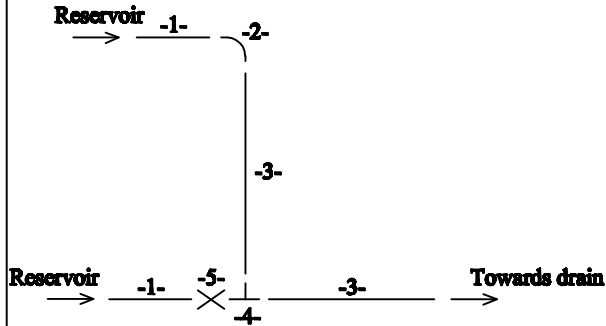
Reservoir Name: Shell 1

*** Inlet A SP 2 1/4"**



- 1- Straight Pipe
- 2- Valve
- 3- Pipe
- 4- 90 Degree Elbow

*** Overflow (SP 3")**



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

*** Outlet SP 3"**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

5. RESERVOIR No. 54: SHELI 2

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: Sheli 2

No.: 54

I. Status and Functionality issues description

The reservoir is located in Rugalika Sector, it serves Gitwa area of Sheli Cell and Public Water Tap,

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



Reservoir is new and accessories are ok



Reservoir is new and accessories are ok

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	54	
Branch	Nyarugenge	
District	Kamonyi	
Sector	Rugarika	
Cell	Bihembe	
Village	Gitwa	
Street	KN	
GPS Coordinates Latitude	-2.0168954 y	
GPS Coordinates Longitude	29.9266466 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 09/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	54
2	Name of Reservoir	Sheli
3	ID Code	RUGAS3RE1
4	Ward	District: Kamonyi, Sector: Rugarika, Cell: Bihembe, Village: Gitwa
5	Branch Office	Nyarugenge
6	Location	Latitude: -2.0168954, Longitude: 29.9266466, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2017
9	Storage Capacity	50m3
10	Service area of the Reservoir	Gitwa area
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
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: Nzove
		Water pressure at inlet:
		Frequency and time: 2 times a week
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 5.80m, H: 1.90m
5	Remarks/ Issue	

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

Other Information:

Reservoir built by ARDE, inlet valve located at Rugalika

Photo Sheet

Reservoir Name: Sheli 2

No: 54



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve

Float Valve

Meter

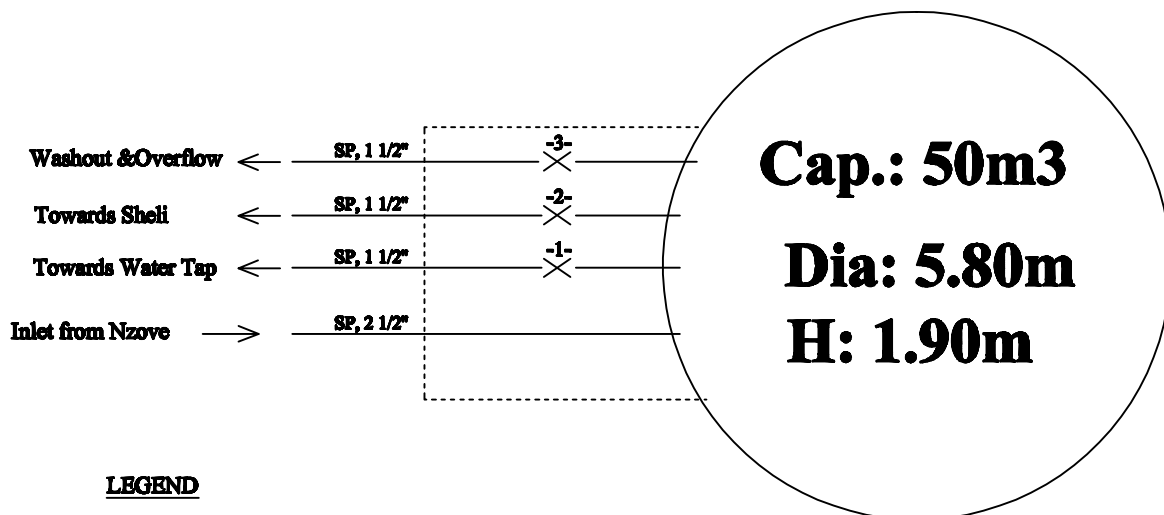
NYARUGENGE BRANCH

Reservoir No.: 152

Location: SHELI 2

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Outlet Valve 1 1/2"
- 2- Outlet Valve 1 1/2"
- 3 - Drainage Valve 1 1/2"

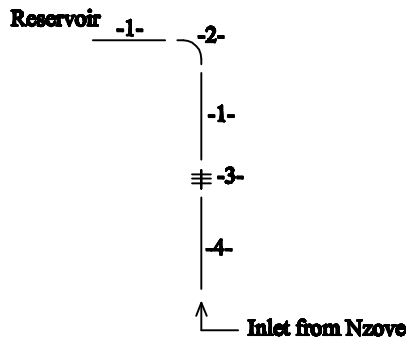
N.B: Inlet valve located at Rungalika

NYARUGENGE BRANCH

Reservoir No.: 152

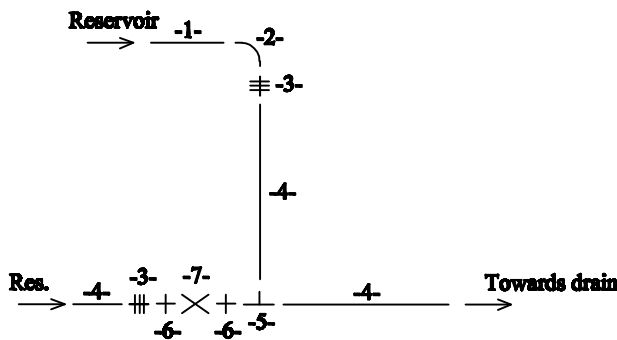
Reservoir Name: Shell 2

*** Inlet A SP 2 1/2"**



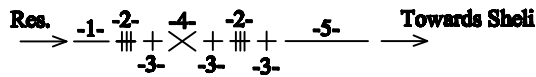
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Union joint
- 4- Pipe

*** Overflow (SP 1 1/2")**



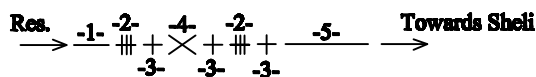
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Union joint
- 4- Pipe
- 5- Tee
- 6- Nipple
- 7- Valve

*** Outlet 1 (SP 1 1/2")**



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

*** Outlet 2 (SP 1 1/2")**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

6. RESERVOIR No. 168: KAMUHOZA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: KAMUHOZA

No.: 168

I. Status and Functionality issues description

The reservoir is located in Katabaro, Kimisagara Sector, it serves Katabaro, Kamuhoza areas.

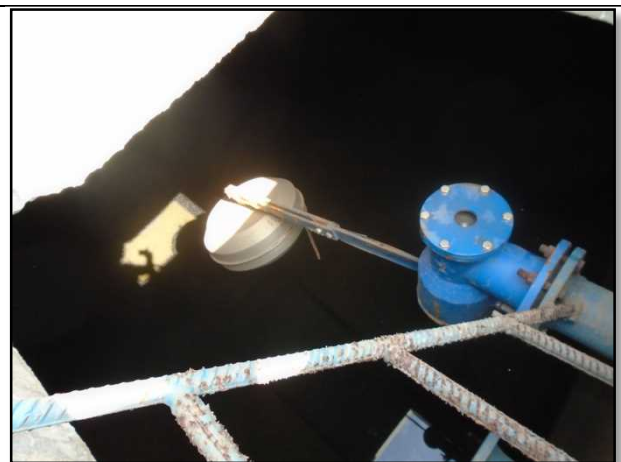
II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



Reservoir is new and accessories are ok



Floater valve installed and function well

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	168	
Branch	Nyarugenge	
District	Kamonyi	
Sector	Rugarika	
Cell	Sheli	
Village	Karehe	
Street	KN	
GPS Coordinates Latitude	-1.9908837 y	
GPS Coordinates Longitude	29.9339055 x	



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	168
2	Name of Reservoir	KAMUHOZA
3	ID Code	NYARRE2
4	Ward	District: Kamonyi, Sector: Rugarika, Cell: Sheli, Village: Karehe
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9908837, Longitude: 29.9339055, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	280 m3
10	Service area of the Reservoir	Katabaro, Kamuhoza
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	Always
	Reason of bypass operation	To increase pressure in the network and reach uphill residences
6	Inflow Condition	Source: Mpazi
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.50m, H: 2.80m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, 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
6	Outlet pipe No.1	DIP, DN: 100
7	Outlet valve No.1	DN: 100 , Function: YES
8	Overflow Pipe	DIP, DN: 100
9	Drain Pipe	DIP, DN: 100
10	Remarks/ Issue	Reservoir is NEW and all accessories are operational

Other Information:	. No toilet
	. No water
	. Manhole cover masonry broken
	. No house for operator

Photo Sheet

Reservoir Name: KAMUHOZA

No: 168



Whole View

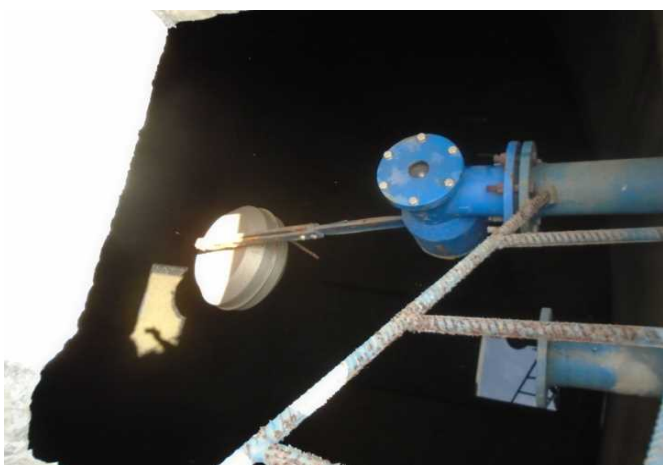
Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

Meter

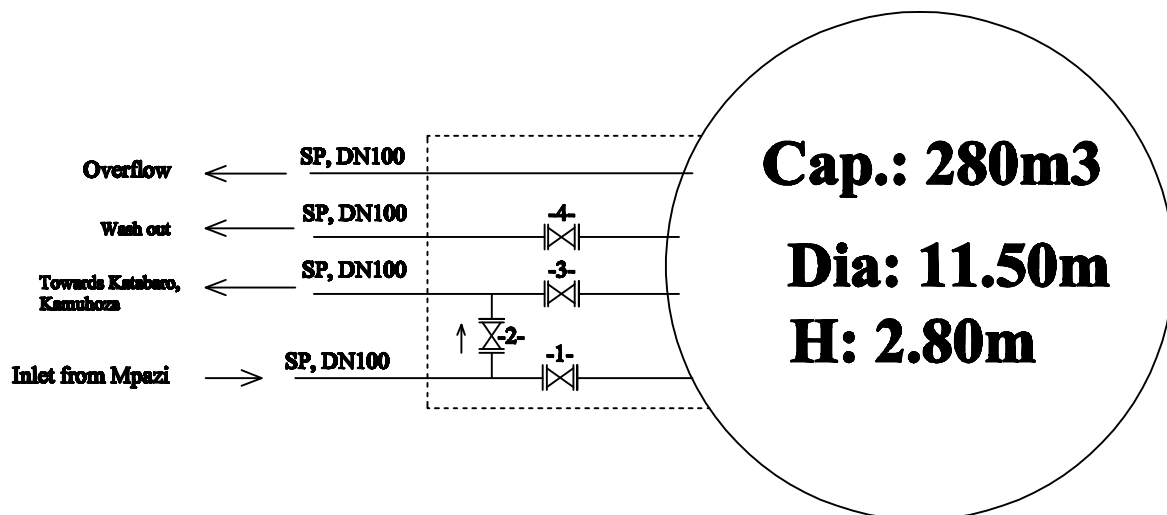
NYARUGENGE BRANCH

Reservoir No.: 103

Reservoir Name: Katabaro

Material: Concrete

SCHEMATIC DRAWING



LEGEND

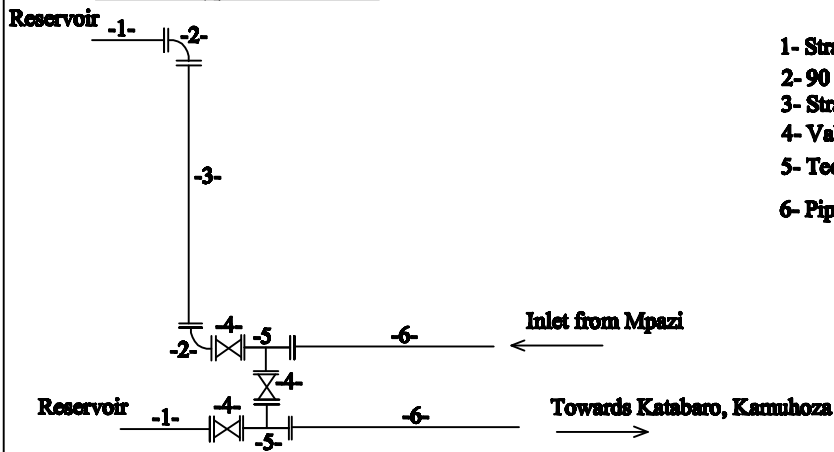
- 1 - Inlet Valve DN100
- 2 - Bypass Valve DN100
- 3 - Outlet Valve DN100
- 4 - Washout Valve DN100

NYARUGENGE BRANCH

Reservoir No.: 103

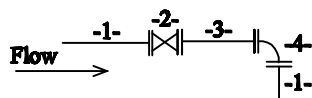
Reservoir Name: Katabaro

* Inlet and bypass (SP DN100)



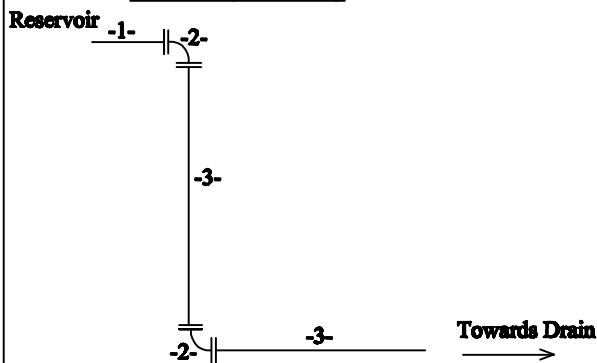
- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Valve
- 5- Tee with triple flange
- 6- Pipe with flange

* Drainage SP DN100



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

* Overflow (SP DN100)



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

7. RESERVOIR No. 147 : KANYINYA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: KANYINYA

No.: 147

I. Status and Functionality issues description

The tank receives water from Nzove, has a storage capacity of 280m³ and serves Kanyinya areas, it is new and all accessories function well.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Floater valve needed• Drainage system for inlet manhole, and its protection during rain season.	<ul style="list-style-type: none">• Floater DN150• Drainage construction

III. Description Photos



Floater valve needed

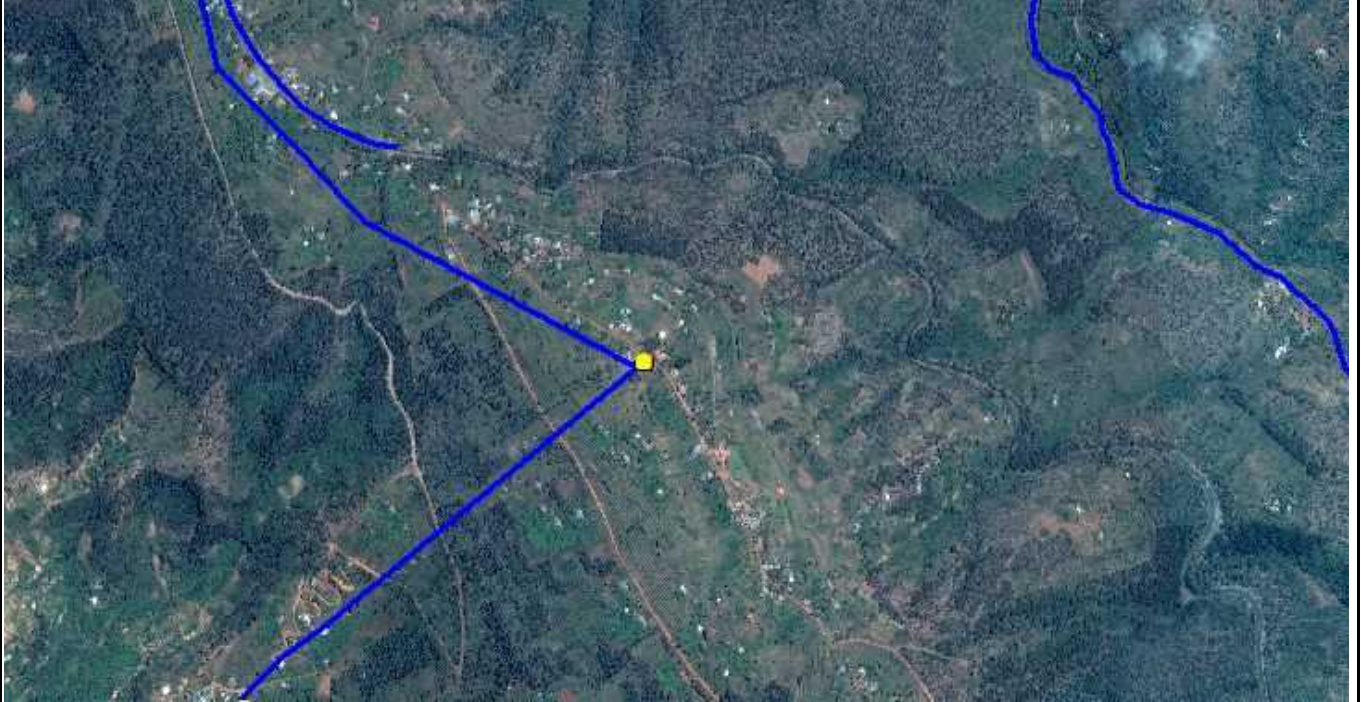


Manhole drainage system

Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	147		Musebeya
Branch	Nyarugenge		
District	Nyarugenge		
Sector	Kanyinya		
Cell	Nyamweru		
Village	Nyamweru		
Street	KN		
GPS Coordinates Latitude	-1.9286567	y	
GPS Coordinates Longitude	30.014715	x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	147
2	Name of Reservoir	KANYINYA
3	ID Code	KANM8RE1
4	Ward	District: Nyarugenge, Sector: Kanyinya, Cell: Nyamweru, Village: Nyamweru
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9286567, Longitude: 30.014715, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	280m3
10	Service area of the Reservoir	Kanyinya area
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: Nzove
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.40m, H: 2.90m
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: _____, PN(bar): _____,
		Malfunction
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 150, Top
5	Inlet valve No.1	DN: 150, Function: YES
6	Outlet pipe No.1	DIP, DN: 150
7	Outlet valve No.1	DN: 150, Function: YES
8	Overflow Pipe	DIP, DN: 150
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	

Other Information:	. No toilet
	. No water
	. No electricity
	. Fence need repairing

Photo Sheet

Reservoir Name: KANYINYA

No: 147



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

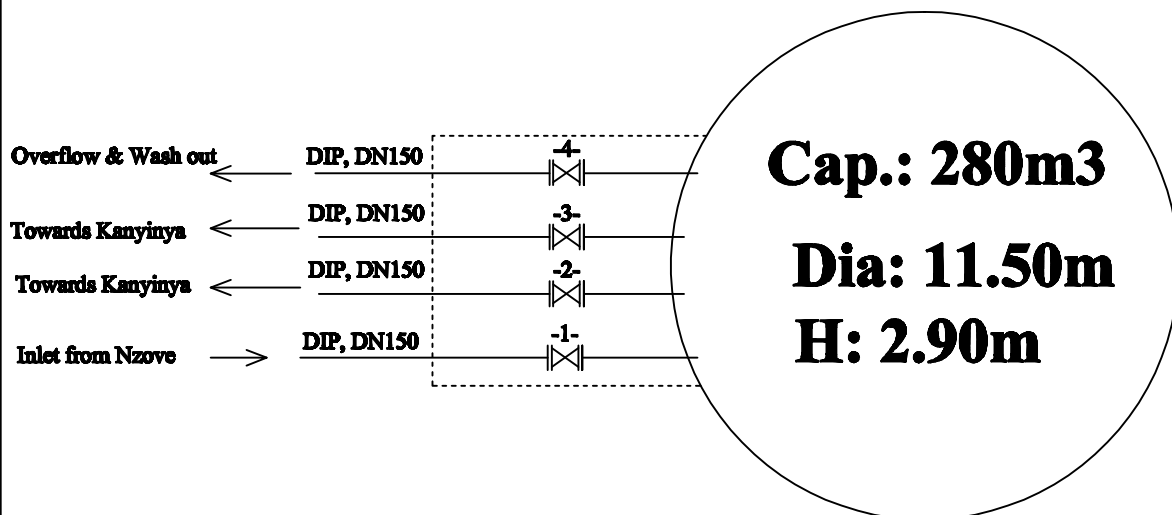
NYARUGENGE BRANCH

Reservoir No.: 106

Reservoir Name: Kanyinya

Material: Concrete

SCHEMATIC DRAWING



LEGEND

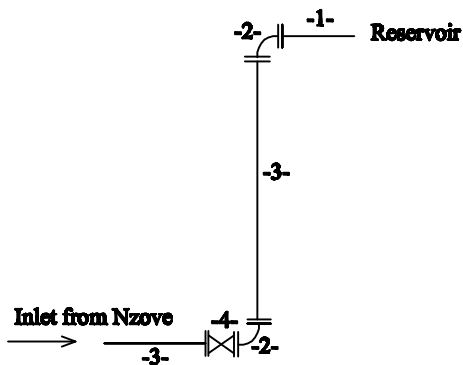
- 1 - Inlet Valve DN150
- 2,3 - Outlet Valve DN150
- 4 - Washout Valve DN150

NYARUGENGE BRANCH

Reservoir No.: 106

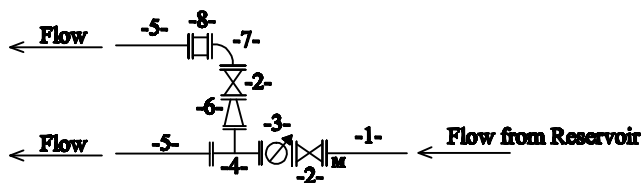
Reservoir Name: Kanyinya

*** Inlet (DIP, DN150)**



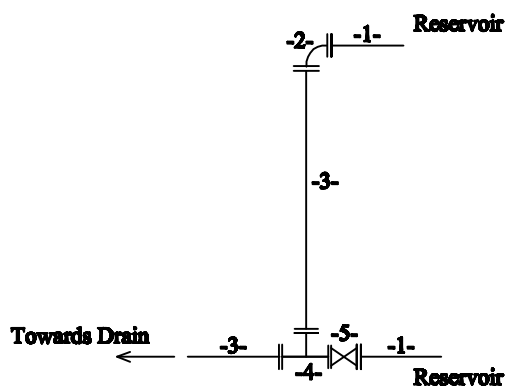
- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Valve

*** Outlet DIP, DN150**



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

*** Overflow and Drainage (DIP DN150)**



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Tee with triple flange
- 5- Valve DN150

8. RESERVOIR No. 166 : KABIZOZA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: KABIZOZA

No.: 166

I. Status and Functionality issues description

Reservoir receives water from Cyuga and Nzove, it has a storage capacity of 300m³, and serves areas of Gihogwe and Cyuga (Gashyushya).

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Floater valve needed• Fixing the problem of a small leak located at the bottom of the tank, at the connection with drain pipe	<ul style="list-style-type: none">• Floater DN150• Plastering works for leak sealing.

III. Description Photos



Floater valve needed



Leak at the bottom of drain pipe need fixing

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	166	
Branch	Nyarugenge	
District	Gasabo	
Sector	Jali	
Cell	Agateko	
Village	Kabizoza	
Street	RN 3	
GPS Coordinates Latitude	-1.9071837 y	
GPS Coordinates Longitude	30.034621 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	166
2	Name of Reservoir	Kabizoza
3	ID Code	NYARRE1
4	Ward	District: Gasabo, Sector: Jali, Cell: Agateko, Village: Kabizoza
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.9071837, Longitude: 30.034621, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	300m3
10	Service area of the Reservoir	Gihogwe and Cyuga (Gashyushya)
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	Opening the outlet 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: Nzove + Gashyushya
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.80m, H: 2.80m
5	Remarks/ Issue	

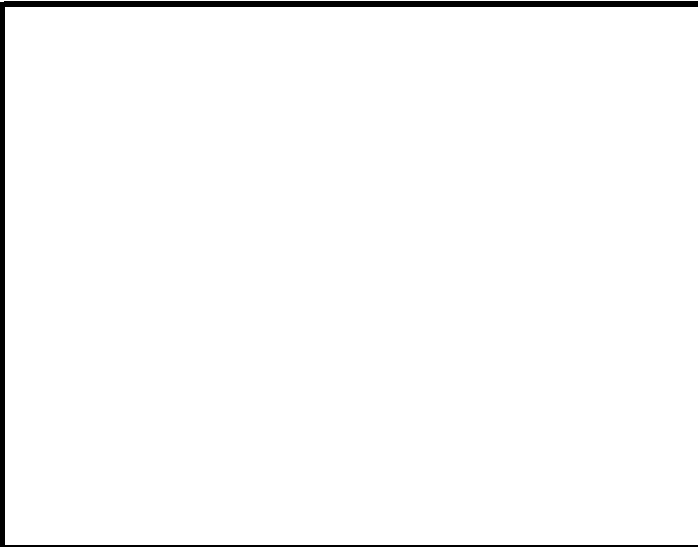
No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN:
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: <u>150</u> , PN(bar): 16,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	DIP, DN: 200
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 200
10	Remarks/ Issue	

Other Information:	. There is a small leak at the bottom of the reservoir where the drain pipe is connected.
	. No electricity
	. Shift needed.

Photo Sheet

Reservoir Name: Kabizoza

No: 166



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

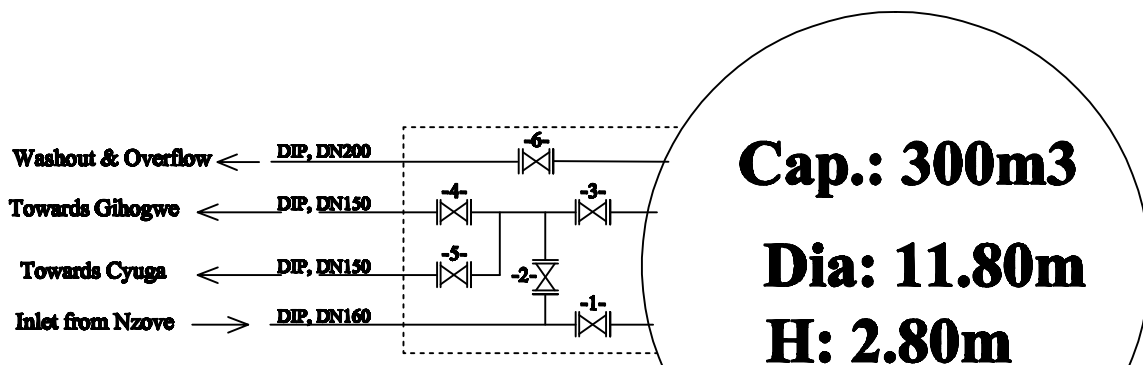
NYARUGENGE BRANCH

Reservoir No.: 63

Location: Kabizoza

Material: Concrete

SCHEMATIC DRAWING



LEGEND

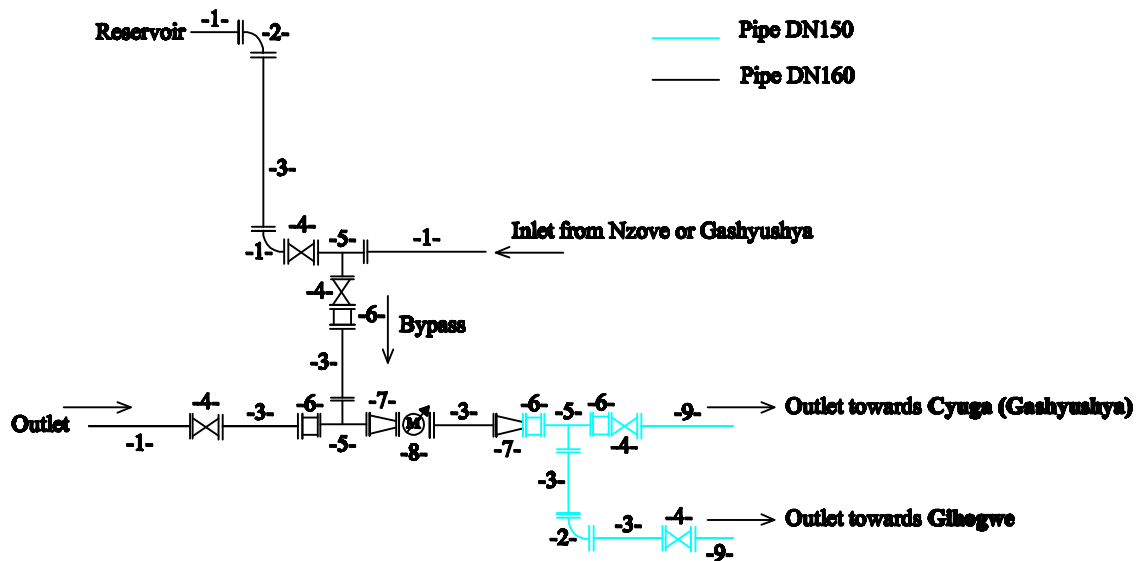
- 1 - Inlet Valve, DN160
- 2 - Bypass Valve, DN160
- 3 - Outlet Valve, DN160
- 4 - Outlet towards Gihogwe Valve, DN150
- 5 - Outlet towards Cyuga Valve, DN150
- 6 - Washout and Drain Valve, DN200

NYARUGENGE BRANCH

Reservoir No.: 106

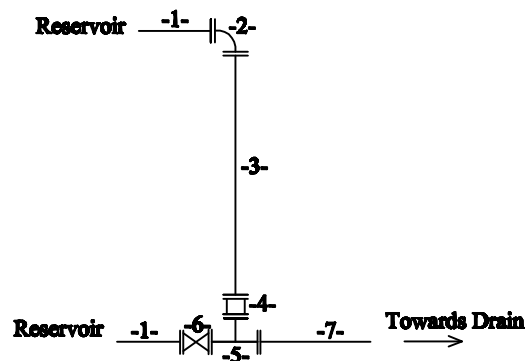
Reservoir Name: Kabizozo

*** Inlet, Outlet and Bypass (DIP, DN160, 150)**



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Valve
- 5- Tee
- 6- Dismantling Joint
- 7- Reduced Cone
- 8- Flow Meter
- 9- Pipe

*** Overflow(DIP DN250)**



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Tee with triple flange
- 6- Valve DN150
- 7- Pipe

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

9. RESERVOIR No. 177 : CAMP MILITAIRE 1

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: CAMP MILITAIRE 1

No.: 177

I. Status and Functionality issues description

The elevated tank is very old and support in concrete need a new plastering for visible steelbars. It is located inside Military compound and it serves Jali Military Camp and Rubingo.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Floater valve needed• Support plastering for exposed steelbars protection.	<ul style="list-style-type: none">• Floater DN125• Plastering

III. Description Photos



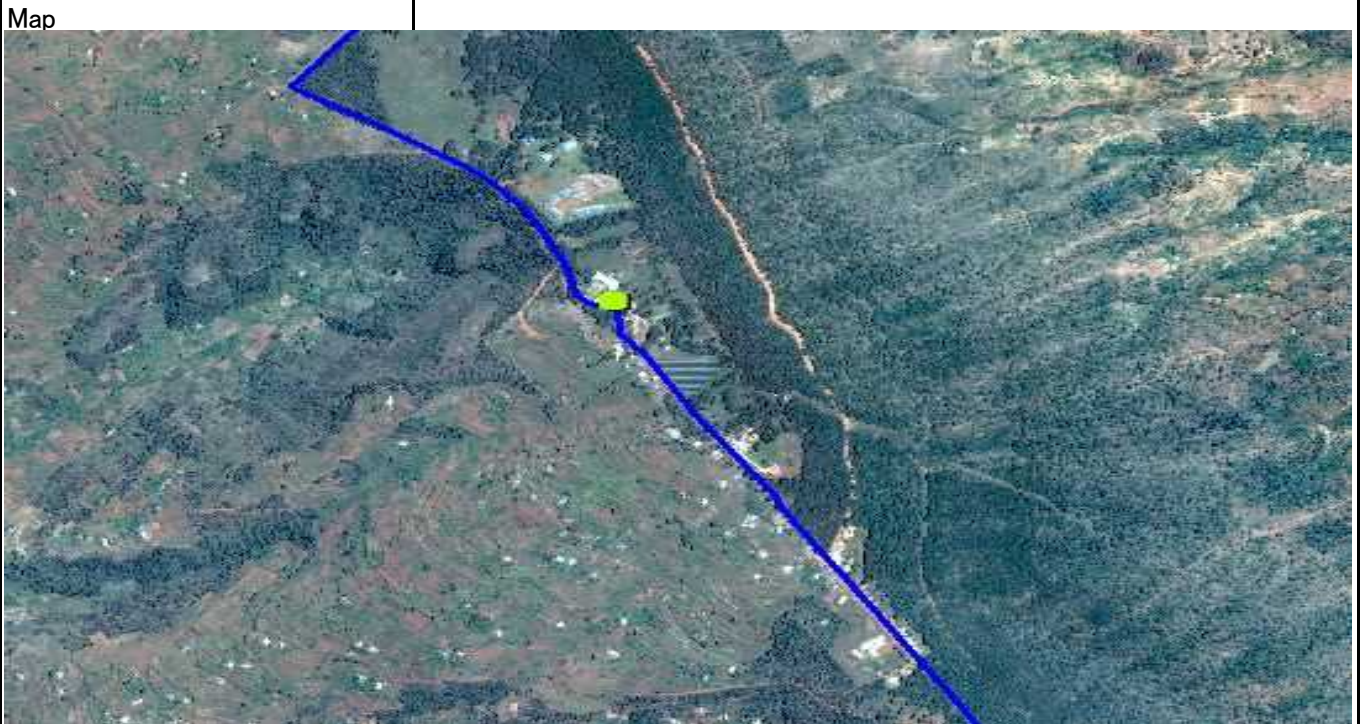
Floater valve needed



Plastering needed

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	177	
Branch	Nyarugenge	
District	Gasabo	
Sector	Jali	
Cell	Nyamitanga	
Village	Kabuga	
Street	RN 3	
GPS Coordinates Latitude	-1.8828417	y
GPS Coordinates Longitude	30.0153166	x



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	177
2	Name of Reservoir	Camp Militaire 1
3	ID Code	JALH8RE1
4	Ward	District: Gasabo, Sector: Jali, Cell: Nyamitanga, Village: Kabuga
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.8828417, Longitude: 30.0153166, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	65m3
10	Service area of the Reservoir	Camp Militaire + Rubingo areas
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	Nothing
3	Wall Leakage	Oozed
4	Overflow observation	_____ times/month, _____ times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: Gashyushya
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Elevated
3	Structure Material	Concrete
4	Inside Dimension	D: 5.80m, H: 2.60m
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: 100, PN(bar): _____,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 125, Top
	Inlet pipe No.2	SP, DN: 125, Top
5	Inlet valve No.1	DN: 125, Function: YES
6	Outlet pipe No.1	SP, DN: 125
	Outlet pipe No.2	SP, DN: 1 1/2" Towards Rubingo
7	Outlet valve No.1	DN: 125, Function: YES
8	Overflow Pipe	SP, DN: 125
9	Drain Pipe	SP, DN: 125
10	Remarks/ Issue	

Other Information:	. Plastering for support.
	. Inlet pipe very old even though not leaking.
	. Exposed column steelbars need protection.

Photo Sheet

Reservoir Name: Camp Militaire 1

No: 177



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

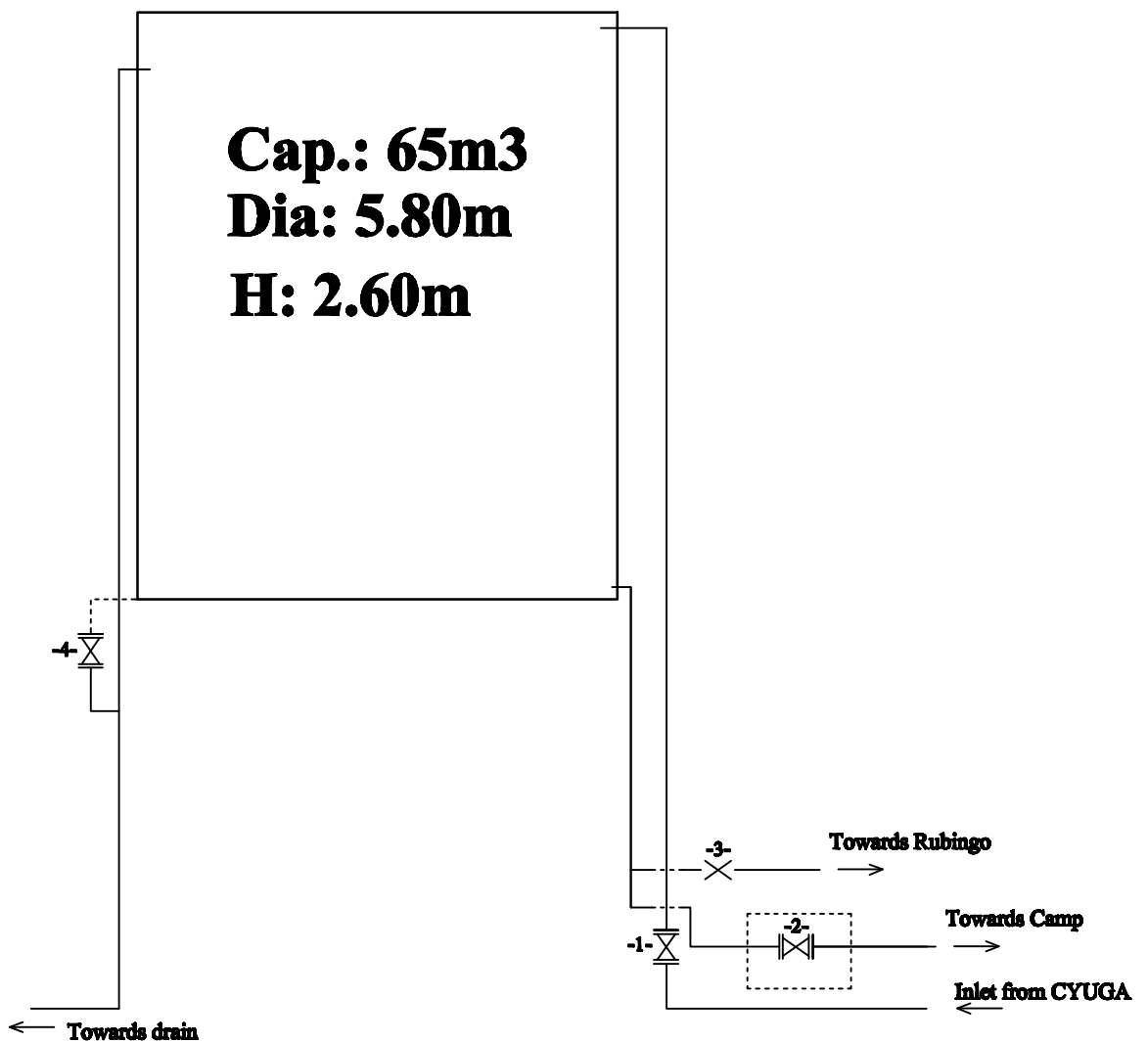
NYARUGENGE BRANCH

Reservoir No.: 46

Reservoir Name: Jali Camp Militaire 1

Material: Steel pannel

Cap.: 65m³
Dia: 5.80m
H: 2.60m



LEGEND

- 1 - Inlet Valve DN125
- 2 - Outlet Valve DN125
- 3 - Outlet Valve 1 1/2"
- 4 - Drainage Valve DN125

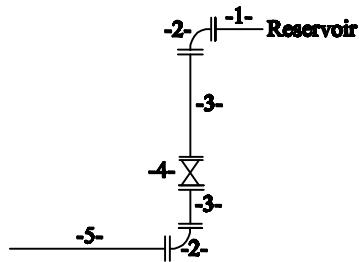
KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

NYARUGENGE BRANCH

Reservoir No.: 46

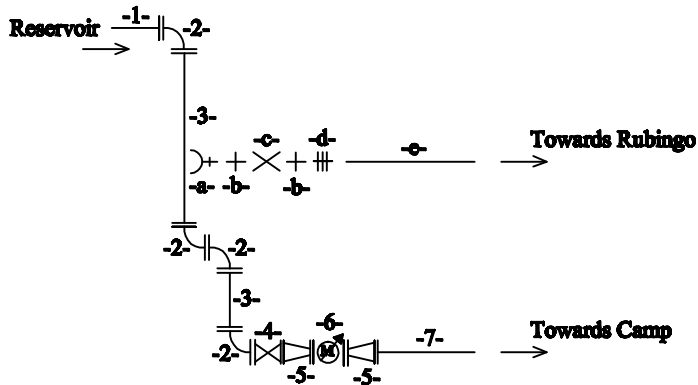
Reservoir Name: Jali Camp Militaire 1

*** Inlet (SP, DN125)**



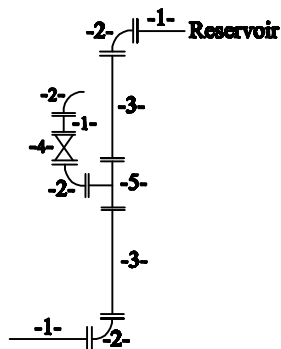
- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Valve
- 5- Pipe

*** Outlet (SP, DN125)**



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Valve DN125
- 5- Reduced cone DN125/100
- 6- Flow Meter DN100
- 7- Pipe
- a- Saddle 1 1/2"
- b- Nipple 1 1/2"
- c- Valve 1 1/2"
- d- Union Joint 1 1/2"
- e- Pipe 1 1/2"

*** Overflow and Drainage (SP, DN125)**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

10. RESERVOIR No. 179: CAMP MILITAIRE 2

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: CAMP MILITAIRE 2

No.: 179

I. Status and Functionality issues description

The reservoir is new and serves areas of Nyamitanga, installed accessories are new as per the information received from Michel.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



Reservoir is new and accessories are new



Reservoir is new and accessories are new

Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	179
2	Name of Reservoir	Camp Militaire 2
3	ID Code	JALG8RE1
4	Ward	District: , Sector: , Cell: , Village:
5	Branch Office	Nyarugenge
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	110m3
10	Service area of the Reservoir	Nyamitanga
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
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: Gashyushya (Bugarama)
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Concrete
4	Inside Dimension	D: 7.50m, H: 2.60m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	DIP, DN: 150, Top
5	Inlet valve No.1	DN: 150, Function: YES
6	Outlet pipe No.1	No information
	Outlet pipe No.2	
	Outlet pipe No.3	
7	Outlet valve No.1	
	Outlet valve No.2	
	Outlet valve No.3	
8	Overflow Pipe	DIP, DN: 150
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	

Other Information:

The operator was absent.

Photo Sheet

Reservoir Name: Camp Militaire 2

No: 179



Whole View



Reservoir



Inlet Pipe with Valve

Outlet Pipe with Valve

Float Valve

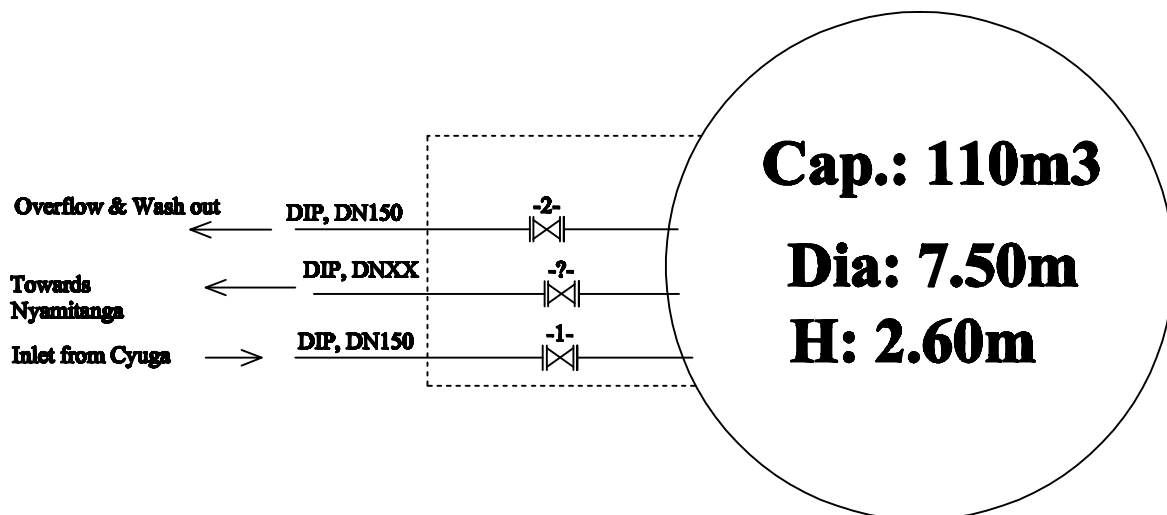
Meter

NYARUGENGE BRANCH

Reservoir No.: 47

Reservoir Name: Camp Militaire 2

SCHEMATIC DRAWING



LEGEND

1- Inlet Valve DN150

2 - Washout Valve DN150

? - Outlet Valve DNXX: Manhole closed, to confirm with WASAC

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

11. RESERVOIR No. 171: JALI

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: Jali

No.: 171

I. Status and Functionality issues description

The reservoir has a storage capacity of 15m³, it serves also some areas of Nyamitanga and 2 public water taps.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Floater valve needed• Installation of an Inlet valve• Manhole cover	<ul style="list-style-type: none">• Floater valve 1''• Valve 1''

III. Description Photos



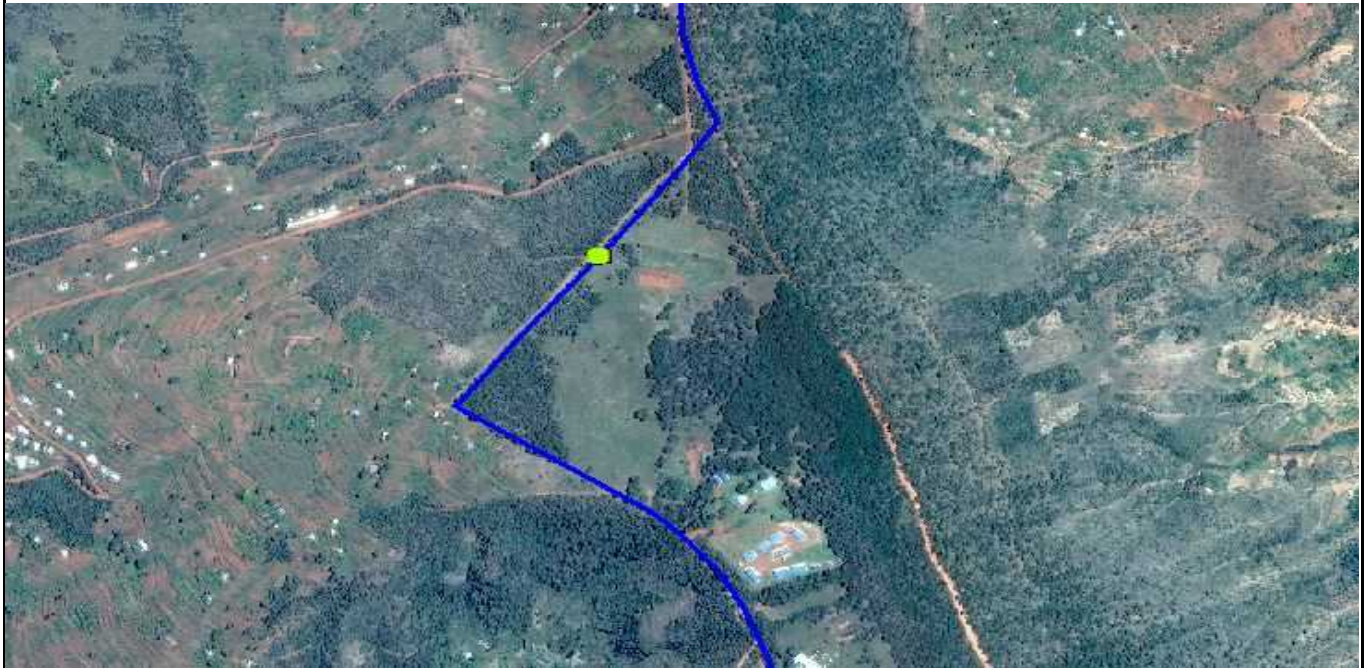
Inlet valve need to be replaced



Manhole need a cover

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	171	47
Branch	Nyarugenge	
District	Gasabo	
Sector	Jali	
Cell	Muko	
Village	Gahinga	
Street	RN 3	
GPS Coordinates Latitude	-1.8758471 y	
GPS Coordinates Longitude	30.0129316 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	171
2	Name of Reservoir	Jali
3	ID Code	JALJ9RE1
4	Ward	District: Gasabo, Sector: Jali, Cell: Muko, Village: Gahinga
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.8758471, Longitude: 30.0129316, Altitude
7	Function of Reservoir	Storage,
8	Age of Reservoir	Year: 2006
9	Storage Capacity	15m3
10	Service area of the Reservoir	2 BFs a Rubingo + Rubingo area
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	No operator
	Action against to overflow	
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: Gashyushya (ALSO know as Bugarama or Cyuga)
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
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:
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: No
6	Outlet pipe No.1	SP, DN: 50
7	Outlet valve No.1	DN: 50, Function: YES
8	Overflow Pipe	SP, DN: 1 1/2"
9	Drain Pipe	SP, DN: 1"
10	Remarks/ Issue	

Other Information:	. Manhole covered (cover stolen)
--------------------	----------------------------------

Photo Sheet

Reservoir Name: Jali

No: 171



Whole View

Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve

Float Valve

Meter

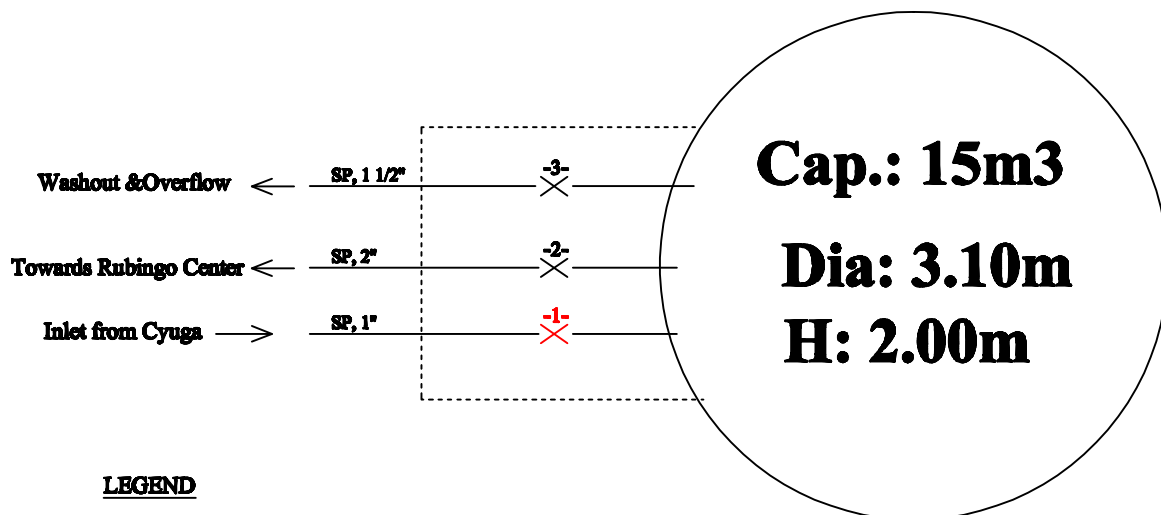
NYARUGENGE BRANCH

Reservoir No.: 48

Reservoir Name: Jali

Material: Concrete

SCHEMATIC DRAWING



LEGEND

1 - Inlet Valve 1"

2 - Outlet Valve 2"

3 - Drainage Valve 1 1/2"

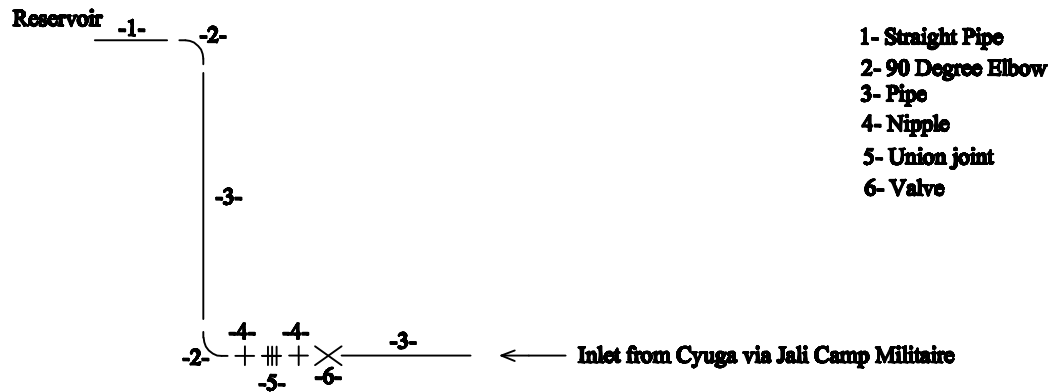
In Red color: valve with issues

NYARUGENGE BRANCH

Reservoir No.: 48

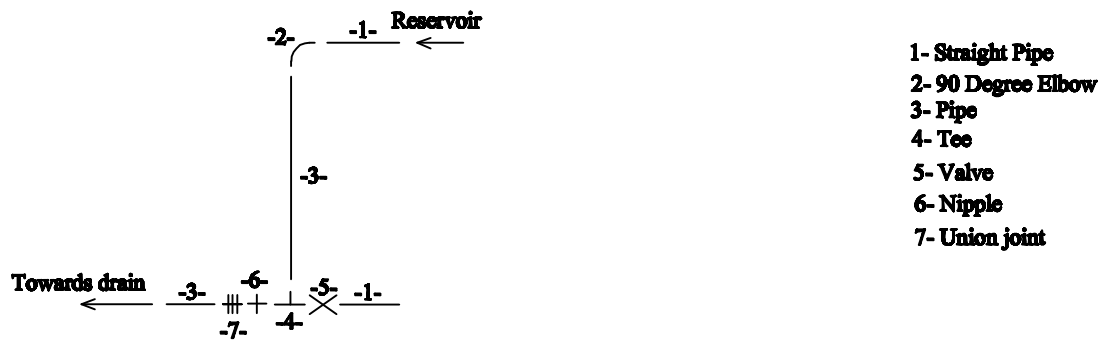
Reservoir Name: Jali

*** Inlet SP 1"**



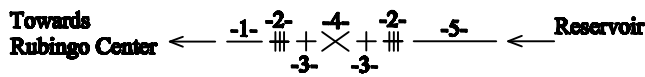
- 1- Straight Pipe
- 2- 90 Degree Elbow
- 3- Pipe
- 4- Nipple
- 5- Union joint
- 6- Valve

*** Overflow (SP 1 1/2")**



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

*** Outlet (SP 2")**



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

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

12. RESERVOIR No. 170: JALI EP

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: JALI EP

No.: 170

I. Status and Functionality issues description

Reservoir abandoned by WASAC, and bypassed

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Reconstruction	

III. Description Photos



Abandoned



Abandoned

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	170	
Branch	Nyarugenge	
District	Gasabo	
Sector	Jali	
Cell	Nyamitanga	
Village	Runyinya	
Street	RN 3	
GPS Coordinates Latitude	-1.8993988 y	
GPS Coordinates Longitude	30.0233635 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 10/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	170
2	Name of Reservoir	Jali EP
3	ID Code	JALI9RE2
4	Ward	District: Gasabo, Sector: Jali, Cell: Nyamitanga, Village: Runyinya
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.8993988, Longitude: 30.0233635, Altitude
7	Function of Reservoir	Kiosk Reservoir
8	Age of Reservoir	Year:
9	Storage Capacity	5 m3
10	Service area of the Reservoir	Jali EP
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
	Reason of bypass operation	
6	Inflow Condition	Source: Cyuga
		Water pressure at inlet:
		Frequency and time: Abandoned
7	Water level movement	Proper movement, always low level, always no water
8	Issue on Functional Condition	Demolished by locals
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 2.20m, H: 1.20m
5	Remarks/ Issue	FULL REPLACEMENT

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	<h1>Removed</h1>	
	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		
7	Outlet valve No.1		
	Outlet valve No.2		
	Outlet valve No.3		
8	Overflow Pipe		
9	Drain Pipe		
10	Remarks/ Issue		Abandoned

Other Information:	. No accessories
	. Abandoned
Proposal	Full replacement

Photo Sheet

Reservoir Name: Jali EP

No: 170



Whole View



Reservoir (No accessories)



No Inlet Pipe



Reservoir (No accessories)



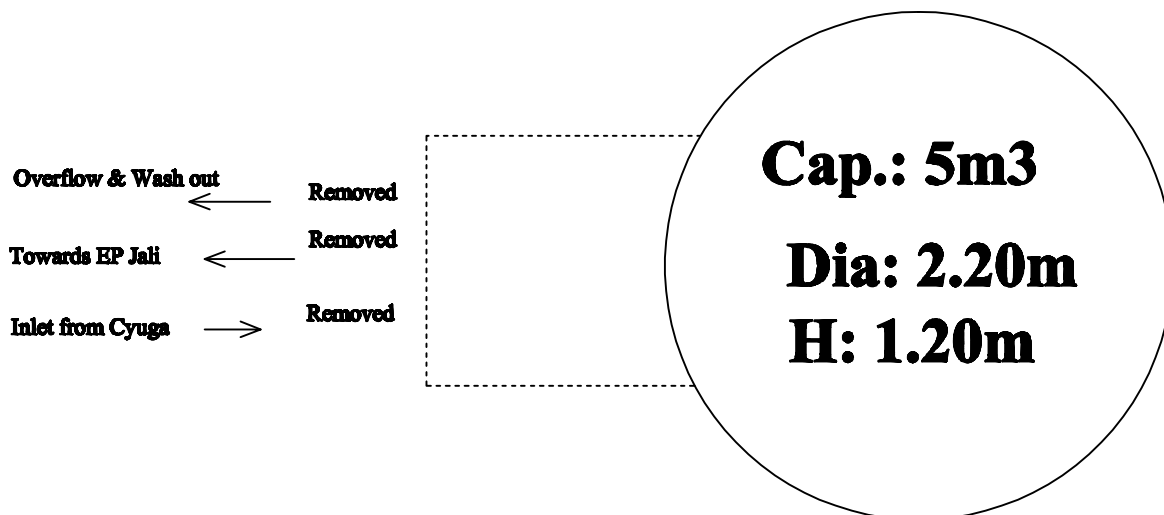
Abandoned

NYARUGENGE BRANCH

Reservoir No.: 49

Reservoir Name: Jali EP

ABANDONED



Information

- 1- The tank was abandoned.
- 2 - Total replacement is recommended as per visual and physical assessment.

13. RESERVOIR No. 167: GIHOGWE CENTRE DE SANTE

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: GIHOGWE CENTRE DE SANTE

No.: 167

I. Status and Functionality issues description

Underground Reservoir located inside Gihogwe Health Center, it receives water from CYUGA and Nzove, and it serves Kabizoza-Gatsata-Gashyushya-Karuruma, it has a storage capacity of 240m³ and a pumping station.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Replacement of bypass valve• Drainage system needed for Kabizoza Pipe• Checking functionality of meter which sometimes faces backflow	<ul style="list-style-type: none">• Valve DN100• Meter DN100 (if the installed in question is found defectrive)

III. Description Photos



Leaking bypass valve



Meter on Ntora pipe need checking

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	167	
Branch	Nyarugenge	
District	Gasabo	
Sector	Jali	
Cell	Agateko	
Village	Bukamba	
Street	RN 3	
GPS Coordinates Latitude	-1.905929 y	
GPS Coordinates Longitude	30.0464973 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 11/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	167
2	Name of Reservoir	Gihogwe Centre de Sante
3	ID Code	JALJ10RE3
4	Ward	District: Gasabo, Sector: Jali, Cell: Agateko, Village: Bukamba
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.905929, Longitude: 30.0464973, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year:
9	Storage Capacity	240m ³
10	Service area of the Reservoir	Kabizoza-Gatsata-Gashyushya-Karuruma
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Supplying to Kabizoza and Gatsata areas
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: sometimes
	Reason of bypass operation	To supply to Gatsata area with water from Ntora
6	Inflow Condition	Source: Cyuga (Gashyushya) and Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 13.20m, H: 1.75m
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: _____, PN(bar): _____,
		Function: YES
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 100, Top
5	Inlet valve No.1	DN: 125, Function: YES
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	DN: 100, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	. Bypass Valves leaking, Drain: Need for Kabizoza Supply Pipe, canal needed . Drainage

Other Information:	. Communication means between this tank and Ntora
	. Fence: needed
	. Toilet needed
	. House for Operator

Photo Sheet

Reservoir Name: Gihogwe Centre de Sante

No: 167



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter

Float Valve

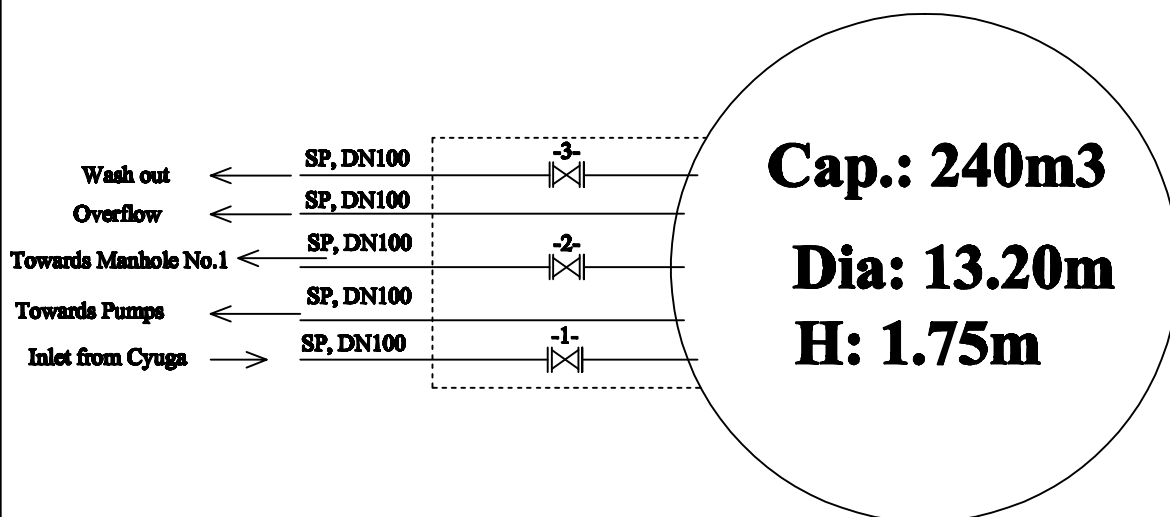
NYARUGENGE BRANCH

Reservoir No.: 30

Reservoir Name: Gihogwe Centre de Sante

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN100
- 2 - Outlet Valve DN100
- 3 - Washout Valve DN100

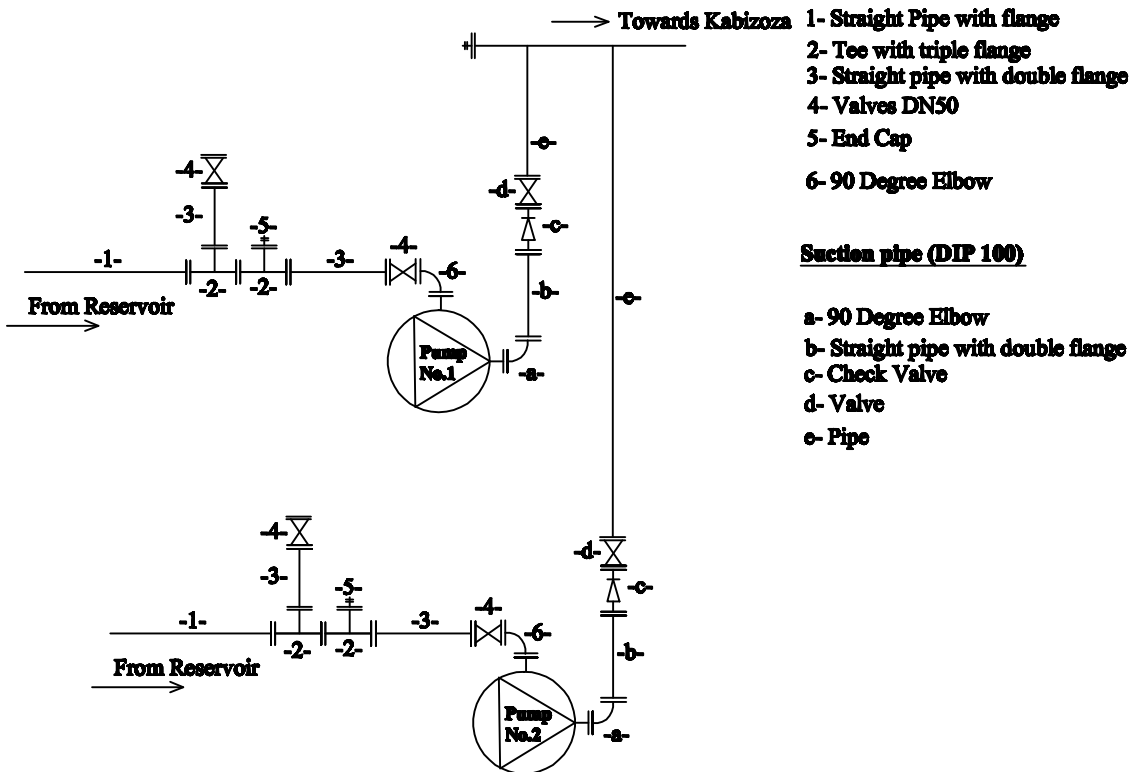
NYARUGENGE BRANCH

Reservoir No.: 30

Reservoir Name: Gihogwe Centre de Sante

* Pumping Station(DIP DN150)

Supply from Pump (DIP 150)

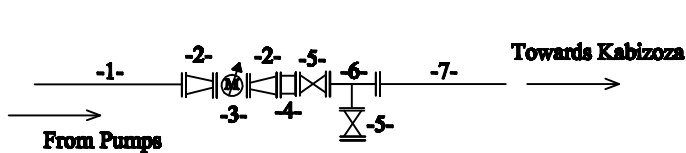


- 1- Straight Pipe with flange
- 2- Tee with triple flange
- 3- Straight pipe with double flange
- 4- Valves DN50
- 5- End Cap
- 6- 90 Degree Elbow

Suction pipe (DIP 100)

- a- 90 Degree Elbow
- b- Straight pipe with double flange
- c- Check Valve
- d- Valve
- e- Pipe

* Supply from Pumps



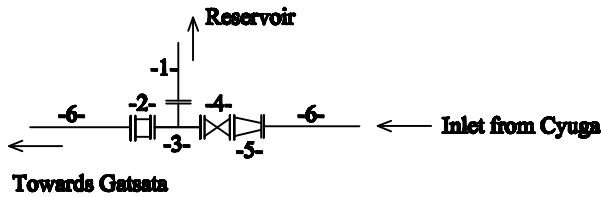
- 1- Straight Pipe with flange
- 2- Reduced cone
- 3- Flow Meter
- 4- Dismantling joint
- 5- Valve
- 6- Tee with triple flange
- 7- Pipe

NYARUGENGE BRANCH

Reservoir No.: 30

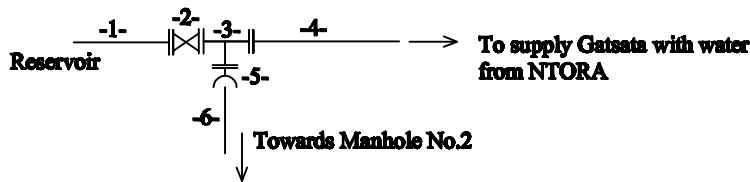
Reservoir Name: Gihogwe Centre de Sante

*** Inlet (SP, DN100,80)**



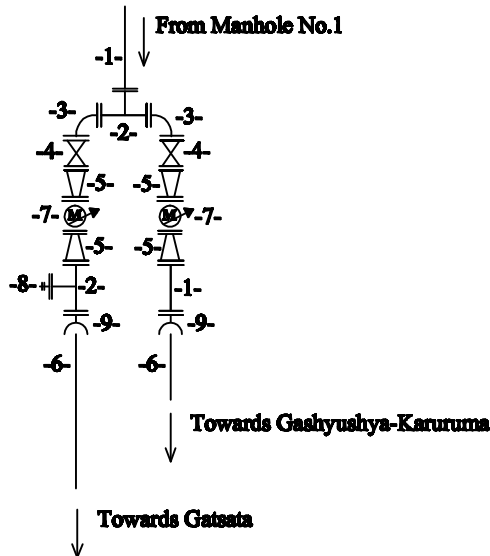
- 1- Straight Pipe with flange
- 2- Dismantling joint
- 3- Tee with triple flange
- 4- Valve DN100
- 5- Reduced cone DN100/80
- 6- Pipe

*** Outlet Manhole No. 1 (SP, DN100)**



- 1- Straight Pipe with flange
- 2- Valve DN100
- 3- Tee with triple flange
- 4- Pipe
- 5- Flange Adaptor DN100
- 6- PVC Pipe DN100

*** Outlet Manhole No. 2 (SP, DN100)**



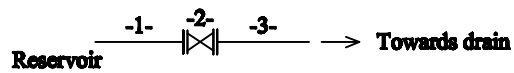
- 1- Straight Pipe with flange
- 2- Tee with triple flange
- 3- 90 Degree Elbow
- 4- Valve DN100
- 5- Reduced Cone DN100/50
- 6- PVC Pipe DN100
- 7- Flow Meter DN50
- 8- End Cap
- 9- Flange Adaptor DN100

NYARUGENGE BRANCH

Reservoir No.: 30

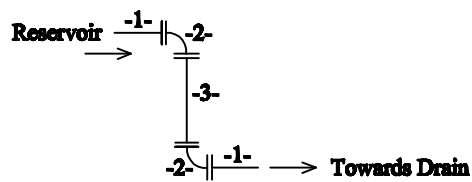
Reservoir Name: Gihogwe Centre de Sante

* Drainage (SP, DN100)



- 1- Straight Pipe with flange
- 2- Valve DN100
- 3- Pipe

* Overflow (SP, DN100)



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow
- 3- Straight Pipe with double flange

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

14. RESERVOIR No. 165: GIHOGWE

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: GIHOGWE

No.: 165

I. Status and Functionality issues description

The reservoir was abandoned and bypassed by WASAC in order to increase pressure in the network.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Nothing	

III. Description Photos



Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	165	
Branch	Nyarugenge	
District	Gasabo	
Sector	Gatsata	
Cell	Karuruma	
Village	Rugoro	
Street	RN 3	
GPS Coordinates Latitude	-1.907347 y	
GPS Coordinates Longitude	30.0442015 x	



Attachement-3 Reservoir Survey Sheet

Date: 11/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	165
2	Name of Reservoir	Gihogwe
3	ID Code	JALJ10RE1
4	Ward	District: Gasabo, Sector: Gatsata, Cell: Karuruma, Village: Rugoro
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.907347, Longitude: 30.0442015, Altitude
7	Function of Reservoir	Not in use
8	Age of Reservoir	Year:
9	Storage Capacity	m3
10	Service area of the Reservoir	Gatsata
B: Operational Condition		
1	Operational Condition	Abandoned
2	Operator Assignment	No operator
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	To increase the pressure in the network
6	Inflow Condition	Source: Cyuga (Bugarama)
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always no water
8	Issue on Functional Condition	There was no water and in order to increase the pressure, they abandoned it.
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Semi-ground
3	Structure Material	Stones
4	Inside Dimension	D: 7.40m, H: 2.80m
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/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: , Function:
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	SP, DN: 80 (Defective)
7	Outlet valve No.1	DN: 80, Function: Defective
8	Overflow Pipe	DN: 80, Function: Defective
9	Drain Pipe	DN: 80, Function: Defective
10	Remarks/ Issue	

Other Information:	. Total replacement is recommended as per visual and physical assessment.
	. The tank was leaking in the time it was abandoned.

Photo Sheet

Reservoir Name: Gihogwe

No: 165



Whole View



Inside of abandoned Reservoir



No Inlet Pipe



Outlet Pipe with Valve

Float Valve

Meter

NYARUGENGE BRANCH

Reservoir No.: 29

Reservoir Name: Gihogwe

ABANDONED

Overflow & Wash out ← Not visible
Towards Gatsata ← Removed
Inlet from Cyuga → Removed

Cap.: 120m³

Dia: 7.40m

H: 2.80m

Information

- 1- The tank was leaking in the time it was abandoned.
- 2 - Total replacement is recommended as per visual and physical assessment.

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

15. RESERVOIR No. 172: JABANA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: Nyarugenge

Reservoir: JABANA

No.: 172

I. Status and Functionality issues description

Reservoir receives water from Nzove, has a storage capacity of 300m³, built in 2012 and it serves area of Gihogwe, Kabuye and Jabana.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Replacement of Floater valve	<ul style="list-style-type: none">Floater valve DN80

III. Description Photos

 <p data-bbox="354 1518 577 1550">Defective floater</p>	
--	--

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	172	
Branch	Nyarugenge	
District	Gasabo	
Sector	Jabana	
Cell	Kabuye	
Village	Amakawa	
Street	RN 3	
GPS Coordinates Latitude	-1.8942858 y	
GPS Coordinates Longitude	30.0513286 x	

Map



Attachement-3 Reservoir Survey Sheet

Date: 11/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	172
2	Name of Reservoir	JABANA
3	ID Code	JABI1RE2
4	Ward	District: Gasabo, Sector: Jabana, Cell: Kabuye, Village: Amakawa
5	Branch Office	Nyarugenge
6	Location	Latitude: -1.8942858, Longitude: 30.0513286, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2012
9	Storage Capacity	300m3
10	Service area of the Reservoir	Gihogwe, Kabuye, Jabana
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.70m, H: 2.80m
5	Remarks/ Issue	

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	DIP, DN: 200, Top
5	Inlet valve No.1	DN: 200, Function: YES
6	Outlet pipe No.1	DIP, DN: 150
	Outlet pipe No.2	DIP, DN: 150 (Back up)
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	DIP, DN: 150
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	

Other Information:	. No water for Operator
--------------------	-------------------------

Photo Sheet

Reservoir Name: Jabana

No: 172



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

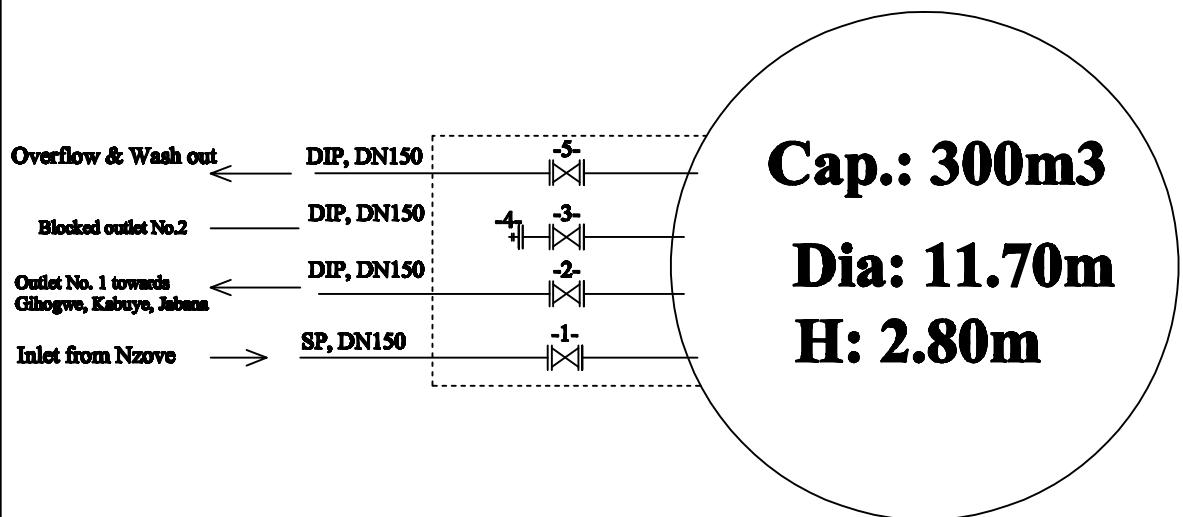
NYARUGENGE BRANCH

Reservoir No.: 44

Reservoir Name: Jabana

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Valve DN150
- 2- Outlet No.1 Valve DN150
- 3- Outlet No.3 Valve DN150
- 4 - End Cap for Outlet No.2 DN150
- 4 - Washout Valve DN150

16.RESERVOIR No.98: KARAMA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: KARAMA

No.: 98

I. Status and Functionality issues description

No floater valve installed

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Installation of a floater valve	<ul style="list-style-type: none">1 Floater valve DN150

III. Description Photos



Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	98
2	Name of Reservoir	Karama
3	ID Code	KIGAP9RE1
4	Ward	Sector: , District: , Cell: , Village:
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.963636, Longitude: 30.023316, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 4/2011
9	Storage Capacity	420 m3
10	Service area of the Reservoir	Karama areas, Norvege village
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: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	Floater valve needed to avoid overflow.
C: 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	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 150 (needed)
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	DN: 200, Function: YES
6	Outlet pipe No.1	SP, DN: 200
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Karama

No:98

Whole View

Reservoir



Inlet Pipe with Valve

Outlet Pipe with Valve



Float Valve

Meter

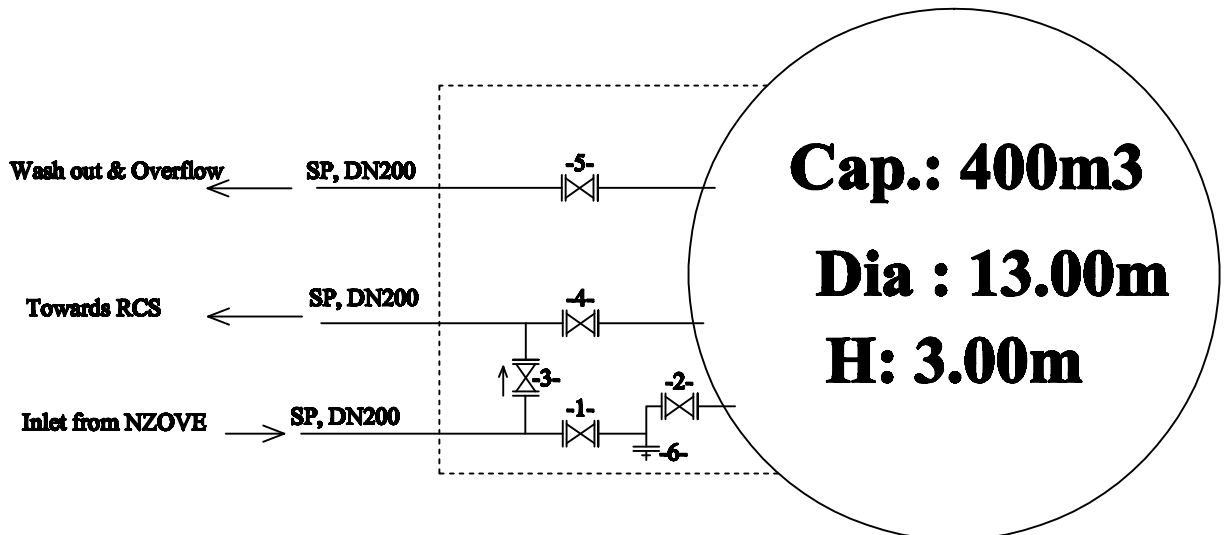
NYARUGENGE BRANCH

Reservoir No.: 41

Location: Karama

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Network Inlet Valve DN200
- 2 - Reservoir Inlet Valve DN200
- 3 - Bypass Valve DN200
- 4 - Outlet Valve DN200
- 5 - Washout Valve DN200
- 6 - Blocked Air Valve inlet

17. RESERVOIR No.97: RUYENZI

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: RUYENZI

No.: 97

I. Status and Functionality issues description

No floater valve installed, Valve DN200

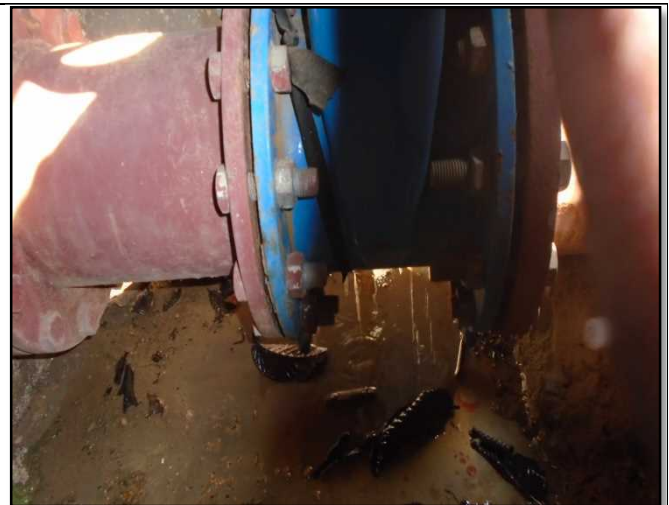
II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of a floater valve DN200• Installation of a Valve DN200	<ul style="list-style-type: none">• Floater valve DN200• Valve DN200

III. Description Photos



Floater Valve needed.



Leaking Valve

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	97
2	Name of Reservoir	Ruyenzi
3	ID Code	RUNDP6RE1
4	Ward	Sector: Runda , District: Kamonyi, Cell: Ruyenzi, Village: Ruyenzi
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.960488, Longitude: 29.985652, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: No data
9	Storage Capacity	400 m3
10	Service area of the Reservoir	Ruyenzi area, Gihara Reservoir, Bishenyi
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	no data
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: when requested by the branch_____.
	Reason of bypass operation	
6	Inflow Condition	Source: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	One inlet DN200 valve leaking
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 14.40m, H: 2.60m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (not needed -pumping station)
2	Water Level Gauge	Malfunction
3	Flow Meter	Mechanical, DN: 200, PN(bar): _____,
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 200, Top
5	Inlet valve No.1	DN: 200 , Function: Defective-leaking.
6	Outlet pipe No.1	DIP, DN: 150
	Outlet pipe No.2	DIP, DN: 150
7	Outlet valve No.1	DN: 150, Function: YES
	Outlet valve No.2	DN: 150, Function: YES
8	Overflow Pipe	SP, DN: 150
9	Drain Pipe	DIP, DN: 151
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Ruyenzi

No:97



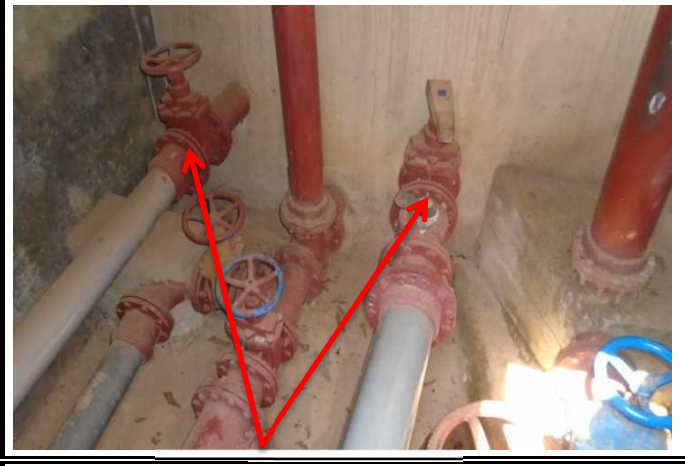
Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

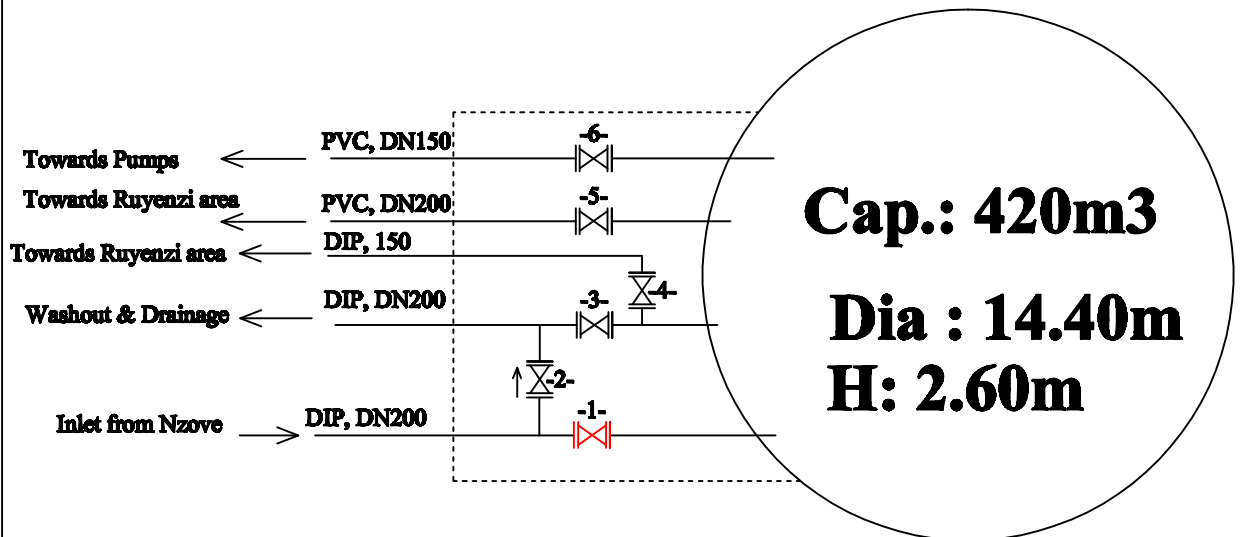
NYARUGENGE BRANCH

Reservoir No.: 143

Location: RUYENZI

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1- Inlet Valve DN200
- 2 - Bypass Valve DN200
- 3 - Washout Valve DN200
- 4 - Outlet Valve DN150
- 5 - Outlet Valve DN200
- 6 - Outlet Valve DN150

18. RESERVOIR No.134: GIHARA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: GIHARA

No.: 134

I. Status and Functionality issues description

Floater valve needed

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Installation of floater valve DN150	<ul style="list-style-type: none">1 Floater Valve DN150

III. Description Photos



Floater valve needed

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	134
2	Name of Reservoir	Gihara
3	ID Code	RUNDN4RE1
4	Ward	Sector: Runda, District: Kamonyi, Cell: Gihara, Village: Gihara
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.937084, Longitude: 29.965727, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: No data
9	Storage Capacity	440 m3
10	Service area of the Reservoir	Gihara area, runda area, nkoto and Sheli Reservoirs
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: Nzove
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 12.90m, H: 3.40m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 150 (not needed- water from Pump)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, EMFM, UFM, DN: _____, PN(bar): _____, Function, Malfunction, No installation Location: Inlet Pipe, Outlet Pipe
4	Inlet pipe No.1	SP, DN: 150, Top
5	Inlet valve No.1	DN: 150 , Function: YES
6	Outlet pipe No.1	SP, DN: 150 - Towards Rugalika
	Outlet pipe No.2	SP, DN: 150 - Towards MTN
	Outlet pipe No.3	SP, DN: 50 - Towards Kagina
7	Outlet valve No.1	DN: 150 , Function: YES
	Outlet valve No.2	DN: 150 , Function: YES
	Outlet valve No.3	DN: 50 , Function: YES
8	Overflow Pipe	SP, DN: 150
9	Drain Pipe	SP, DN: 150
10	Remarks/ Issue	All accessories are OK

Other Information:

Photo Sheet

Reservoir Name: Gihara

No:134



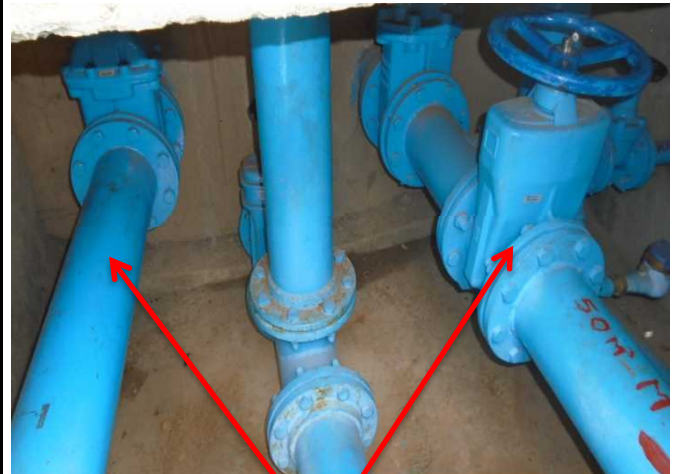
Whole View



Reservoir



Inlet Pipe without Valve



Outlet Pipe with Valve



Float Valve

Meter

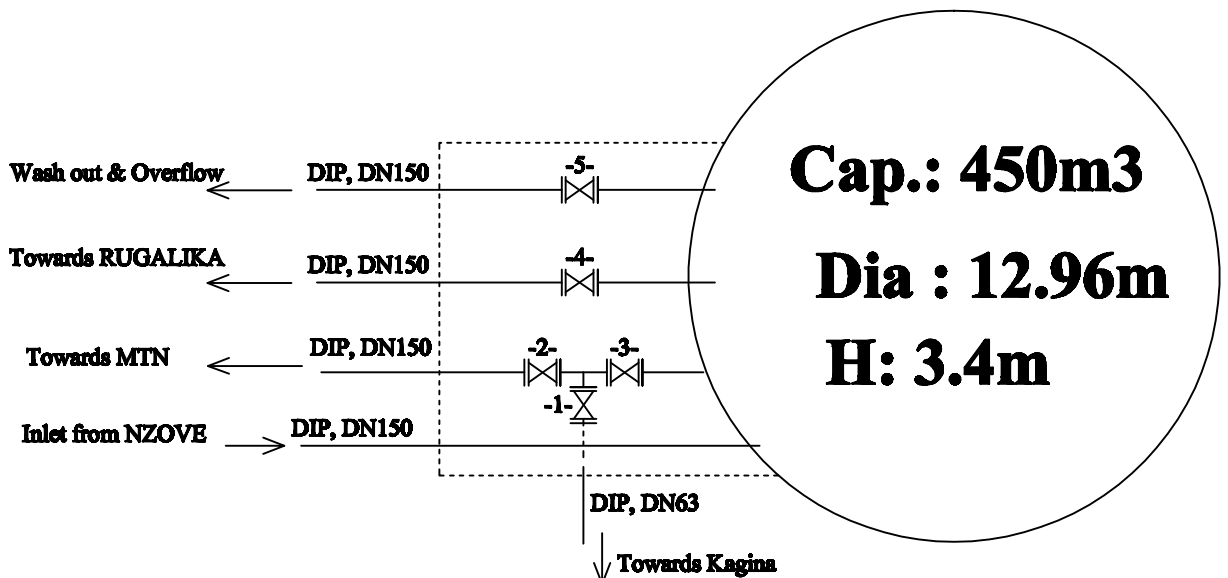
NYARUGENGE BRANCH

Reservoir No.: 142

Location: Gihara

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Outlet towards Kagina, Valve DN63
- 2 - Outlet Valve DN150
- 3 - Outlet Valve DN150
- 4 - Outlet towards Rugalika, Valve DN150
- 5 - Washout Valve 150

19. RESERVOIR No.78: MONT KIGALI HAUT

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: MONT KIGALI HAUT

No.: 78

I. Status and Functionality issues description

Floater valve needed, Replacement of 2 existing adaptors, replacement of 1 defective Outlet valve

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of floater valve• Installation of 60cm Straight Pipe with Double Flange DN200• Installation of 90 Degree Elbow with Double Flange DN200• Installation of 2 Adaptors DN100• Installation of Valve DN100	<ul style="list-style-type: none">• 1 Floater valve DN200• 1 Straight Pipe of 60cm with Double Flange DN200• 1 Elbow with 90 Degree with Double Flange DN200• 2 adaptors DN100• installation of Valve DN100

III. Description Photos



Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	78
2	Name of Reservoir	Mont Kigali Haut
3	ID Code	NYAKC4RE1
4	Ward	Sector: Kigali, District: Nyarugenge, Cell: Kigali, Village:
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.974988, Longitude: 30.035563, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: No data
9	Storage Capacity	400m3
10	Service area of the Reservoir	Mont Kigali Bas, Karama PS, Karama
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	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: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	2 Adaptors DN100 + Valve DN100 leaking and need replacement.
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.80m, H: 3.70
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 200 (needed)
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 250 , Roof
5	Inlet valve No.1	No installation (water from Culligany's new 5000tank)
6	Outlet pipe No.1	SP, DN: 200
7	Outlet valve No.1	DN: 200 , Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	. 2 Adaptors DN100 + Valve DN100 leaking and need replacement.

Other Information:

. For Floater installation, a piece of 60 cm is required (with double flange), and elbow of 90 degrees, + Floater all of DN200

Photo Sheet

Reservoir Name: Mont Kigali Haut

No:78



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

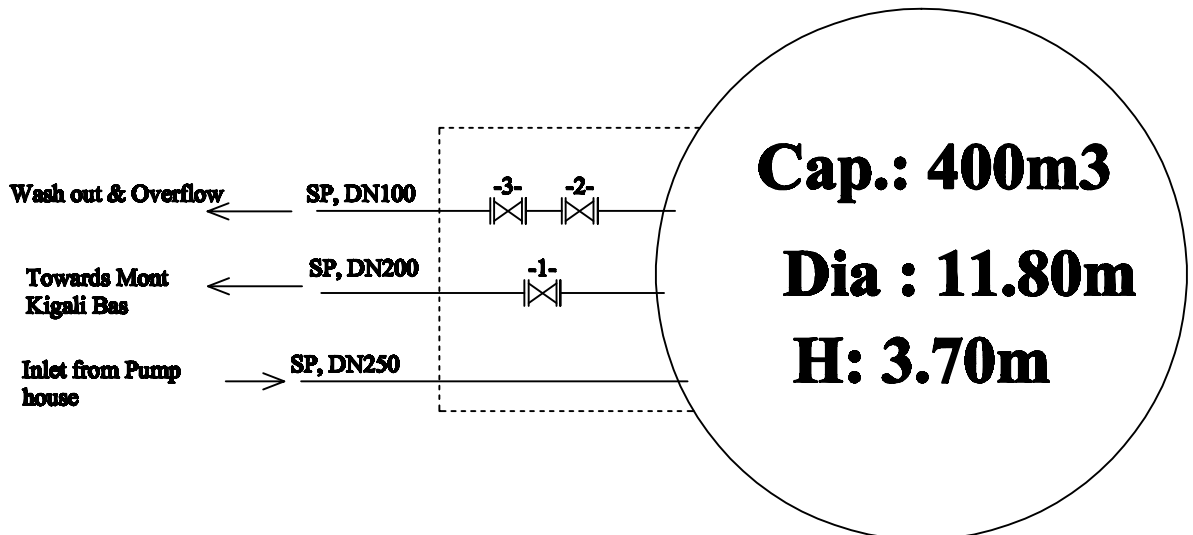
NYARUGENGE BRANCH

Reservoir No.: 100

Location: Mont Kigali Haut

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Outlet Valve DN200
- 2 - Washout Valve DN100
- 3 - Washout Valve DN100

20. RESERVOIR No.135: SKOL

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: SKOL

No.: 135

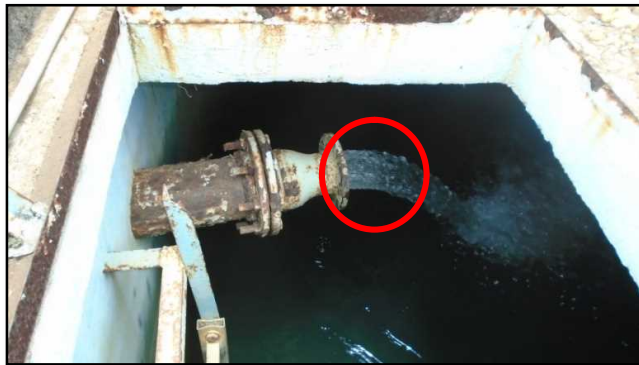
I. Status and Functionality issues description

No Floater valve, Existing Meter not functioning.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of a floater valve• Installation of SP 2" Size Flow Meter	<ul style="list-style-type: none">• 1 Floater Valve DN100• 1 Meter DN50

III. Description Photos



Inlet pipe without floater valve



Defective Meter

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	135
2	Name of Reservoir	Skol
3	ID Code	KANN7RE3
4	Ward	Sector: Kanyinya, District: Nyarugenge, Cell: Nzove, Village: Nzove
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.935032, Longitude: 30.006932 , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: No Data
9	Storage Capacity	300 m3
10	Service area of the Reservoir	Skol breweries, Nzove areas, Giticyinyoni
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: Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 11.60m , H: 300
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation Not needed)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 150
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 150 , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: 150 , Function: YES
6	Outlet pipe No.1	SP, DN: 150
	Outlet pipe No.2	SP, DN: 2" - Towards Arsenal
7	Outlet valve No.1	DN: 150 , Function: YES
	Outlet valve No.2	DN: 2" , Function: YES
8	Overflow Pipe	SP/ DIP/ PVC/ Others (), DN:
9	Drain Pipe	SP/ DIP/ PVC/ Others (), DN:
10	Remarks/ Issue	Meter towards Nzove not working

Other Information:

Photo Sheet

Reservoir Name: Skol

No:135



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter (Defective)

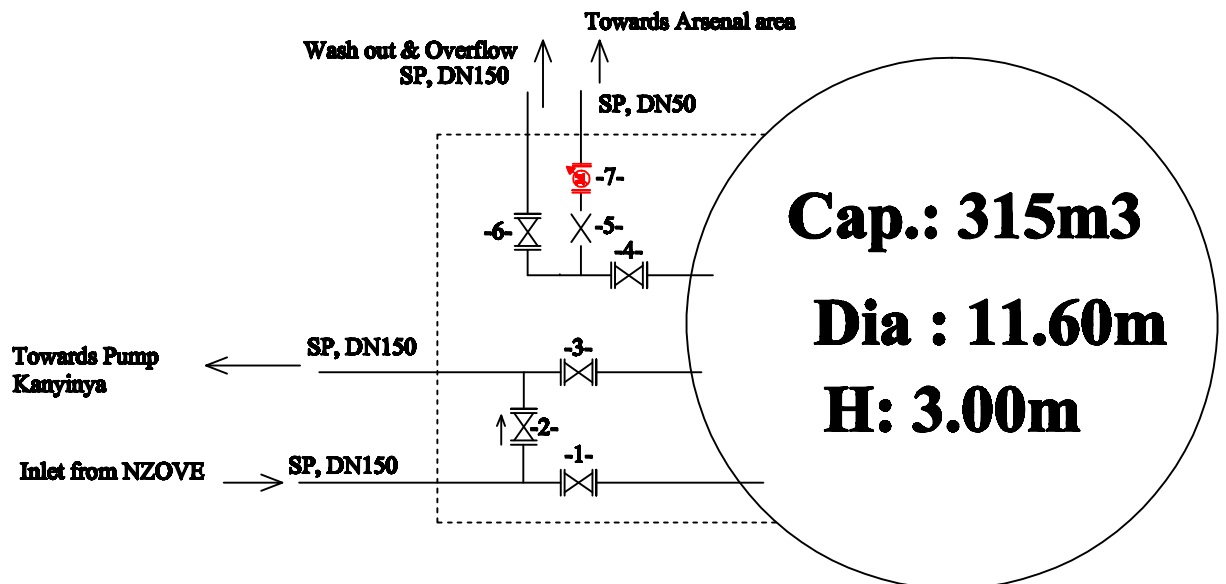
NYARUGENGE BRANCH

Reservoir No.: **XX**

Location: Skol

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN150
- 2 - Bypass Valve DN150
- 3 - Outlet Valve DN150
- 4 - Outlet Valve No.1 DN150
- 5 - Outlet towards Arsenal
- 6 - Washout Valve No.2 DN150
- 7 - Flow Meter DN50

21. RESERVOIR No.164: JALI BAS

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: JALI BAS

No.: 164

I. Status and Functionality issues description

Steel Pipe DN150 and Steel Pipe DN50 needed to modify the existing installation while replacing defective pieces,

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of Steel Pipe DN150• Installation of Steel Pipe DN50• Installation of Flange for welding DN150• Installation of Flange for welding DN50	<ul style="list-style-type: none">• 1 floater valve DN50• 1 valve DN50• 2 Flange for welding DN150• 2 Flange for welding DN50

III. Description Photos



Leaking pipe to be replaced



Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	169
2	Name of Reservoir	Jali (Bas)
3	ID Code	No data
4	Ward	Sector: Jali, District: Nyarugenge, Cell: Nyamitanga, Village: Nyamitanga
5	Branch Office	Nyarugenge
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year; No Data
9	Storage Capacity	200 m3
10	Service area of the Reservoir	Jali (Haut) - RDF
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: Bugarama-Jali
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	L: 10.40 × B: 5.10m, H: 3.80m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (not needed, it is a pumping station)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 100 , PN(bar): 16
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 150, Top
5	Inlet valve No.1	No installation
	Inlet valve No.2	
6	Outlet pipe No.1	SP, DN: 2 1/2" (75)
	Outlet pipe No.2	SP, DN: 3" (100)
7	Outlet valve No.1	DN: 2 1/2", Function: YES
8	Overflow Pipe	SP, DN: 125
9	Drain Pipe	SP, DN: 75
10	Remarks/ Issue	

Other Information:

Photo Sheet

Reservoir Name: Jali Bas

No:169



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve needed (Source)



Meter

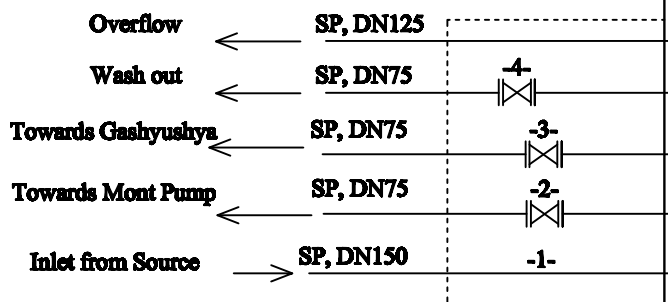
NYARUGENGE BRANCH

Reservoir No.: 45

Location: Jali Bas

Material: Concrete

SCHEMATIC DRAWING



Cap.: 200m³

L: 10.24m

B: 5.08m

H: 3.80m

LEGEND

- 1 - Inlet pipe
- 2 - Outlet Valve DN75
- 3 - Outlet Valve DN75
- 4 - Washout Valve DN75

22. RESERVOIR No.176: JALI HAUT

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: JALI HAUT

No.: 176

I. Status and Functionality issues description

PVC Valve 110 leaking, no floater valve installed.

II. Required Action and Requirements

Action	Required quantity
Supply and installation a 50cm Straight Pipe with Double Flange DN100 including all accessories.	1
Supply and installation a 50cm Straight Pipe with a Flange DN100 including all accessories.	1
Supply and installation of a Johnson joint DN50 including all accessories.	1
Supply and installation of a Johnson joint DN100 including all accessories.	1
Supply and installation of a Manometer.	1
Supply and installation of Check Valve DN100 including all accessories.	1
Supply and installation of Valve DN100 including all accessories.	1

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

III. Description Photos



Network to modify



Check valve to replace



Accessories to replace

Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	176
2	Name of Reservoir	Jali (Haut)
3	ID Code	No Data
4	Ward	Sector: Jali, District: Nyarugenge, Cell: Nyamitanga, Village: Nyamitanga
5	Branch Office	Nyarugenge
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Storage (Pumbing station)
8	Age of Reservoir	Year: No Data
9	Storage Capacity	10 m3
10	Service area of the Reservoir	Jali Bugarama and Jali Military
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	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: Bugarama (Jali bas)
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 3.50m, H: 1.20m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (not needed, it is a pumping station)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical
		Function
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 125, Top
5	Inlet valve No.1	No installation
6	Outlet pipe No.1	SP, DN: 100
7	Outlet valve No.1	DN: 50, Function: No
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	

* Other Information:	. 2 Straight pipe 50cm, DN100 with flange
	. Johnson joint DN50
	. Valve DN50
	. Manometer 1 with accessories
	. Electrification
	. Anti belier
	. Clapet Anti retour DN100
	. Valve DN100
	. Joint Johnson DN100
	. Straight pipe 50cm, DN100 with flange

Photo Sheet

Reservoir Name: Jali Haut

No:176



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

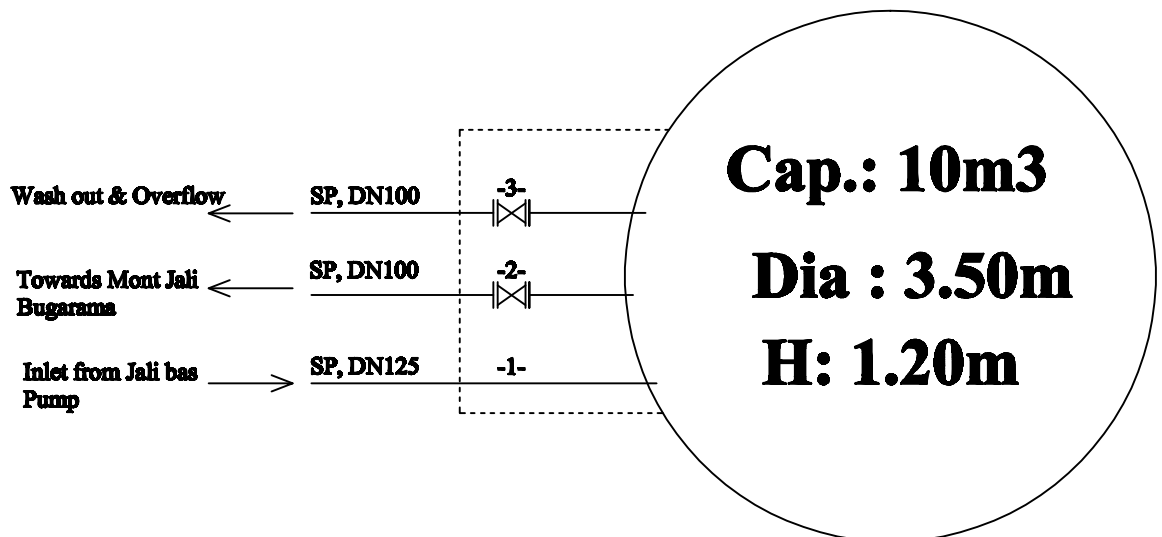
NYARUGENGE BRANCH

Reservoir No.: 51

Location: Jali Haut

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1- Inlet pipe
- 2 - Outlet towards Pump, DN100
- 3 - Washout Valve DN100

23. RESERVOIR No.91: KIBAGESERA

FINAL REPORT ON THE RESERVOIR SURVEY IN NYARUGENGE BRANCH

BRANCH: NYARUGENGE

Reservoir: KIBAGESERA

No.: 91

I. Status and Functionality issues description

We can't see the inside because the Manhole is closed. All accessories are new

II. Required Action and Requirements

Action	Requirements
•	•

III. Description Photos

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Attachement-3 Reservoir Survey Sheet

Date: **/**/2020

No.	Item	Details
A: General		
1	Number of Reservoir	91
2	Name of Reservoir	Kabagesera
3	ID Code	RUNDQ3RE1
4	Ward	Sector: Runda, District: Kamonyi, Cell: Kabagesera, Village: Kabagesera Village
5	Branch Office	Nyarugenge
6	Location	Latitude: - 1.967177, Longitude: 29.942677, Altitude
7	Function of Reservoir	BPT
8	Age of Reservoir	year: No Data
9	Storage Capacity	30 m3
10	Service area of the Reservoir	Nkoto and Sheli
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: Nzove via Gihara
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: / L: × B: , H:
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function, DN: 2"
2	Water Level Gauge	No installation
3	Flow Meter	No installation
4	Inlet pipe No.1	SP, DN: 4", Top
5	Inlet valve No.1	DN: 4", Function: YES
6	Outlet pipe No.1	SP, DN: 4"
7	Outlet valve No.1	DN: 4", Function: YES
8	Overflow Pipe	SP, DN: 4"
9	Drain Pipe	SP, DN: 4"
10	Remarks/ Issue	. We can't see the inside because the Manhole is closed, . All accessories are new

Other Information:

Photo Sheet

Reservoir Name: Kabagesera

No:91



Whole View



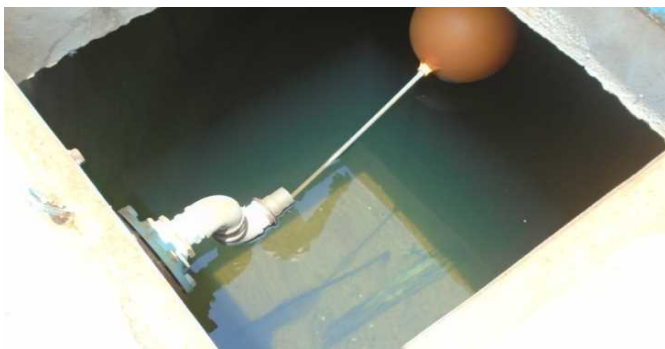
Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

No meter

Meter

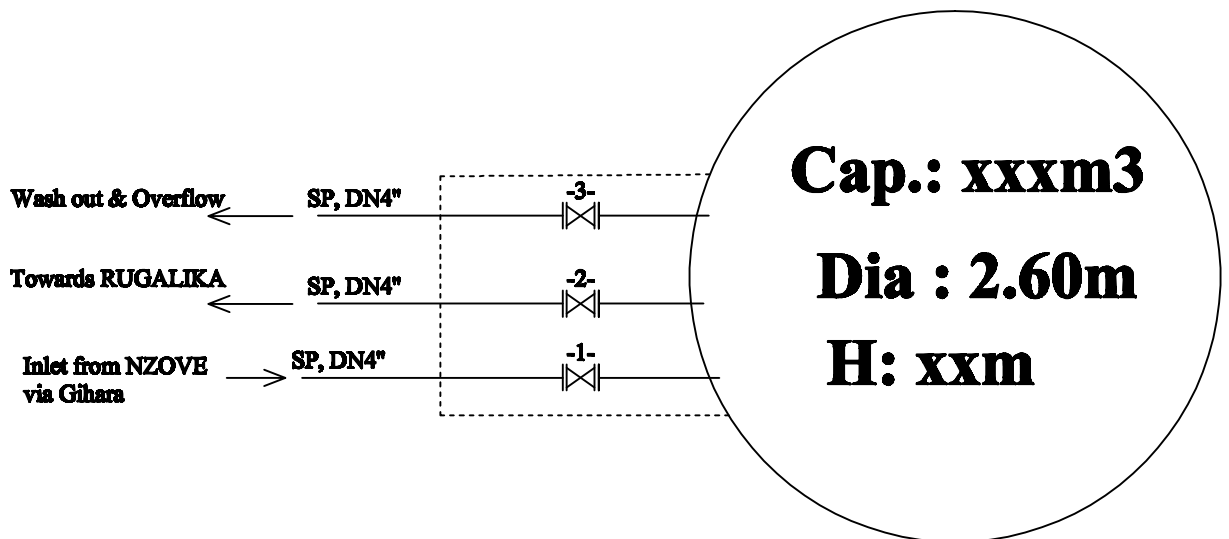
NYARUGENGE BRANCH

Reservoir No.: 52

Location: Kabagesera

Material: Stone Masonry

SCHEMATIC DRAWING



LEGEND

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

Comments:

- The reservoir is new and all accessories are operational.

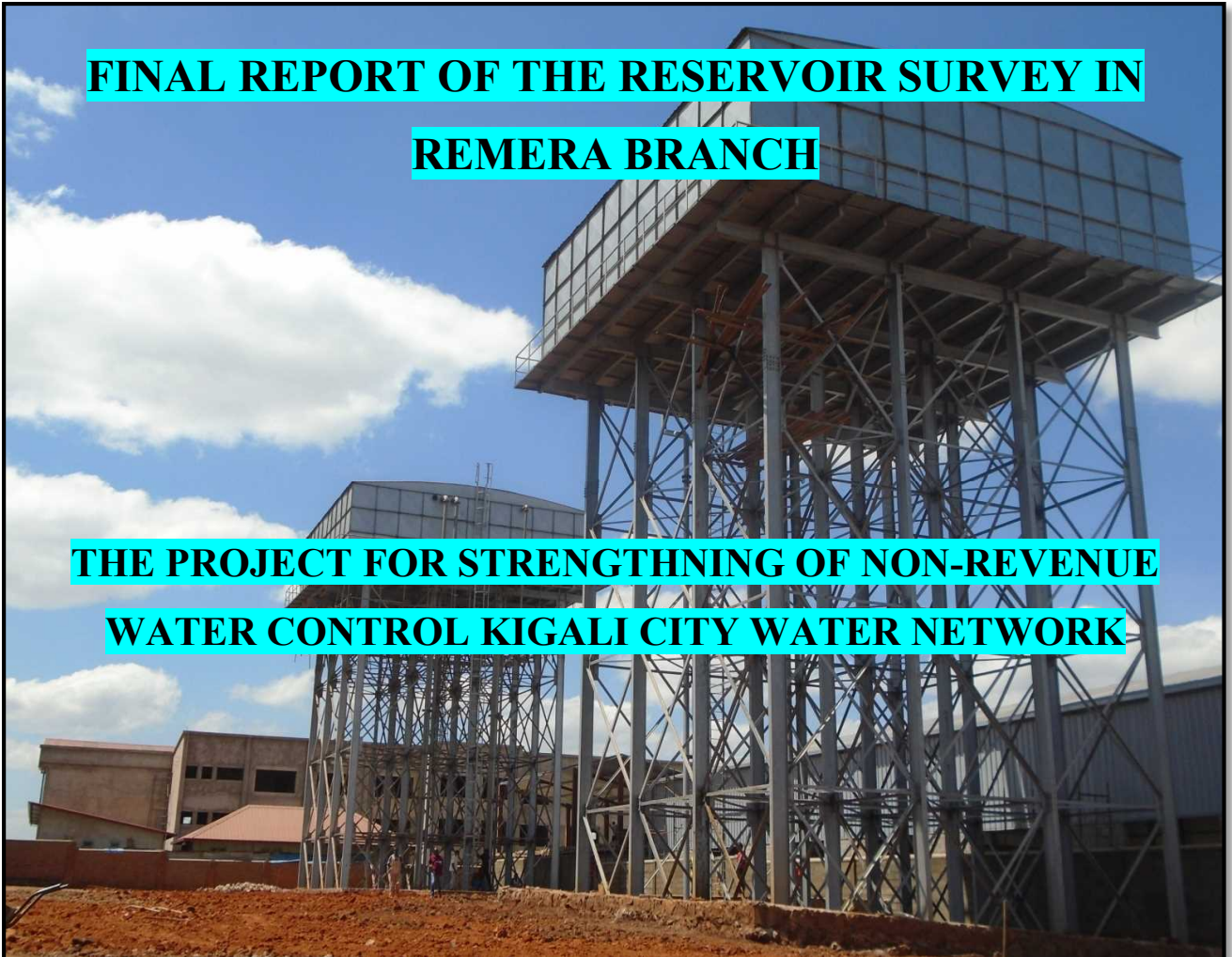
FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

THE REPUBLIC OF RWANDA

KIGALI CITY

**FINAL REPORT OF THE RESERVOIR SURVEY IN
REMERA BRANCH**

**THE PROJECT FOR STRENGTHNING OF NON-REVENUE
WATER CONTROL KIGALI CITY WATER NETWORK**



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

Rwanda

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

1. RESERVOIR NO. 178: BUMBOGO CENTRAL ST. LEONARD

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Bumbogo Central St. Leonard

No.: 178

I. Status and Functionality issues description

The tank receives water from Nzove via Birembo and it serves Ngara, Gishaka, Karama and RDF Camp areas. It has always low level of water due to the fact that it is always serving as it receives.

It has no floater valve but it is new and doesn't have functionality issue.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">Installation of Floater valve	<ul style="list-style-type: none">Floater valve DN200

III. Description Photos



Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	178	
Branch	Remera	
District	Gasabo	
Sector	Bumbogo	
Cell	Mvuzo	
Village	Kigabiro	
Street	KG 22 Av	
GPS Coordinates Latitude	-1.8829773 y	
GPS Coordinates Longitude	30.1507568 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 02/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	178
2	Name of Reservoir	Central St. Leonard (Bumbogo Central st Leonard)
3	ID Code	BUL6RE1
4	Ward	District: Gasabo, Sector: Bumbogo, Cell: Mvuzo, Village: Kigabiro
5	Branch Office	Remera
6	Location	Latitude: -1.8829773, Longitude: 30.1507568, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: N.A
9	Storage Capacity	400m3
10	Service area of the Reservoir	NGARA-GISHAKA-KARAMA-RDF Defense
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	1 person
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: <u>Sometimes</u>
	Reason of bypass operation	Maintenance and Cleaning purpose
6	Inflow Condition	Source: Nzove via Birembo
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Always low level
8	Issue on Functional Condition	The tank is always on low level due to the fact that the supply is permanent.
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 13.20m, H: 3.10m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 200
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 150, PN(bar): _____,
		Function: YES
		Location: Inlet 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: 200
	Drain Valve	DN: 200, Function: YES
10	Remarks/ Issue	Bypass Valve DN: 200, Function: no information,
Other Information:		Drain valve DN200 Drain Meter DN80

Photo Sheet

Reservoir Name: Central St. Leonard

No: 178



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

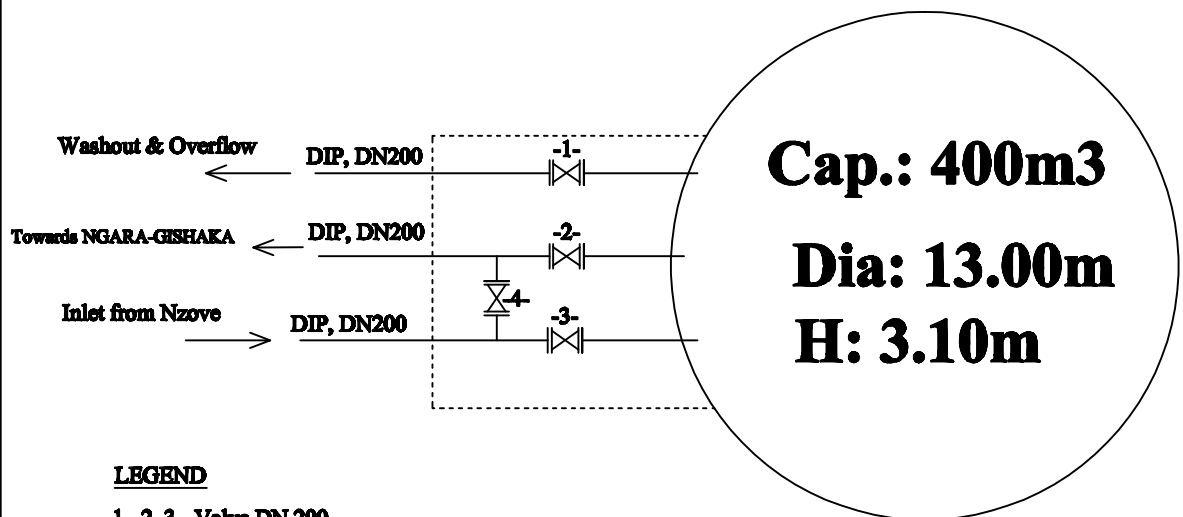
REMERA BRANCH

Reservoir No.: 9

Location: Central St. Leonard

Material: Concrete

SCHEMATIC DRAWING



LEGEND

1, 2, 3 - Valve DN 200

4 - Bypass Valve DN 200

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

2. RESERVOIR NO. 119&118: FREEZONE

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Free Zone

No.: 119&118

I. Status and Functionality issues description

Free zone receive water from Karengye, reservoirs are made of steel panels and are suspended at a height of 17m.

One reservoir (No.119) is used for water supply for industry and factories, and the management is under WASAC Ltd, the other one No. 118 is under management of RDB and it is used as storage of Fire Hydrant and not permanently used but permanently full of water.

Accessories are all operational and no functionality issue was discovered.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Manhole floor concreting and covering• Concreting of bottom floor of the tanks to protect the steel support and avoid mud on the outlet and inlet valves	<ul style="list-style-type: none">• Construction works

III. Description Photos



Manhoke bottom concreting works and covering



Bottom floor concreting for support protection

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

Rwanda

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	118 & 119	
Branch	Remera	
District	Gasabo	
Sector	Ndera	
Cell	Masoro	
Village	Munini	
Street	KK 3 Rd	
GPS Coordinates Latitude	-1.9496972 y	
GPS Coordinates Longitude	30.1549242 x	



Attachement-3 Reservoir Survey Sheet

Date: 01/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	119
2	Name of Reservoir	Free Zone
3	ID Code	NDES7RE1
4	Ward	District: Gasabo, Sector: Ndera, Cell: Masoro, Village: Munini
5	Branch Office	Remera
6	Location	Latitude: -1.9496972, Longitude: 30.1549242, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year: 2012
9	Storage Capacity	500 m ³
10	Service area of the Reservoir	Free Zone Industries
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a week,
	Action against to overflow	Closing valve
3	Wall Leakage	Nothing
4	Overflow observation	_____ times/month, 7 times/week
	Phenomenon	
	Reason of overflow	No level indicator
5	Bypass-flow operation	Always/ Nothing, Timing: <u>1 in 3 months</u>
	Reason of bypass operation	Maintennce and cleaning
6	Inflow Condition	KARENGE WTP
		Water pressure at inlet:
		Frequency and time: PERMANENT
7	Water level movement	Proper movement
8	Issue on Functional Condition	No water level gauge or indicator, resulting in overflow sometimes.
C:Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Elevated
3	Structure Material	Steel
4	Inside Dimension	L: 13.42m × B: 13.42m , H: 3m
5	Remarks/ Issue	To protect the support against rust, base concreting is needed.

No.	Item	Details
D: Equipment		
1	Floater Valve	Function: Yes, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	No installation: using connected customer meters.
4	Inlet pipe No.1	SP, DN: 150, Top
5	Inlet valve No.1	DN: 250, Function: YES
6	Outlet pipe No.1	SP, DN: 200
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100
10	Remarks/ Issue	
Other Information:		Manhole is open, stairs neede because existing are not safe.

Attachement-3 Reservoir Survey Sheet

Date: 01/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	118
2	Name of Reservoir	Free Zone (Fire hydrant system)
3	ID Code	NDES7RE2
4	Ward	District: Gasabo, Sector: Ndera, Cell: Masoro, Village: Munini
5	Branch Office	Remera
6	Location	Latitude: -1.9496972, Longitude: 30.1549242, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2013
9	Storage Capacity	500 m3
10	Service area of the Reservoir	Free Zone (Fire hydrant system)
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a week,
	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: In case of fire
	Reason of bypass operation	Supplying the fire hydrant system
6	Inflow Condition	Source: Karengye WTP
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	None
C: Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Elevated
3	Structure Material	Concrete, Stones, Steel, Plastic, Other()
4	Inside Dimension	D: / L: 11m × B: 10m , H: 3m
5	Remarks/ Issue	To protect the support against rust, base concreting is needed.

No.	Item	Details
D: Equipment		
1	Floater Valve	Function: Yes, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 200 , PN(bar): _____,
		Function: Yes
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 150, Top
5	Inlet valve No.1	DN: 150, Function: YES
6	Outlet pipe No.1	SP, DN: 200, PN16
	Outlet pipe No.2	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: 200, Function: YES
8	Overflow Pipe	SP, DN: 100
9	Drain Pipe	SP, DN: 100, PN10
10	Remarks/ Issue	Supports need protection against rust.

Other Information:

The tank is under management of RDB

Photo Sheet

Reservoir Name: Free Zone

No: 118



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Bypass



Meter

Photo Sheet

Reservoir Name: Free Zone

No: 119



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Bypass

Metering is done at customer meters

No meter Meter

REMERA BRANCH

Reservoir No.: 22

Location: Free Zone

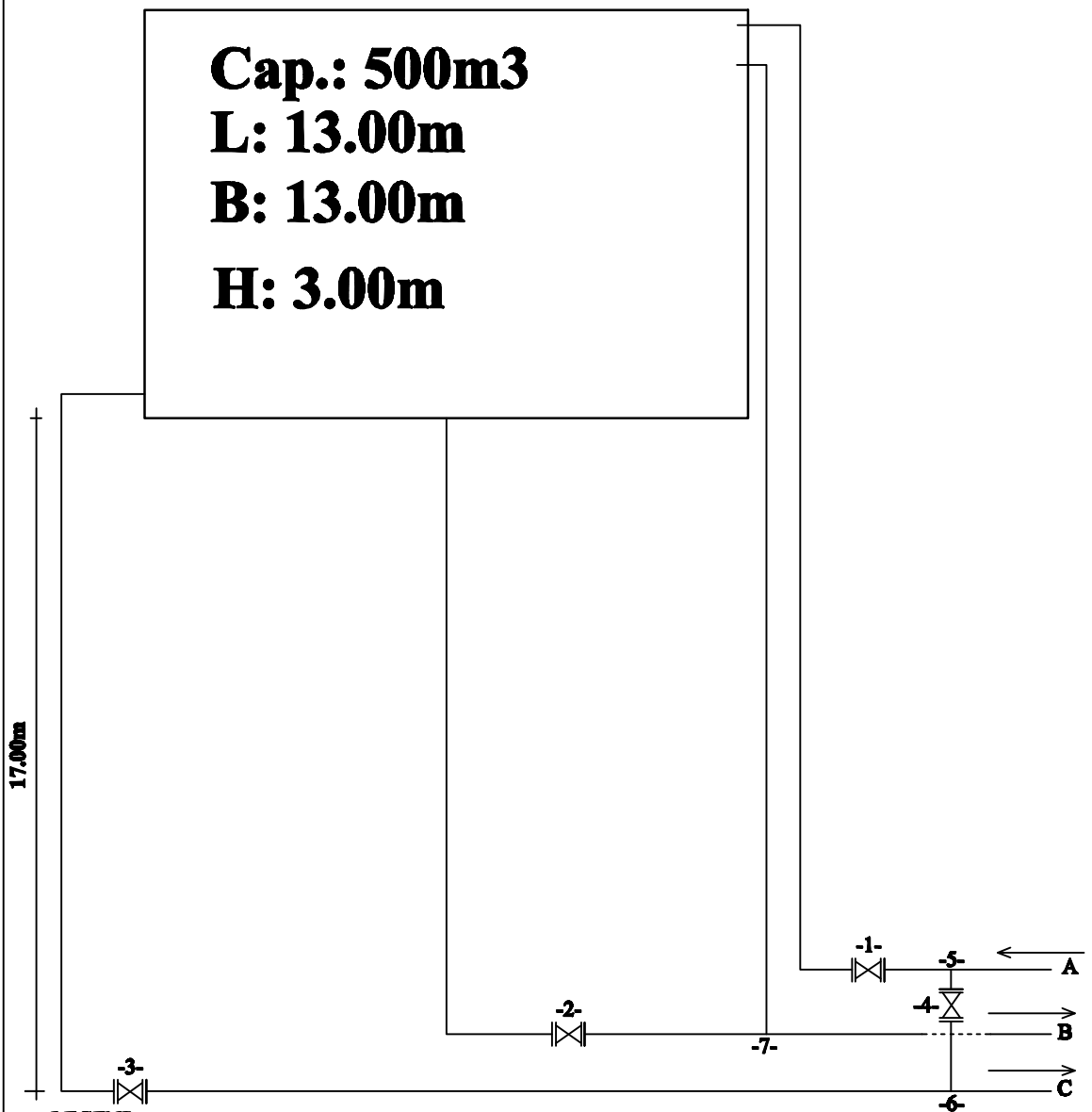
Material: Steel pannel and Steel Support

Cap.: 500m³

L: 13.00m

B: 13.00m

H: 3.00m



LEGEND

1, 2, 3 - Valve DN250

4 - Valve DN150

5, 6, 7 - Tee with triple flange

A - Inlet from Karege

B - Washout and Overflow pipe

C - Outlet towards Free Zone Areas

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REMERA BRANCH

Reservoir No.: 23 (Fire hydrant)

Location: Free Zone

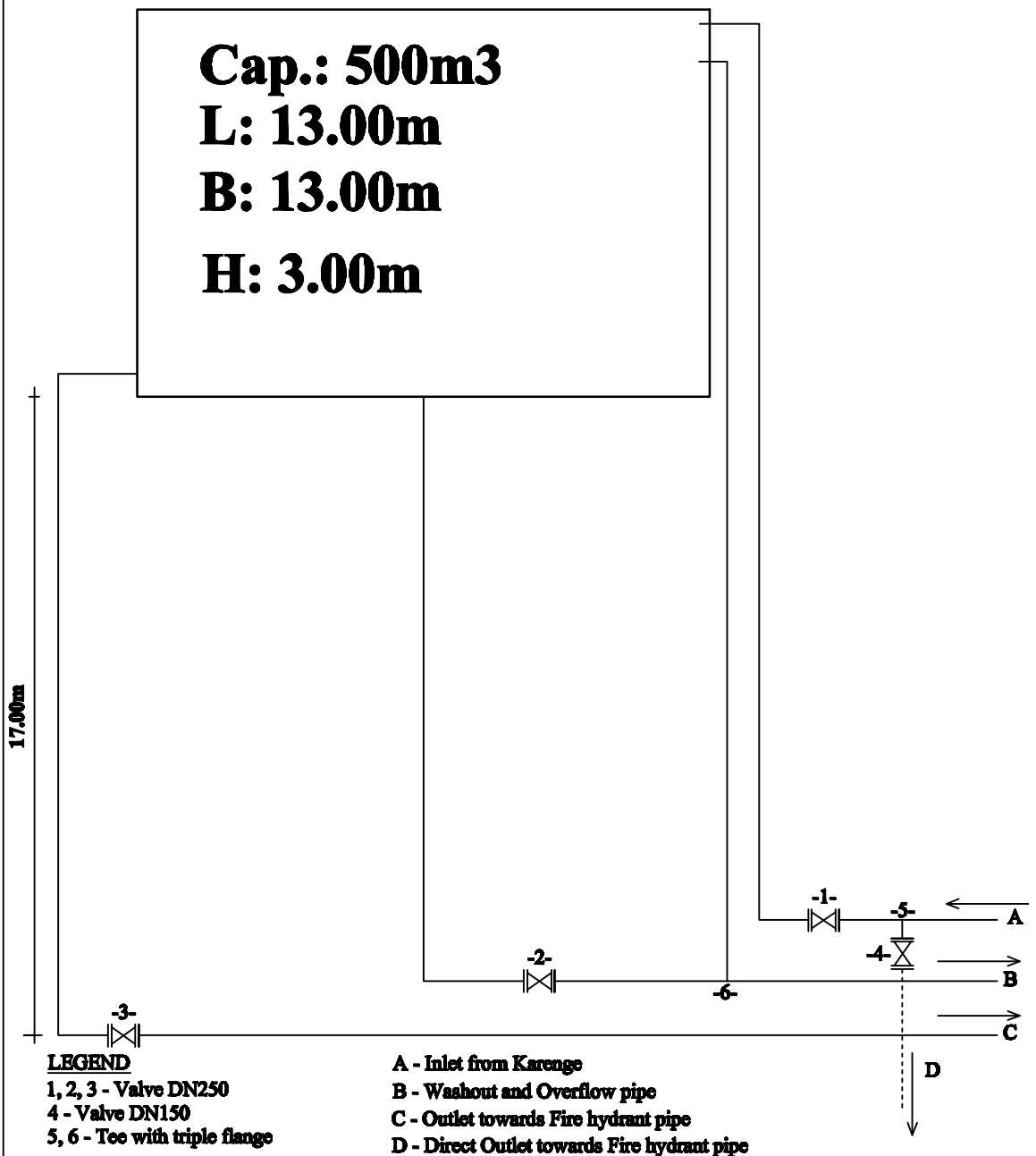
Material: Steel pannel and Steel Support

Cap.: 500m³

L: 13.00m

B: 13.00m

H: 3.00m



LEGEND

1, 2, 3 - Valve DN250

4 - Valve DN150

5, 6 - Tee with triple flange

A - Inlet from Kareng

B - Washout and Overflow pipe

C - Outlet towards Fire hydrant pipe

D - Direct Outlet towards Fire hydrant pipe

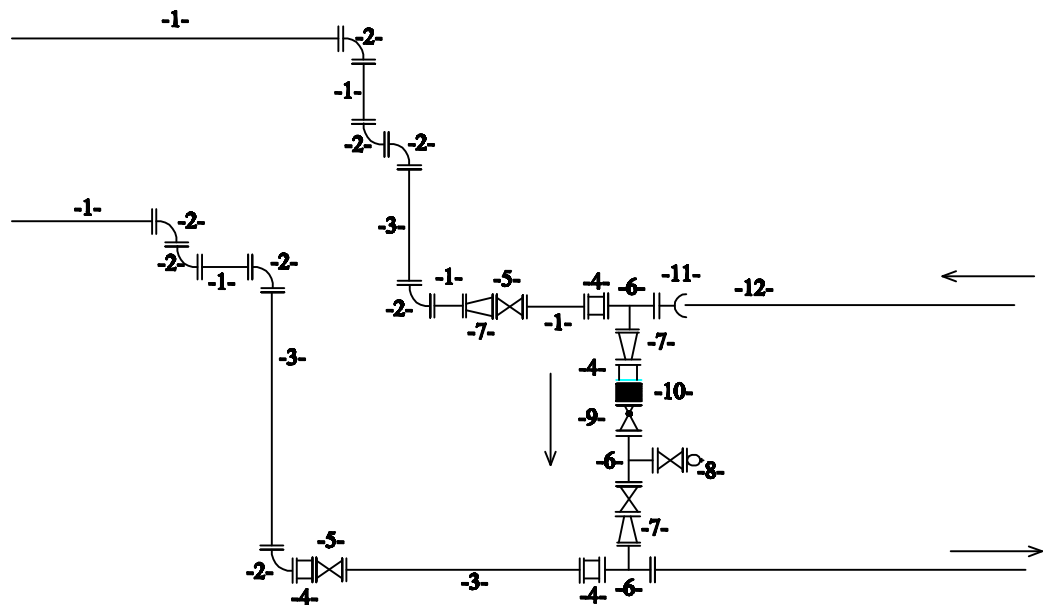
KYOWA ENGINEERING CONSULTANTS CO., LTD / WASAC LTD / JICA RWANDA

REMERA BRANCH

Reservoir No.: 22

Reservoir Name: Free Zone (Res. No. 1)

*** Inlet, Outlet and Bypass Pipe Res. No. 2 (DIP DN250)**



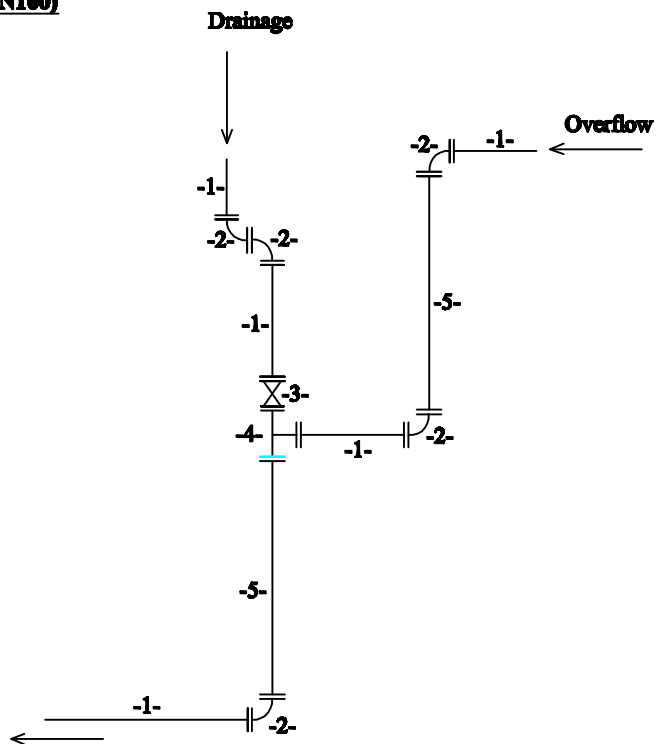
- 1- Straight Pipe with a flange
- 2- 90 Degree Elbow with double flange
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Valve
- 6- Tee with triple flange
- 7- Reduced cone DN250/150
- 8- Air valve
- 9- Pressure Reducing Valve
- 10- Filter
- 11- Flange adaptor
- 12- PVC Pipe

REMERA BRANCH

Reservoir No.: 22

Reservoir Name: Free Zone

*** Overflow and Drainage Res. No. 2
(SP DN100)**



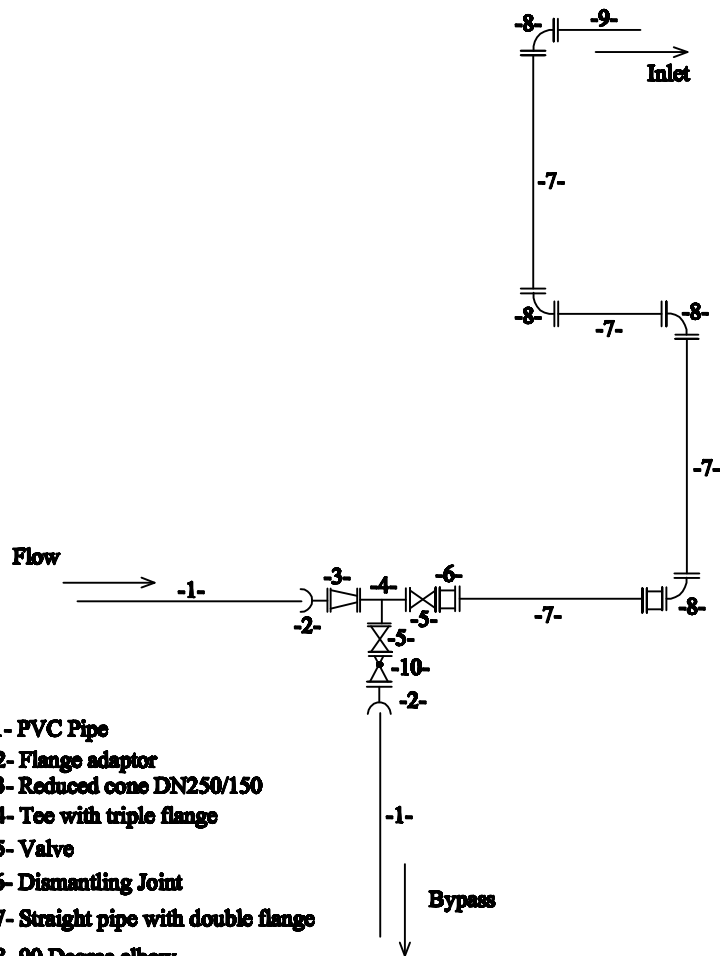
- 1- Straight Pipe with a flange
- 2- 90 Degree Elbow with double flange
- 3- Valve
- 4- Tee with triple flange
- 5- Pipe with Double Flange

REMERA BRANCH

Reservoir No.: 22

Reservoir Name: Free Zone

* Inlet and Bypass Rea. No. 2



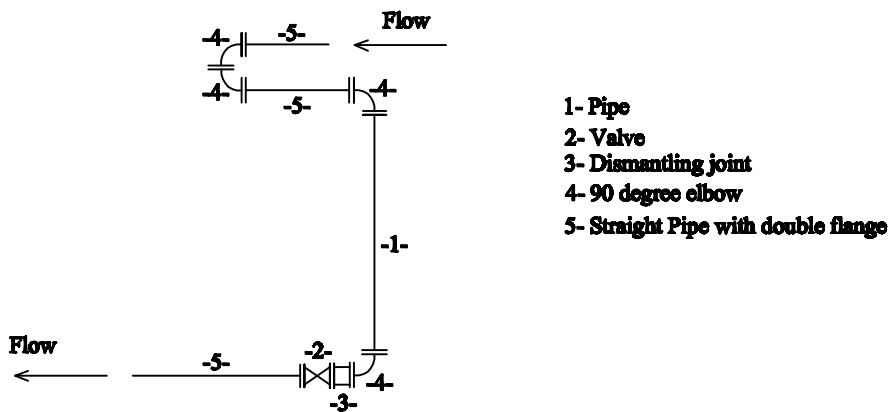
- 1- PVC Pipe
- 2- Flange adaptor
- 3- Reduced cone DN250/150
- 4- Tee with triple flange
- 5- Valve
- 6- Dismantling Joint
- 7- Straight pipe with double flange
- 8- 90 Degree elbow
- 9- Straight pipe with a flange
- 10- Pressure Reducing Valve

REMERA BRANCH

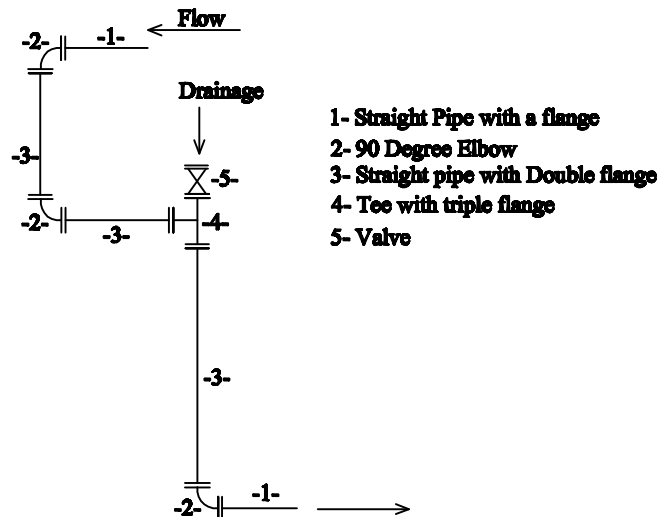
Reservoir No.: 22

Reservoir Name: Free Zone

* Outlet Res. No. 2 (DIP DN200)



* 2nd Overflow and Drainage (SP DN100)

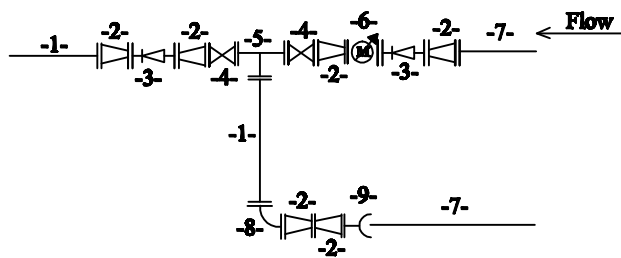


REMERA BRANCH

Reservoir No.: 22

Reservoir Name: Free Zone

* Principal Manhole (DIP DN250&200)



- 1- Straight Pipe with flange
- 2- Reduced cone
- 3- Check valve
- 4- Valve
- 5- Tee with triple flange
- 6- Flow Meter DN150
- 7- Pipe DN250
- 8- 90 Degree Elbow
- 9- Flange adaptor

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

3. RESERVOIR NO. 115&113: GOLF 8 (RWAHAMA)

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Golf 8 - Rwahama

No.: 115&113

I. Status and Functionality issues description

The pumping station receives water from 3 different sources which are Nzove via Ntora, Nzove via Kimihurura and Karengye. The 2 reservoirs has a total capacity of more than 2000m³ and they serve part of Kabeza, Remera 3 Rukiri, Bibare, National Stadium and surrounding areas.

Reservoir No. 115 has a Floater valve but it is not functional, and the reservoir No. 113 has no floater on all the 3 entering inlet pipes.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of Floater valves at Res No.115• Installation of Floater valves at Res No.113	<ul style="list-style-type: none">• 2 Floater valves DN250• 1 Floater valves DN300• 1 Floater valves DN200• 1 Floater valves DN250
<ul style="list-style-type: none">• Covering of manhole• Rehabilitation of manhole for inlet outside valves.	<ul style="list-style-type: none">• Construction works

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

III. Description Photos



Defective floater valve



Backfilling and construction of a protection manhole is needed



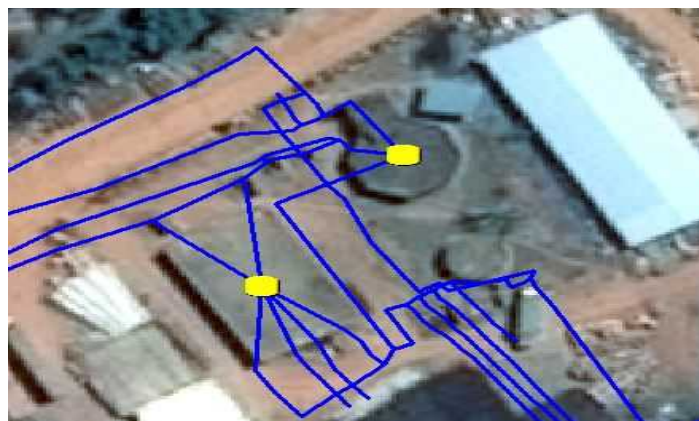
Rehabilitation of inlet manhole



Covering of manhole

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	113,115	
Branch	Remera	
District	Gasabo	
Sector	Kimironko	
Cell	Nyagatovu	
Village	Ijabiro	
Street	KG 205 St	
GPS Coordinates Latitude	-1.9512783 y	
GPS Coordinates Longitude	30.1193913 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 02/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	113
2	Name of Reservoir	Golf 8 Rwahama
3	ID Code	RET4RE2
4	Ward	District: Gasabo, Sector: Kimironko, Cell: Nyagatovu, Village: Ijabiro
5	Branch Office	Remera
6	Location	Latitude: -1.9512783, Longitude: 30.1193913, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	600 m3
10	Service area of the Reservoir	
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: Sometimes
	Reason of bypass operation	In case water is needed in Ntora or Karenge Networks for maintenance purposes
6	Inflow Condition	Source: Karenge and Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Hexagon
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	L: 7.60m, H: 4.00m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 250
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 250, PN(bar): _____,
		Function: YES
		Location: Inlet Pipe, Outlet Pipe
4	Inlet pipe No.1	DIP, DN: 300, Top
	Inlet pipe No.2	DIP, DN: 250, Top
	Inlet pipe No.3	DIP, DN: 200, Top
5	Inlet valve No.1	DN: 250, Function: YES
	Inlet valve No.2	DN: 250, Function: YES
	Inlet valve No.3	DN: 200, Function: YES
6	Outlet pipe No.1	DIP, DN: 400
	Outlet pipe No.2	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: , Function:
	Outlet valve No.2	DN: , Function:
	Outlet valve No.3	DN: , Function:
8	Overflow Pipe	DIP, DN: 300
9	Drain Pipe	DIP, DN: 200
10	Remarks/ Issue	

Other Information:	The tank is connected to Reservoir 1. Outlet pipe is connected to Reservoir 1, therefore same outlet Manhole
--------------------	--

Attachement-3 Reservoir Survey Sheet

Date: 02/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	115
2	Name of Reservoir	GOLF 8 Rwahama
3	ID Code	RET4RE3
4	Ward	District: Gasabo, Sector: Kimironko, Cell: Nyagatovu, Village: Ijabiro
5	Branch Office	Remera
6	Location	Latitude: -1.9512783, Longitude: 30.1193913, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	1400 m3
10	Service area of the Reservoir	Kabeza, Remera 3 Rukiri, Bibare
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing valves
3	Wall Leakage	Nothing
4	Overflow observation	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Timing: <u>Sometimes</u>
	Reason of bypass operation	In case water is needed in Ntora or Kareng e Networks for maintenance purposes.
6	Inflow Condition	Source: Kareng 1, 2 and Nzove
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Semi-ground
3	Structure Material	Concrete
4	Inside Dimension	L: 24m × B: 15m, H: 3.9m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Malfunction, DN: 250
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: _____, PN(bar): _____,
		Function: Yes
		Location: Inlet Pipe
4	Inlet pipe No.1	DIP, DN: 250, Top
	Inlet pipe No.2	DIP, DN: 250, Top
5	Inlet valve No.1	DN: 250, Function: YES
	Inlet valve No.2	DN: 250, Function: YES
6	Outlet pipe No.1	DIP, DN: 400
	Outlet pipe No.2	DIP, DN: 400
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (_____), DN:
7	Outlet valve No.1	DN: 400, Function: YES
	Outlet valve No.2	DN: 400, Function: YES
	Outlet valve No.3	DN: _____, Function:
8	Overflow Pipe	DIP, DN: 300
9	Drain Pipe	DIP, DN: 150
10	Remarks/ Issue	

Other Information:

Manhole not covered

Resewrvoir covers need to be replaced as they are worn out and rust.

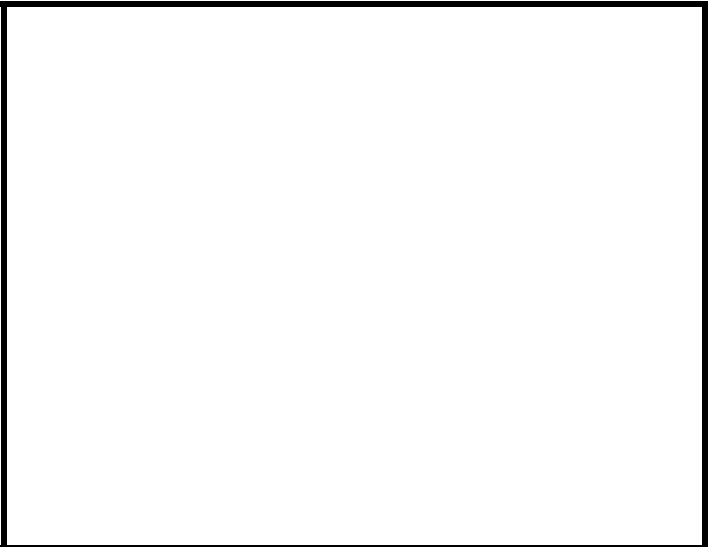
Photo Sheet

Reservoir Name: Golf 8 - Rwahama

No: 113



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter



No Floater Valves installed for the whole 3 pipes

Photo Sheet

Reservoir Name: Golf 8 - Rwahama

No: 115



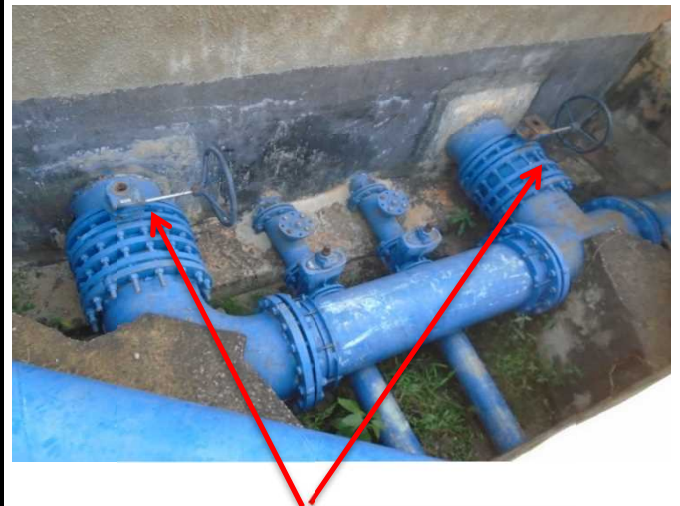
Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter



Floater Not operational

REMERA BRANCH

Reservoir No.: 35

Location: Golf 8 Rwabama

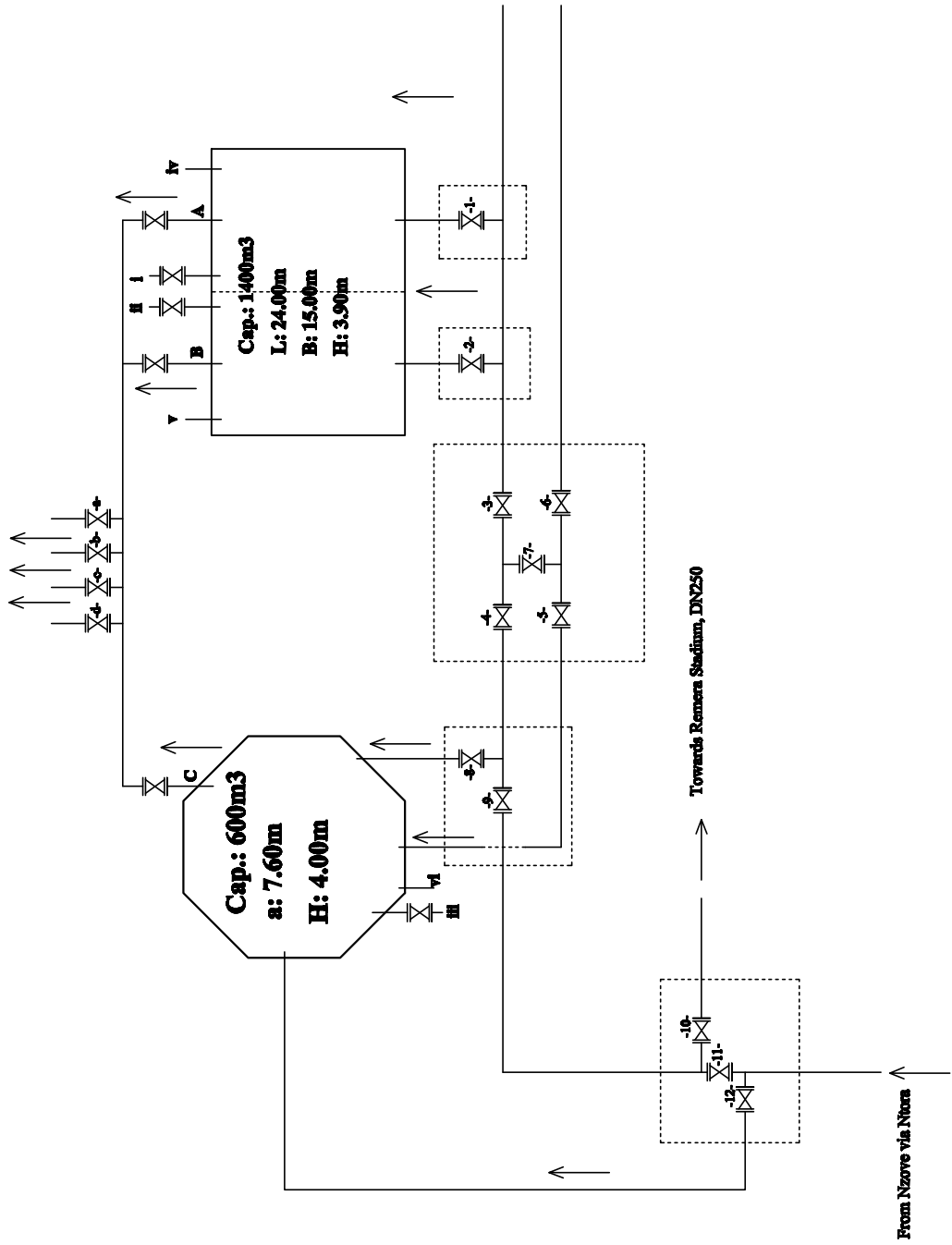
Material: Concrete

LEGEND (Inlet)

- 1, 2 - Reservoir No.1 Inlet Valves DN250
- 3,4 - Principal Manhole Valves DN300
- 5,6 - Principal Manhole Valves DN250
- 7 - Karenge 1 and Karenge 2 Connecting Valve DN250
- 8- Reservoir No.2 Inlet from Karenge 1 Valve DN250
- 5- Reservoir No.2 Inlet from Karenge 2 Valve DN250
- 9- Karenge and Ntora water connection Valve DN250
- 10- Ntora water to Remera stadium area, Valve DN250
- 11- Ntora Water Valve DN250
- 12- Bypass Ntora Water to Reservoir No.2 Only Valve DN250

LEGEND (Outlet)

- A, B- Outlet Reservoir No.1 Butterfly valve, DN400
- C- Outlet Reservoir No.2 Butterfly valve, DN400
- s- Outlet towards Network Remera 3, Valve DN250
- b- Outlet towards Network Kabeza, Valve DN250
- c- Outlet towards Network Bihara, Valve DN100
- d- Reserved Outlet, Valve DN100
- i, ii- Drainage Reservoir No.1, DN150
- iii- Drainage Reservoir No.2, DN200
- iv,v - Overflow Pipe Reservoir No.1, DN300
- vi - Overflow Pipe Reservoir No.2, DN200

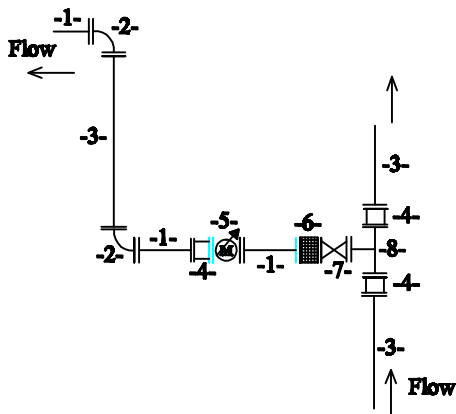


REMERA BRANCH

Reservoir No.: 34

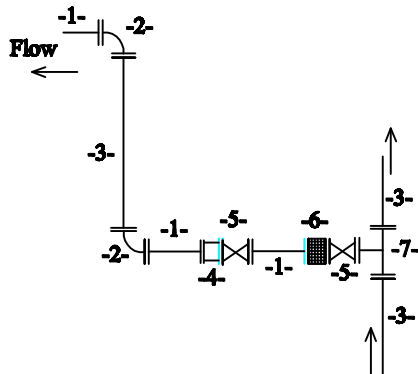
Reservoir Name: Golf 8- kwa Rwahama

*** Inlet A, Res. No.1 (DIP DN300,250)**



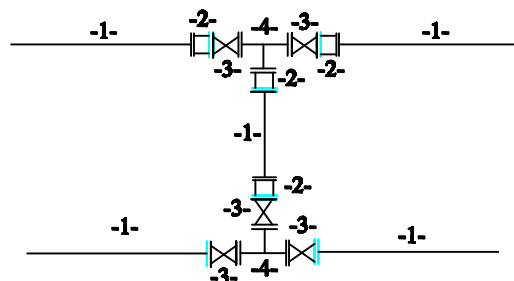
- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Flow Meter
- 6- Filter
- 7- Valve
- 8- Tee with triple flange

*** Inlet B, Res. No.1 (DIP DN300,250)**



- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Valve
- 6- Filter
- 7- Tee with triple flange

*** Principal Manhole (DIP DN300,250)**



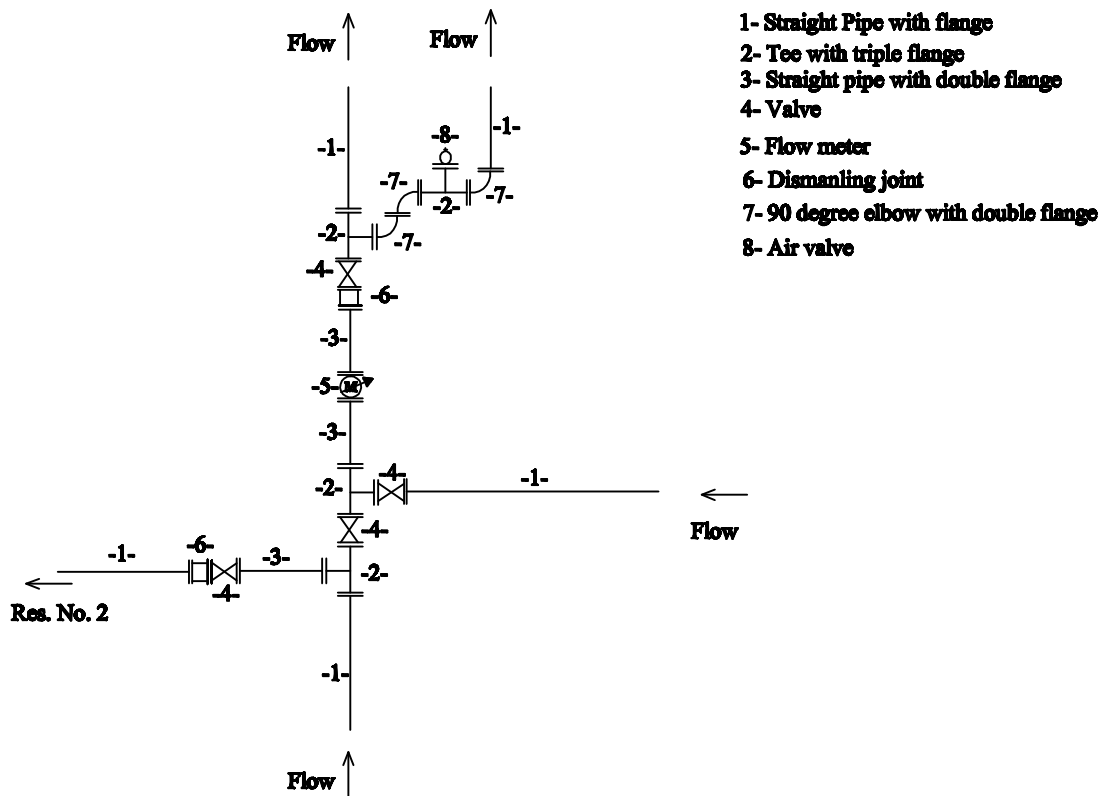
- 1- Straight Pipe with flange
- 2- Dismantling joint
- 3- Valve
- 4- Tee with triple flange

REMERA BRANCH

Reservoir No.: 35

Reservoir Name: Golf 8- kwa Rwahama

* Inlet C, Res. No. 2 (DIP DN250)

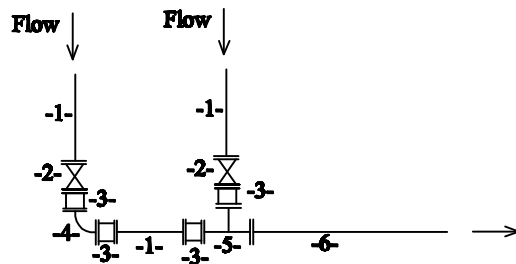


REMERA BRANCH

Reservoir No.: 34

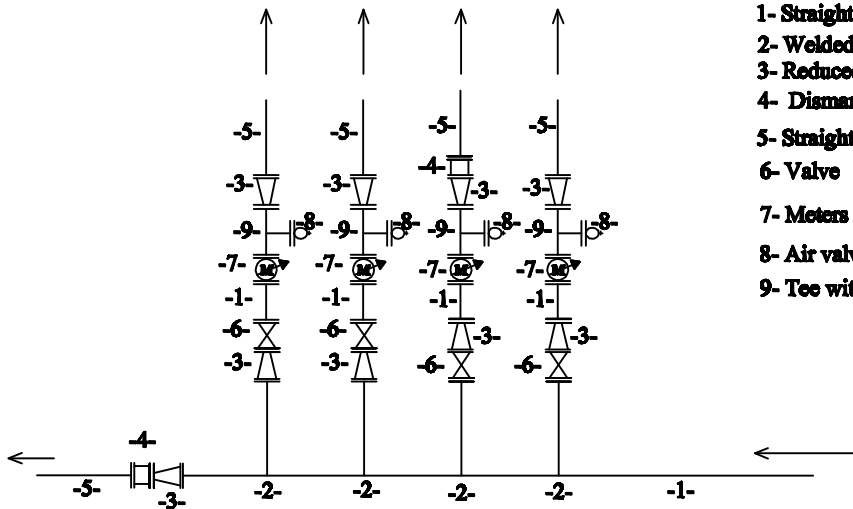
Reservoir Name: Golf 8- kwa Rwahama

*** Outlets , Res. No. 1 Manhole No.1 (DIP DN400)**



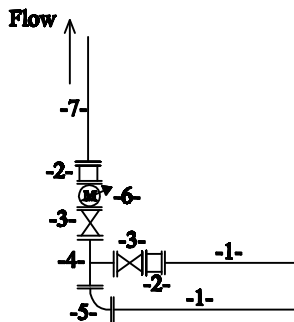
- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint
- 4- 90 degree elbow with double flange
- 5- Tee with triple flange
- 6- Straight pipe with double flange

*** Outlets , Res. No. 1 Manhole No.2 (DIP DN400, 250, 200, 150, 100)**



- 1- Straight Pipe with flange
- 2- Welded Tee shape pipe with flange
- 3- Reduced cone (various)
- 4- Dismantling joint
- 5- Straight pipe with double flange
- 6- Valve
- 7- Meters
- 8- Air valve
- 9- Tee with triple flange

*** Outlets , Res. No. 1 Manhole No.3 (DIP DN150)**



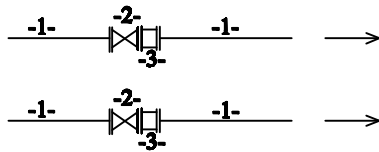
- 1- Straight Pipe with flange
- 2- Dismantling joint
- 3- Valve
- 4- Tee with triple flange
- 5- 90 degree Elbow
- 6- Flow Meter
- 7- Straight pipe with double flange

REMERA BRANCH

Reservoir No.: 34

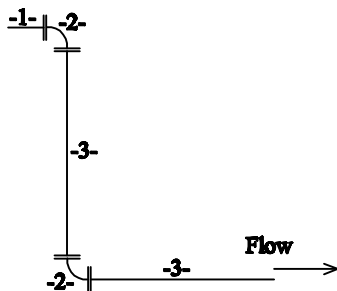
Reservoir Name: Golf 8- kwa Rwahama

* Drainage , Res. No. 1 (DIP DN150)



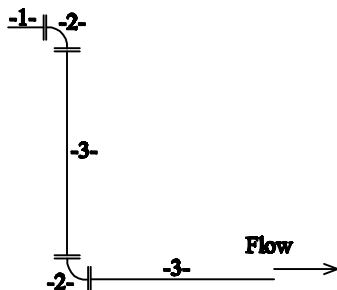
- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint

* Overflow No.1, Res. No. 1 (DIP DN300)



- 1- Straight Pipe with flange
- 2- 90 degree Elbow
- 3- Straight pipe with double flange

* Overflow No.2, Res. No. 1 (DIP DN300)



- 1- Straight Pipe with flange
- 2- 90 degree Elbow
- 3- Straight pipe with double flange

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

4. RESERVOIR NO. 164: KINYINYA

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Kinyinya Pumping Station

No.: 164

I. Status and Functionality issues description

The tank receives water from Nzove via Ntora and it serves Bumbogo-Central St Leonard- RDF Kami Camp areas. It has always low level of water due to the fact that it is always serving as it receives.

There a new reservoir which has no functionality issue, but at Kinyinya, there is another tank, which is very old but Operational and connected to the pumps. They use it as support in case more storage is needed, its inlet pipe is SP DN150 without a floater or valve, the outlet pipe is also DN150 and has no valve.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of a Floater valve for support tank.• Installation of outlet valve for support tank	<ul style="list-style-type: none">• Floater valve DN150• Valve DN150

III. Description Photos



Support Reservoir located behind pump house.
Capacity: 25m3



Pumps also connected to the old support Reservoir

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	164	
Branch	Remera	
District	Gasabo	
Sector	Kinyinya	
Cell	Gasharu	
Village	Agatare	
Street	KG 22 Av	
GPS Coordinates Latitude	-1.9084198 y	
GPS Coordinates Longitude	30.1252817 x	
Map		



Attachement-3 Reservoir Survey Sheet

Date: 02/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	164
2	Name of Reservoir	Kinyinya
3	ID Code	BUO5RE1
4	Ward	District: Gasabo, Sector: Kinyinya, Cell: Gasharu, Village: Agatare
5	Branch Office	Remera
6	Location	Latitude: -1.9084198, Longitude: 30.1252817, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: N.A
9	Storage Capacity	400 m3
10	Service area of the Reservoir	Bumbogo-Central St Leonard- RDF Kami Camp
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing Valve and Calling Supply
3	Wall Leakage	Nothing
4	Overflow observation	<u>0</u> times/month, <u>0</u> times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: NTORA (NZOVE)
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	No issue
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 13.20m, H: 3.10m
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
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: 200, Function: YES
	Inlet valve No.2	DN: , Function:
6	Outlet pipe No.1	DIP, DN: 200
	Outlet pipe No.2	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: 200, Function: YES
	Outlet valve No.2	DN: , Function:
	Outlet valve No.3	DN: , Function:
8	Overflow Pipe	DIP, DN: 200
9	Drain Pipe	DIP, DN: 200
	Drain Valve	DN: 200
10	Remarks/ Issue	

Other Information:	At Kinyinya, there are another tank, which is very old but Operational and connected to the pumps. They use it as support in case more storage is needed, it'sw inlet pipe is SP DN150 without a floater or valve, the outlet pipe is also DN150 and has no valve.
--------------------	--

Photo Sheet

Reservoir Name: Kinyinya Pumping Station

No: 164



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve



Meter

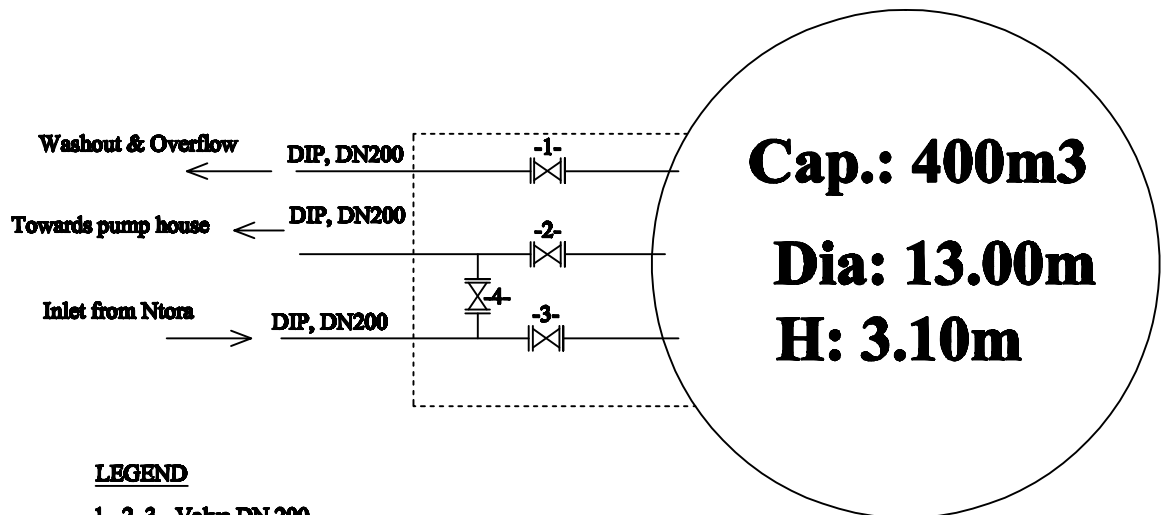
REMERA BRANCH

Reservoir No.: 83

Location: KINYINYA

Material: Concrete

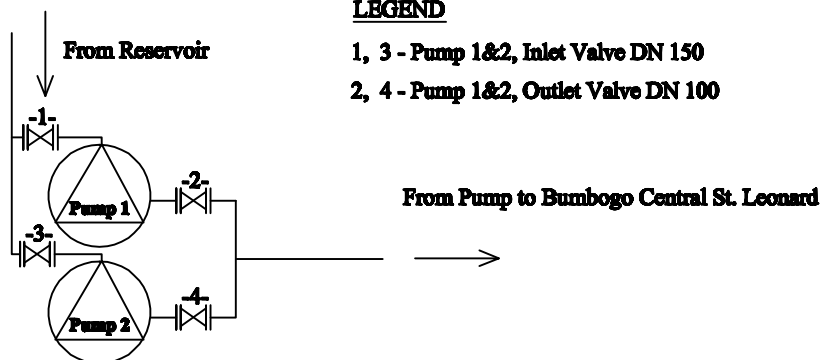
SCHEMATIC DRAWING



LEGEND

- 1, 2, 3 - Valve DN 200
- 4 - Bypass Valve DN 200

INSIDE PUMP HOUSE



LEGEND

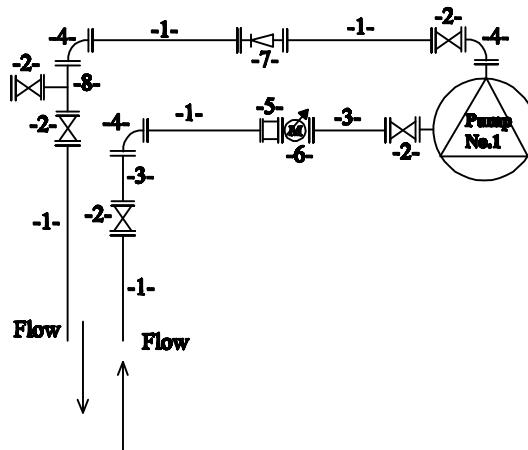
- 1, 3 - Pump 1&2, Inlet Valve DN 150
- 2, 4 - Pump 1&2, Outlet Valve DN 100

REMERA BRANCH

Reservoir No.: 83

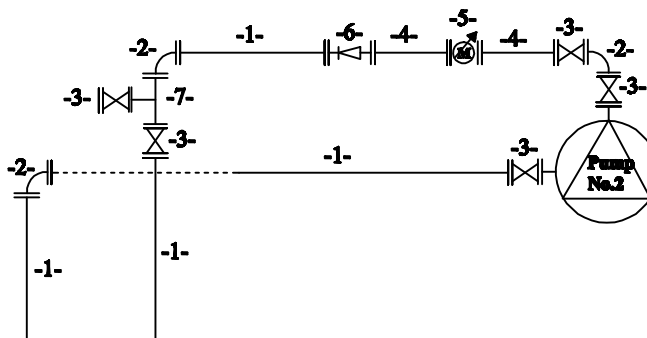
Reservoir Name: Kinyinya

*** Pumping Station Pump 1 (SP DN150)**



- 1- Straight pipe with double flange
- 2- Valve
- 3- Straight pipe with flange
- 4- 90 Degree Elbow
- 5- Dismantling Joint
- 6- Flow Meter
- 7- Check valve
- 8- Tee with triple flange

*** Pumping Station Pump 2 (SP DN150)**



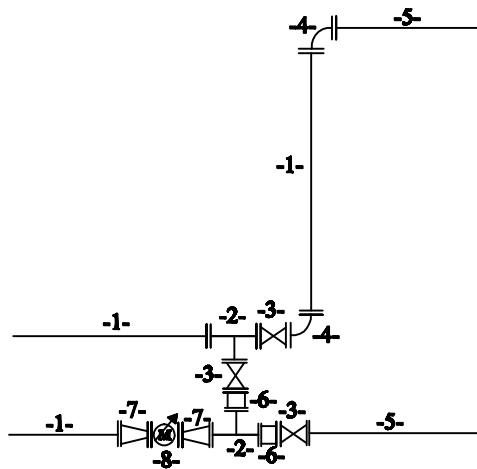
- 1- Straight pipe with flange
- 2- 90 Degree Elbow
- 3- Valve
- 4- Straight pipe with double flange
- 5- Flow Meter
- 6- Check valve
- 7- Tee with triple flange

REMERA BRANCH

Reservoir No.: 83

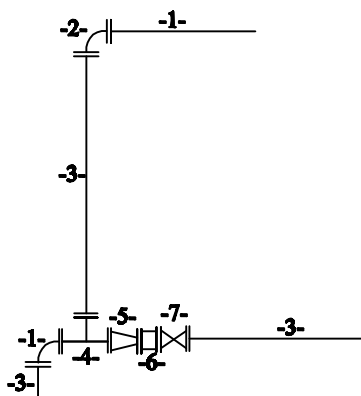
Reservoir Name: Kin'yinya

* Inlet, Outlet and bypass (SP DN200, 150)



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow
- 3- Straight pipe with double flange
- 4- Tee with Triple Flange
- 5- Reduced Cone
- 6- Dismantling Joint
- 7- Valve

* Overflow and Drainage



- 1- Straight Pipe with flange
- 2- 90 Degree Elbow
- 3- Straight pipe with double flange
- 4- Tee with Triple Flange
- 5- Reduced Cone
- 6- Dismantling Joint
- 7- Valve

5. RESERVOIR NO. 160: MASIZI

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Masizi Pumping Station

No.: 160

I. Status and Functionality issues description

The pumping station receives water from 4 different sources which are Zindiro Nyamuko, Kayenzi and Kirizi, the reservoir is underground and inlet pipes are PVC, some of the inlet pipes don't have drainage valves and may result in total reservoir drainage in case of high turbidity in those pipes.

The pumping station supplies water to Masizi areas and 2 locations in Kimironko which are AVEGA Village and Prison area.

During Rainy season the surrounding area was flooded and flood water was entering into the underground tank via a crack on the wall, the drainage and overflow manhole is filled with rain water and may result into functionality issue if not solved in time.

No fence, no toilet for operator

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of Drainage valve source inlet pipe.• Replacement of a leaking Tee• Repairing the crack on the tank wall,• Repairing of Drainage manhole• Construction of a Fence• Construction of a Toilet	<ul style="list-style-type: none">• PVC Tee and 2 Valves, pipes and accessories all DN125• Tee and straight pipe with double flange DN125• Construction works

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

III. Description Photos



Leaking Tee



Inlet pipe without drainage



Reservoir drainage Valve manhole full of water



Crack on the wall (entrance of flood water)

Attachement-3 Reservoir Survey Sheet

Date: 02/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	160
2	Name of Reservoir	MASIZI
3	ID Code	BUP5RE1
4	Ward	District: Gasabo, Sector: , Cell: , Village:
5	Branch Office	Remera
6	Location	Latitude: , Longitude: , Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 2005
9	Storage Capacity	200 m3 (Underground tank)
10	Service area of the Reservoir	Kimironko (AVEGA Village+Prison), Masizi area
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a week,
	Action against to overflow	
3	Wall Leakage	Flowing
4	Overflow observation	_____ times/month, _____ times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Always/ Nothing, Timing: _____,
	Reason of bypass operation	Cleaning
6	Inflow Condition	Source: Zindiro Nyamuko, Kayenzi and Kirizi
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	Overflow valve flooded
C:Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 12 .00, H: 2.00m
5	Remarks/ Issue	Leaking on the wall, Rain water entering during rain period, General cleaning is needed.

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation (Not Needed)
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical,& EMFM, DN: 125 , PN(bar): _____,
		Function: Malfunction
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 80 Top
	Inlet pipe No.2	SP, DN: 80 Top
	Inlet pipe No.3	SP, DN: 80 Top
	Inlet pipe No.4	PVC, DN: 125 Top
5	Inlet valve No.1	DN: 125 , Function: No (leaking)
	Inlet valve No.2	DN: 125 , Function: No (leaking)
6	Outlet pipe No.1	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.2	SP/ DIP/ PVC/ Others (), DN:
	Outlet pipe No.3	SP/ DIP/ PVC/ Others (), DN:
7	Outlet valve No.1	DN: 80, Function: YES
	Outlet valve No.2	DN: 80, Function: YES
	Outlet valve No.3	DN: 80, Function: YES
8	Overflow Pipe	SP, DN: 80
9	Drain Pipe	SP/ DIP/ PVC/ Others (), DN:
10	Remarks/ Issue	Drain valve manhole flooded and full of water from December 2019

Other Information:	Chemical pump taken to kimisagara
	No fence and there is a pathway inside Station,
	No Toilet
	No water

Photo Sheet

Reservoir Name: Masizi Pumping Station

No: 160



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Mechanical Meter



Electronic Meter

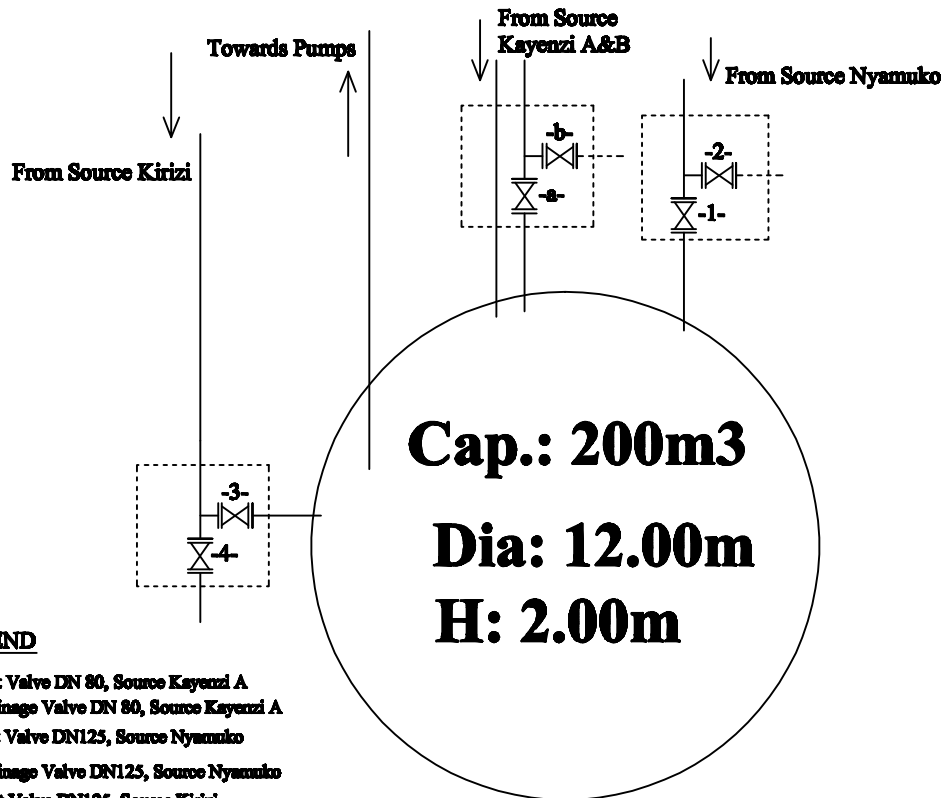
REMERA BRANCH

Reservoir No.: 93

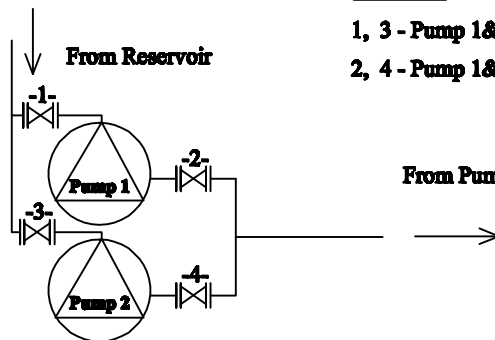
Location: MASIZI

Material: Concrete

SCHEMATIC DRAWING



INSIDE PUMP HOUSE

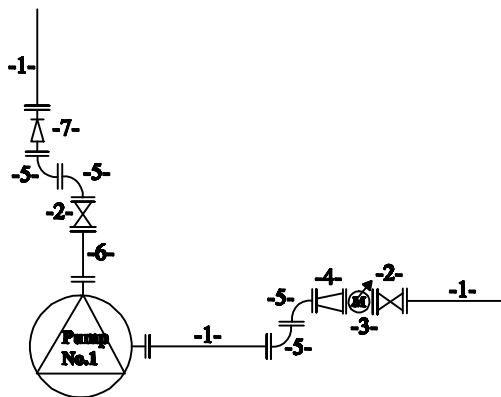


REMERA BRANCH

Reservoir No.: 93

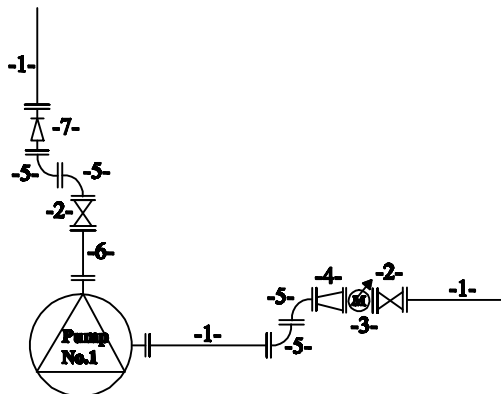
Reservoir Name: Mastzi

* Pumping Station Pump 1 (SP DN125)



- 1- Straight Pipe with flange
- 2- Valve
- 3- Flow Meter
- 4- Reduced Cone
- 5- 90 Degree Elbow
- 6- Straight pipe with double flange
- 7- Check Valve

* Pumping Station Pump 2 (SP DN125)



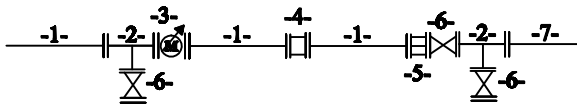
- 1- Straight Pipe with flange
- 2- Valve
- 3- Flow Meter
- 4- Reduced Cone
- 5- 90 Degree Elbow
- 6- Straight pipe with double flange
- 7- Check Valve

REMERA BRANCH

Reservoir No.: 93

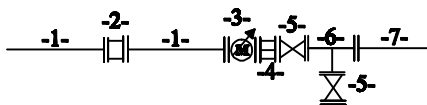
Reservoir Name: Mastzi

* Outlet Pump 1 (SP DN125)



- 1- Straight Pipe with flange
- 2- Tee with triple flange
- 3- Flow Meter
- 4- Joint de Demontage
- 5- Wide tolerance coupling
- 6- Valves
- 7- Straight Pipe with double flange

* Outlet Pump 1 (SP DN125)



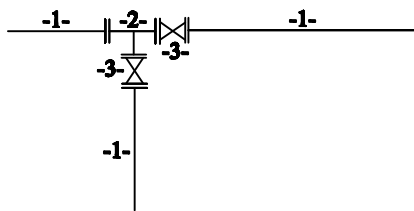
- 1- Straight Pipe with flange
- 2- Joint de demontage
- 3- Flow Meter
- 4- Wide tolerance coupling
- 5- Valve
- 6- Tee with Triple flange
- 7- Straight Pipe with double flange

REMERA BRANCH

Reservoir No.: 93

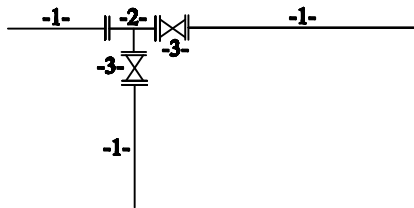
Reservoir Name: Mastzi

* Inlet Res. and drainage (Source: Kirtzi) (SP DN125,80)



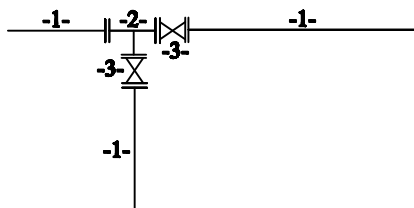
1- Straight Pipe with flange
2- Tee with triple flange
3- Valve

* Inlet Res. and drainage (Source: Nyamuko) (SP DN125,80)



1- Straight Pipe with flange
2- Tee with triple flange
3- Valve

* Inlet Res. and drainage (Source: Kayenzi A) (SP DN125,80)



1- Straight Pipe with flange
2- Tee with triple flange
3- Valve

6. RESERVOIR NO. 138&139: MASORO BAS

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: Masoro Bas

No.: 138&139

I. Status and Functionality issues description

Masoro Reservoirs (No. 138&139) have a storage capacity of 2100m³ combined, they receive water from Karengé and serve Free zone and Masoro areas.

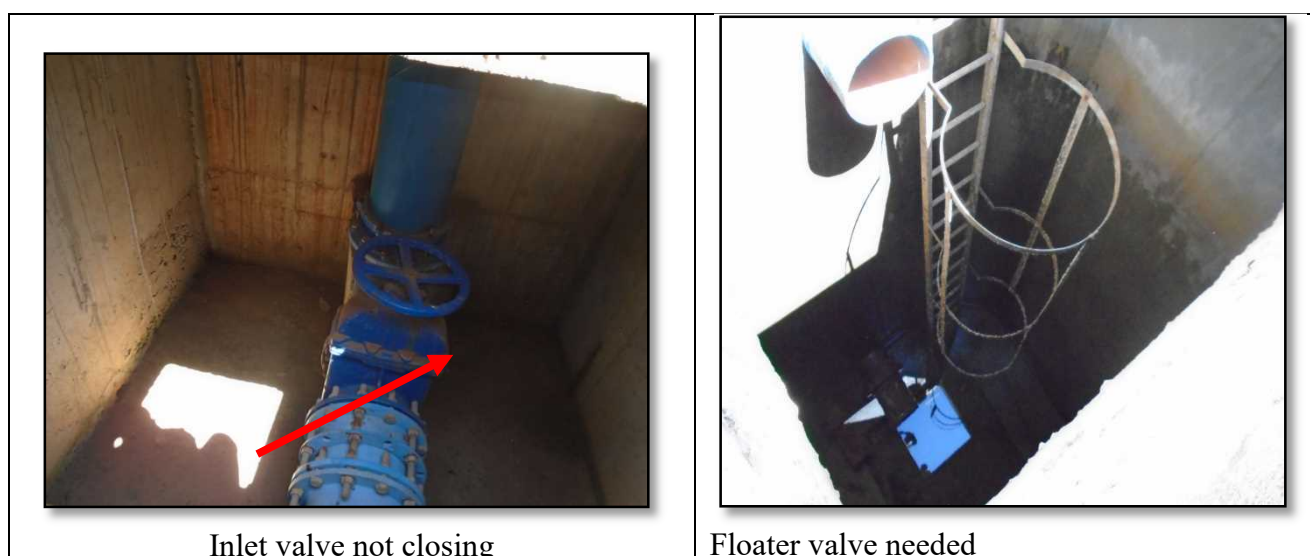
The action against overflow there is to close valve but the problem they have now is that inlet valve for Reservoir No. 138 doesn't close.

There is a pump undergoing maintenance and need to be reinstalled as soon as possible as they are using only one pump.

II. Required Action and Requirements

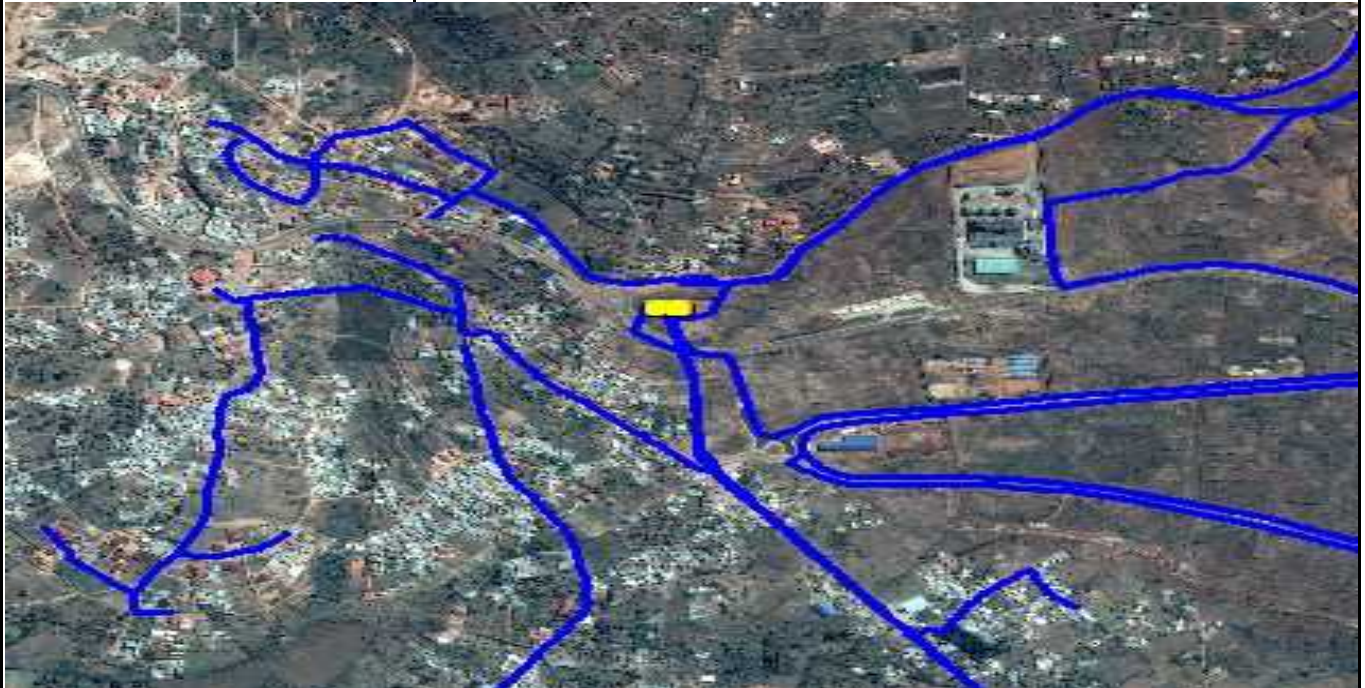
Action	Requirements
<ul style="list-style-type: none">Installation of Floater Valve at Reservoir No. 138&139	<ul style="list-style-type: none">Valve DN300
<ul style="list-style-type: none">Installation of Inlet Valve at Reservoir No. 138	<ul style="list-style-type: none">Valve DN300

III. Description Photos



Location of Reservoir

<i>Subject</i>	<i>Data</i>		<i>Remarks</i>
Reservoir number	138 & 139		
Branch	Remera		
District	Gasabo		
Sector	Bumbogo		
Cell	Kinyaga		
Village	Akakaza		
Street	KG 11 Av		
GPS Coordinates Latitude	-1.9333954	y	
GPS Coordinates Longitude	30.1473043	x	
Map			



Attachement-3 Reservoir Survey Sheet

Date: 01/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	138
2	Name of Reservoir	Masoro Bas
3	ID Code	NDER6RE1
4	Ward	District: Gasabo, Sector: Bumbogo, Cell: Kinyaga, Village: Akakaza
5	Branch Office	Remera
6	Location	Latitude: -1.9333954, Longitude: 30.1473043, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	_____ year
9	Storage Capacity	1000 m3
10	Service area of the Reservoir	Free zone, Masoro area
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing valve from KARENGE
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 low level
8	Issue on Functional Condition	Inlet Valve not working
C: Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	L: 20m × B: 15m, H: 3.5m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 300
2	Water Level Gauge	Function/ Malfunction/ No installation
3	Flow Meter	Mechanical, EMFM, UFM, DN: _____, PN(bar): _____,
		Function, Malfunction, No installation
		Location: Inlet Pipe, Outlet Pipe
4	Inlet pipe No.1	SP, DN: 300, Top
5	Inlet valve No.1	DN: 300, Function: Defective
6	Outlet pipe No.1	SP, DN: 300
	Outlet pipe No.2	SP, DN: 200
	Outlet pipe No.3	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: 300
9	Drain Pipe	SP, DN: 150 (With a valve)
10	Remarks/ Issue	Filter need maintenance or replacement, it has rust, Stairs need cleaning

Other Information:

Attachement-3 Reservoir Survey Sheet

Date: 01/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	139
2	Name of Reservoir	Masoro Bas
3	ID Code	NDER6RE2
4	Ward	District: Gasabo, Sector: Bumbogo, Cell: Kinyaga, Village: Akakaza
5	Branch Office	Remera
6	Location	Latitude: -1.9333954, Longitude: 30.1473043, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	2012 year
9	Storage Capacity	1000 m3
10	Service area of the Reservoir	Free zone, Masoro area
B: Operational Condition		
1	Operational Condition	Operational
2	Operator Assignment	2 shift in a day
	Action against to overflow	Closing valve from KARENGE
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: Karengé
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Always low level
8	Issue on Functional Condition	
C:Structure		
1	Form of Reservoir	Rectangular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	L: 20m×B: 15m, H: 3.5m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 200 , PN(bar): _____, (towards Masoro Haut)
		Function, Malfunction, No installation
		Location: Outlet Pipe
4	Inlet pipe No.1	SP, DN: 300, Top
5	Inlet valve No.1	DN: 300, Function: YES
6	Outlet pipe No.1	SP, DN: 300
	Outlet pipe No.2	SP, DN: 200
7	Outlet valve No.1	DN: 300, Function: YES
	Outlet valve No.2	DN: 300, Function: YES
8	Overflow Pipe	SP, DN: 300
9	Drain Pipe	SP, DN: 150 (with a functioning Valve)
10	Remarks/ Issue	
Other Information:		Only one pump working, the other one is undergoing repair. Type: ABB-DAYLIFF, Supplier: DAYLIFF, Q: 85m3/h

Photo Sheet

Reservoir Name: Masoro bas

No: 138



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter (Installed on the pump outlet pipe)

No Floater

Photo Sheet

Reservoir Name: Masoro bas

No: 139



Whole View



Reservoir



Inlet Pipe with Valve

Outlet Pipe with Valve



Meter (Installed on the pump outlet pipe)



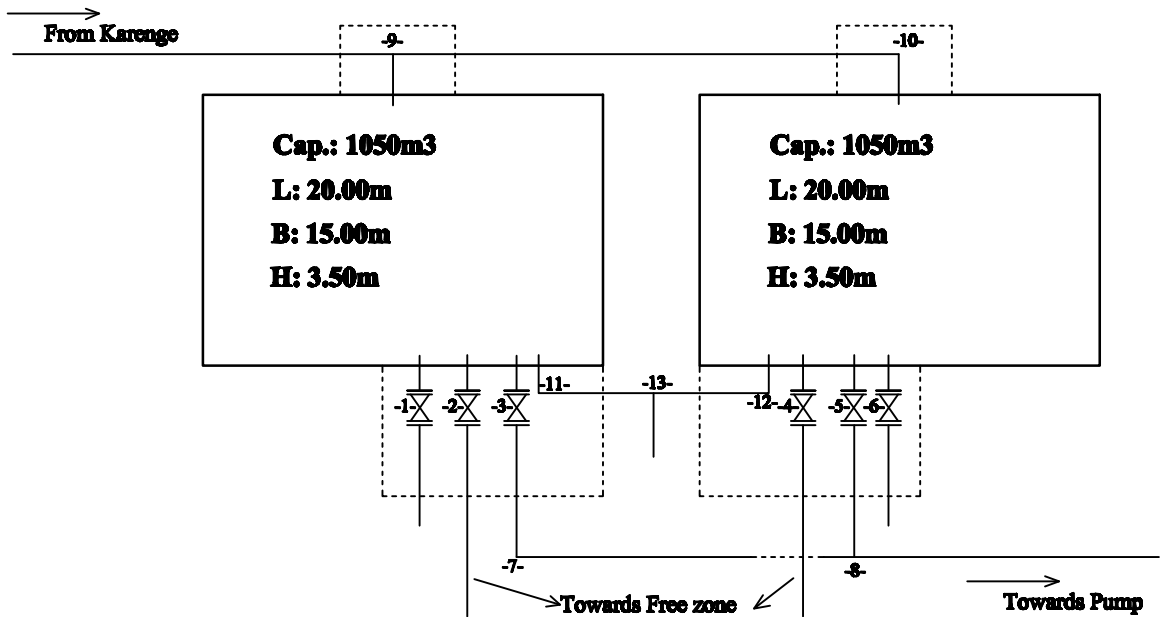
No Floater

REMERA BRANCH

Reservoir No.: 94&95

Location: Masoro Bas

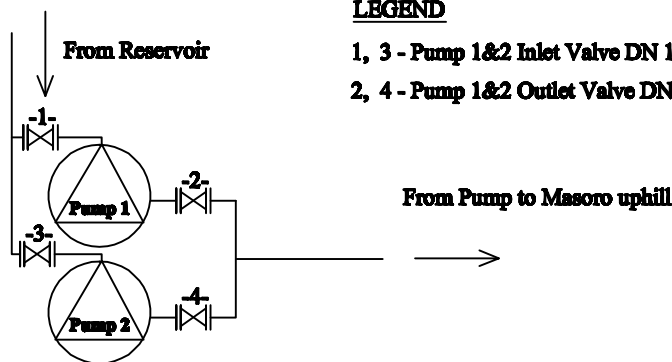
Material: Concrete



LEGEND

- | | |
|--|---|
| 1, 6 - Drainage Valve DN150 | 9- Inlet Tee with triple flange DN300 |
| 3,5 - Outlet towards pump Valve DN300 | 10- 90 Degree inlet elbow DN300 |
| 2, 4- Outlet towards Free zone Valve DN200 | 11, 12- 90 Degree Overflow elbow DN300 |
| 7- 90 Degree Valve DN300 | 13- Overflow Tee with triple flange DN300 |
| 8- Outlet Tee with triple flange DN300 | |

INSIDE PUMP HOUSE



LEGEND

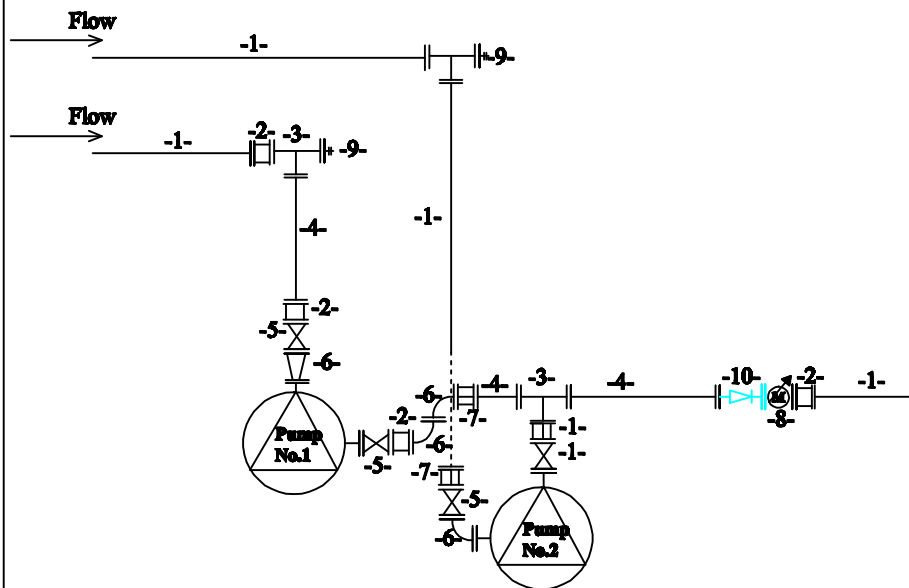
- | |
|-------------------------------------|
| 1, 3 - Pump 1&2 Inlet Valve DN 100 |
| 2, 4 - Pump 1&2 Outlet Valve DN 100 |

REMERA BRANCH

Reservoir No.: 94 & 95

Reservoir Name: Masoro Bas

* Pumping Station (SP DN150)



- 1- Straight Pipe with flange
- 2- Dismantling Joint
- 3- Tee with triple flange
- 4- Straight pipe with double flange
- 5- Valves DN150
- 6- 90 Degree Elbow
- 7- Wide tolerance coupling
- 8- Flow Meter DN150
- 9- End Cap
- 10- check valve DN150
- 11- Reduced cone DN 150/100

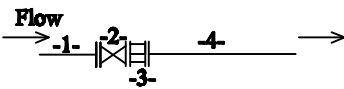
REMERA BRANCH

Reservoir No.: 94 & 95

Reservoir Name: Masoro Bas

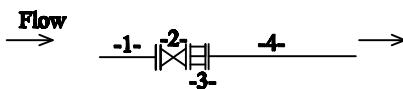
* Manhole No.1 (DIP DN300, 200,150)

Towards Pump, DIP DN300



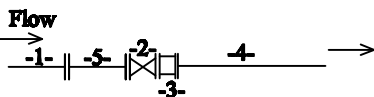
- 1- Straight Pipe with flange
- 2- Valve
- 3- Wide tolerance coupling
- 4- Pipe

Outlet, DIP DN200



- 1- Straight Pipe with flange
- 2- Valve
- 3- Wide tolerance coupling
- 4- Pipe

Outlet, DIP DN150



- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint
- 4- Pipe
- 5- Straight pipe with double flange

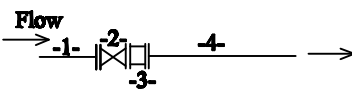
REMERA BRANCH

Reservoir No.: 94 & 95

Reservoir Name: Masoro Bas

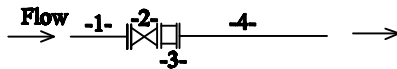
*** Manhole No.2 (DIP DN300, 200,150)**

Towards Pump, DIP DN300



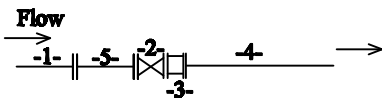
- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint
- 4- Pipe

Drainage, DIP DN150



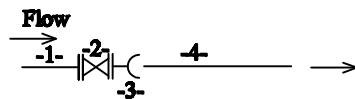
- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint
- 4- Pipe

Outlet, DIP DN150



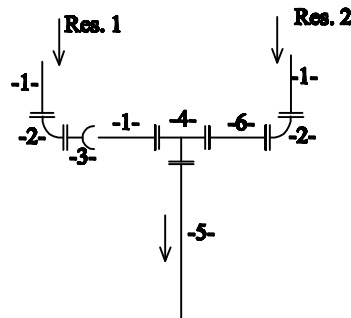
- 1- Straight Pipe with flange
- 2- Valve
- 3- Dismantling joint
- 4- Pipe
- 5- Straight pipe with double flange

Outlet, DIP DN200



- 1- Straight Pipe with flange
- 2- Valve
- 3- Flange adaptor
- 4- Pipe

Overflow, DIP DN300



- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Flange adaptor
- 4- Tee with triple flange
- 5- Pipe
- 6- Straight Pipe with double flange

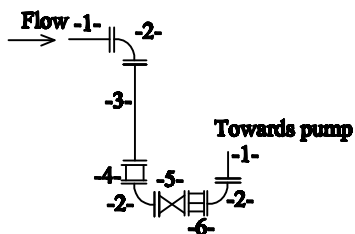
REMERA BRANCH

Reservoir No.: 94 & 95

Reservoir Name: Masoro Bas

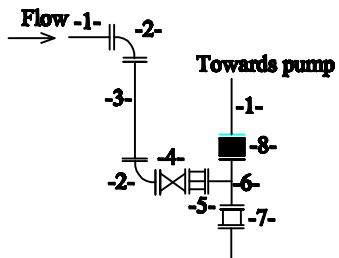
* Manhole No.1 (DIP DN300)

Resa. 1 Towards Pump, DIP DN300



- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Straight pipe with double flange
- 4- Dismantling joint
- 5- Valve
- 6- Wide tolerance coupling

Resa. 2 Towards Pump, DIP DN300



- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Straight pipe with double flange
- 4- Valve
- 5- Wide tolerance coupling
- 6- Tee with triple flange
- 7- Dismantling joint
- 8- Filter

7. RESERVOIR NO. 112: REMERA STADIUM

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: REMERA STADIUM

No.: 112

I. Status and Functionality issues description

Remera Stadium reservoir receives water from Golf8 – Rwahama and it is used by the stadium as its storage. It has a capacity of 200m³.

II. Required Action and Requirements

Action	Requirements
<ul style="list-style-type: none">• Installation of a floater valve	<ul style="list-style-type: none">• Floater valve DN 100
<ul style="list-style-type: none">• Construction of inlet manhole• Access echelon	<ul style="list-style-type: none">• Construction works

III. Description Photos



Inlet Manhole Needed



No floater valve installed

Location of Reservoir

<i>Subject</i>	<i>Data</i>	<i>Remarks</i>
Reservoir number	112	
Branch	Remera	
District	Gasabo	
Sector	Remera	
Cell	Rukiri II	
Village	Amahoro	
Street	KG 203 St	
GPS Coordinates Latitude	-1.9539066 y	
GPS Coordinates Longitude	30.1152978 x	



Attachement-3 Reservoir Survey Sheet

Date: 01/06/2020

No.	Item	Details
A: General		
1	Number of Reservoir	112
2	Name of Reservoir	REMERA STADIUM
3	ID Code	RET4RE1
4	Ward	District: Gasabo, Sector: Remera, Cell: Rukiri II, Village: Amahoro
5	Branch Office	Remera
6	Location	Latitude: -1.9539066, Longitude: 30.1152978, Altitude
7	Function of Reservoir	Storage
8	Age of Reservoir	Year: 1985
9	Storage Capacity	200 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	0 times/month, 0 times/week
	Phenomenon	
	Reason of overflow	
5	Bypass-flow operation	Nothing
	Reason of bypass operation	
6	Inflow Condition	Source: RWAHAMA Golf 8
		Water pressure at inlet:
		Frequency and time: Permanent
7	Water level movement	Proper movement
8	Issue on Functional Condition	No outlet valve
C: Structure		
1	Form of Reservoir	Circular
2	Foundation	Ground
3	Structure Material	Concrete
4	Inside Dimension	D: 12m, H: 2m
5	Remarks/ Issue	No stairs or echelon

No.	Item	Details
D: Equipment		
1	Floater Valve	No installation, DN: 150
2	Water Level Gauge	No installation
3	Flow Meter	Mechanical, DN: 80, PN(bar): _____,
		Function: YES
		Location: Inlet Pipe
4	Inlet pipe No.1	SP, DN: 150, Top
	Inlet pipe No.2	SP/ DIP/ PVC/ Others (), DN: , Roof/ Top/ Bottom
5	Inlet valve No.1	DN: 100, Function: YES
	Inlet valve No.2	DN: 150, Function: YES
6	Outlet pipe No.1	SP, DN: 150
7	Outlet valve No.1	Not available
8	Overflow Pipe	SP, DN: 150
9	Drain Pipe	SP, DN: 300
10	Remarks/ Issue	No outlet valve, Internal stairs defective and can't be used.
Other Information:		Floater Valve needed, Outlet Valve needed

Photo Sheet

Reservoir Name: Remera Stadium

No: 112



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Meter



No Floater

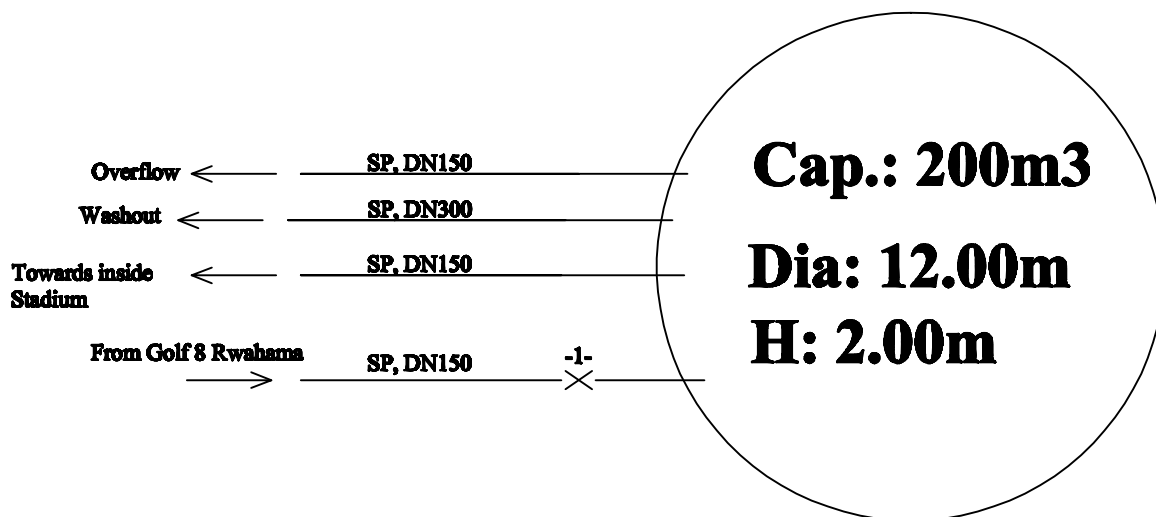
REMERA BRANCH

Reservoir No.: 136

Location: Remera Stadium

Material: Concrete

SCHEMATIC DRAWING



LEGEND

1 - Valve DN100

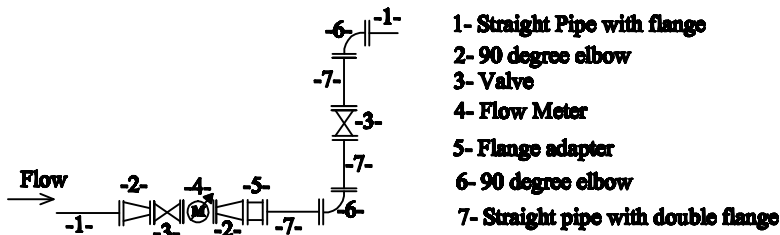
N.B: Valves for washout and Outlet are installed inside the stadium

REMERA BRANCH

Reservoir No.: 94

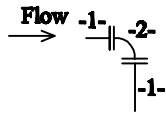
Reservoir Name: Remera Stadium

*Inlet Reservoir (SP DN150)



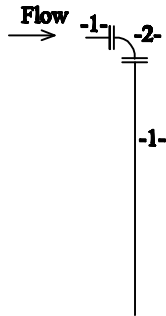
- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Valve
- 4- Flow Meter
- 5- Flange adapter
- 6- 90 degree elbow
- 7- Straight pipe with double flange

*Outlet Reservoir (SP DN150)



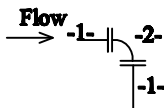
- 1- Straight Pipe with flange
 - 2- 90 degree elbow
- N.B: Valve is inside the stadium

*Overflow (SP DN150)



- 1- Straight Pipe with flange
- 2- 90 degree elbow
- 3- Straight Pipe

*Drainage (SP DN300)



- 1- Straight Pipe with flange
 - 2- 90 degree elbow
- N.B: Valve is inside the stadium

8. RESERVOIR NO. 140: KIBAGABAGA

FINAL REPORT ON THE RESERVOIR SURVEY IN REMERA BRANCH

BRANCH: REMERA

Reservoir: KIBAGABAGA

No.: 140

I. Status and Functionality issues description

The visited spot is Kibagabaga and we found it operational, no defect or non operational accessories.



Attachement-3 Reservoir Survey Sheet

Date: 14/10/2020

No.	Item	Details
A: General		
1	Number of Reservoir	140
2	Name of Reservoir	Kibagabaga
3	ID Code	KIMQ4RE2
4	Ward	Sector: Kimironko, District: Gasabo, Cell: Kibagabaga , Village: Kibagabaga
5	Branch Office	Remera
6	Location	Latitude: -1.931619 , Longitude: 30.112461 ,Altitude:
7	Function of Reservoir	Storage
8	Age of Reservoir	year
9	Storage Capacity	500 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: Nzove via Ntora
		Water pressure at inlet:
		Frequency and time:
7	Water level movement	Proper movement
8	Issue on Functional Condition	NO functionality issue
C:Structure		
1	Form of Reservoir	Circular
2	Foundation	Underground
3	Structure Material	Concrete
4	Inside Dimension	D: 13.00m, H: 4.30m
5	Remarks/ Issue	

No.	Item	Details
D: Equipment		
1	Floater Valve	Function
2	Water Level Gauge	No installation
3	Flow Meter	No installation
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: 250
7	Outlet valve No.1	DN: 250, Function: YES
8	Overflow Pipe	SP, DN: 200
9	Drain Pipe	SP, DN: 200
10	Remarks/ Issue	

Other Information:	Reservoir is OK.
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Photo Sheet

Reservoir Name: Kibagabaga Photo

No: 140



Whole View



Reservoir



Inlet Pipe with Valve



Outlet Pipe with Valve



Float Valve

No Meter

Meter

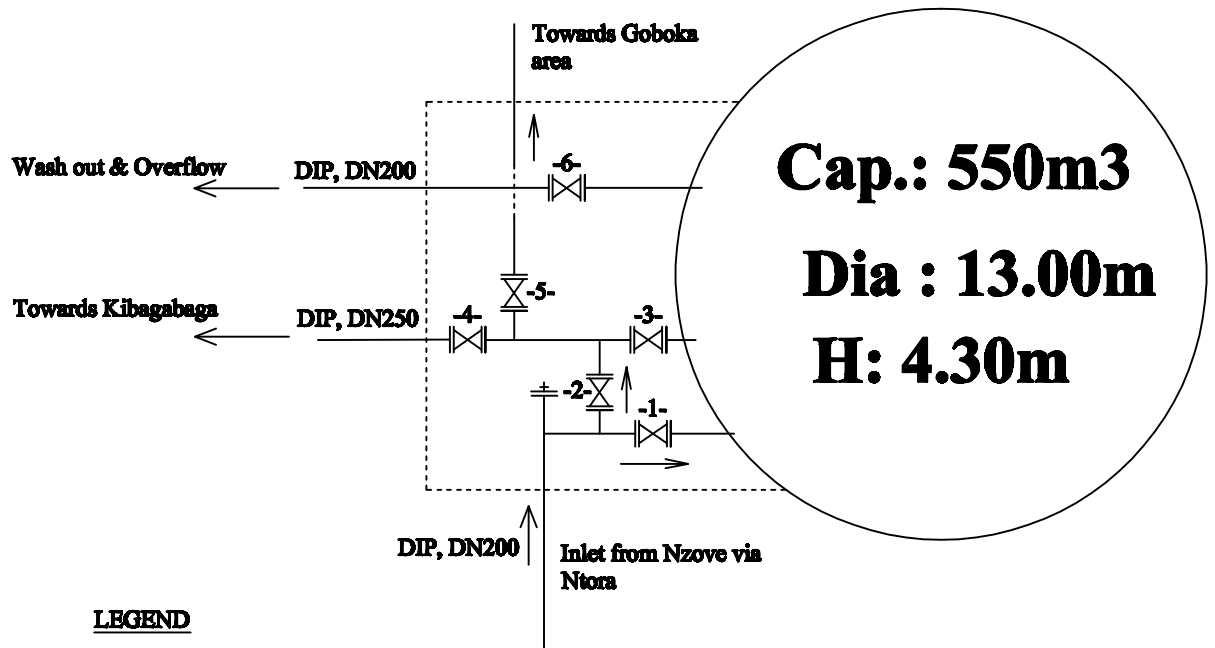
REMERA BRANCH

Reservoir No.: 70

Location: KIBAGABAGA

Material: Concrete

SCHEMATIC DRAWING



LEGEND

- 1 - Inlet Valve DN200
- 2 - Bypass Valve DN200
- 3 - Outlet Valve DN250
- 4 - Outlet Valve DN250
- 5 - Outlet valve towards Goboka area DN200
- 6 - Washout Valve DN200

添付資料 11. 5YSP 原文、アップデート版

添付資料 12. パイロットプロジェクト完了報告書 1 及
び 2

添付資料 13. 無収水削減マニュアル

添付資料 14. NRW 率計算ソフトマニュアル

添付資料 15. プロジェクト終了時評価報告書等資料