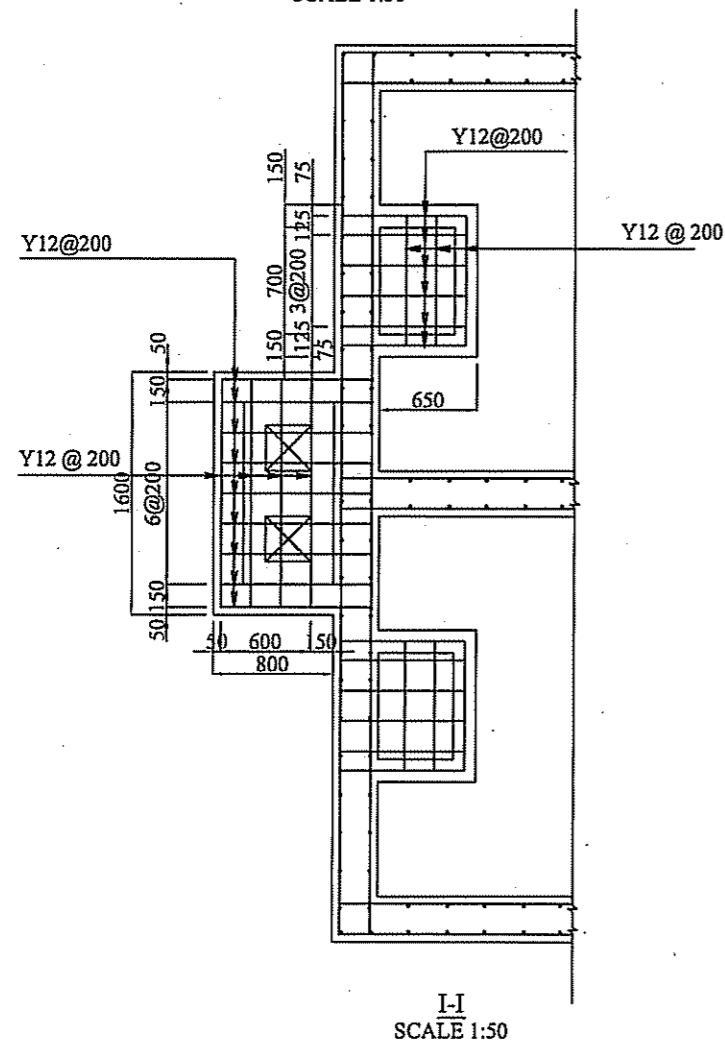
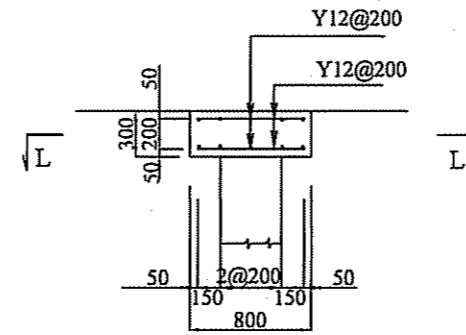


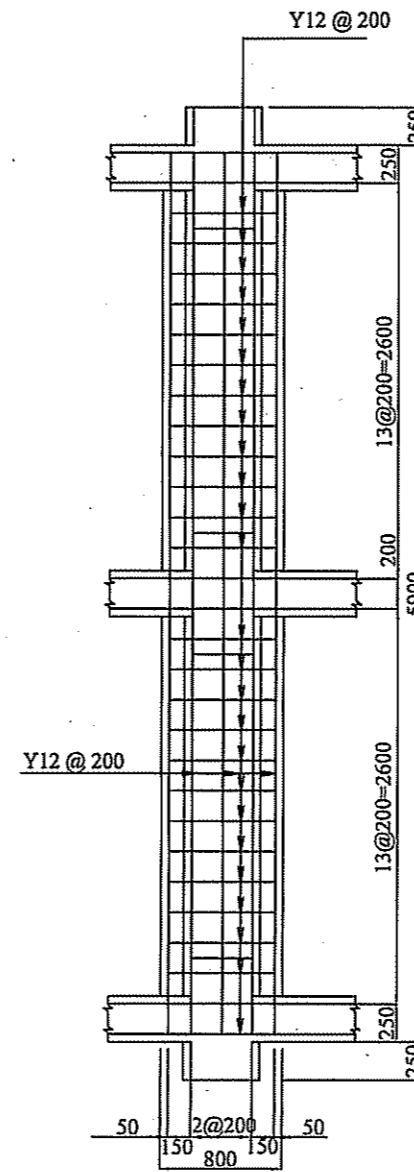
DETAIL 1
SCALE 1:50



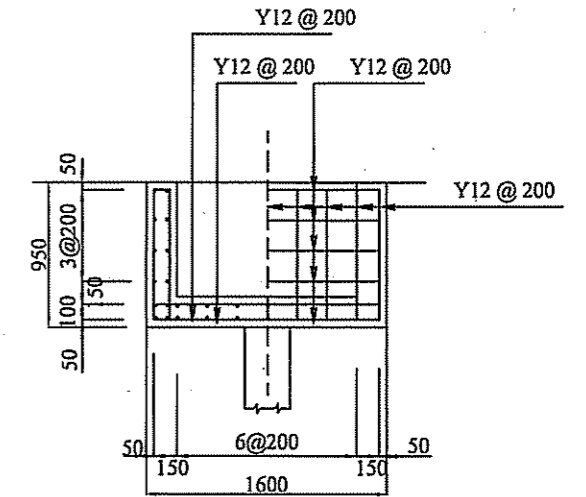
I-I
SCALE 1:50



DETAIL 2
SCALE 1:50



L-L
SCALE 1:50



J-J K-K
SCALE 1:50

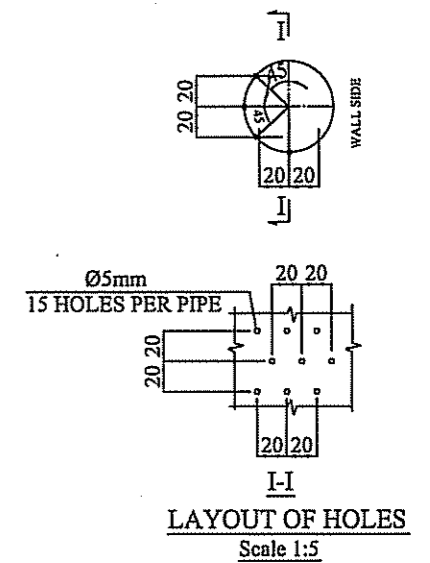
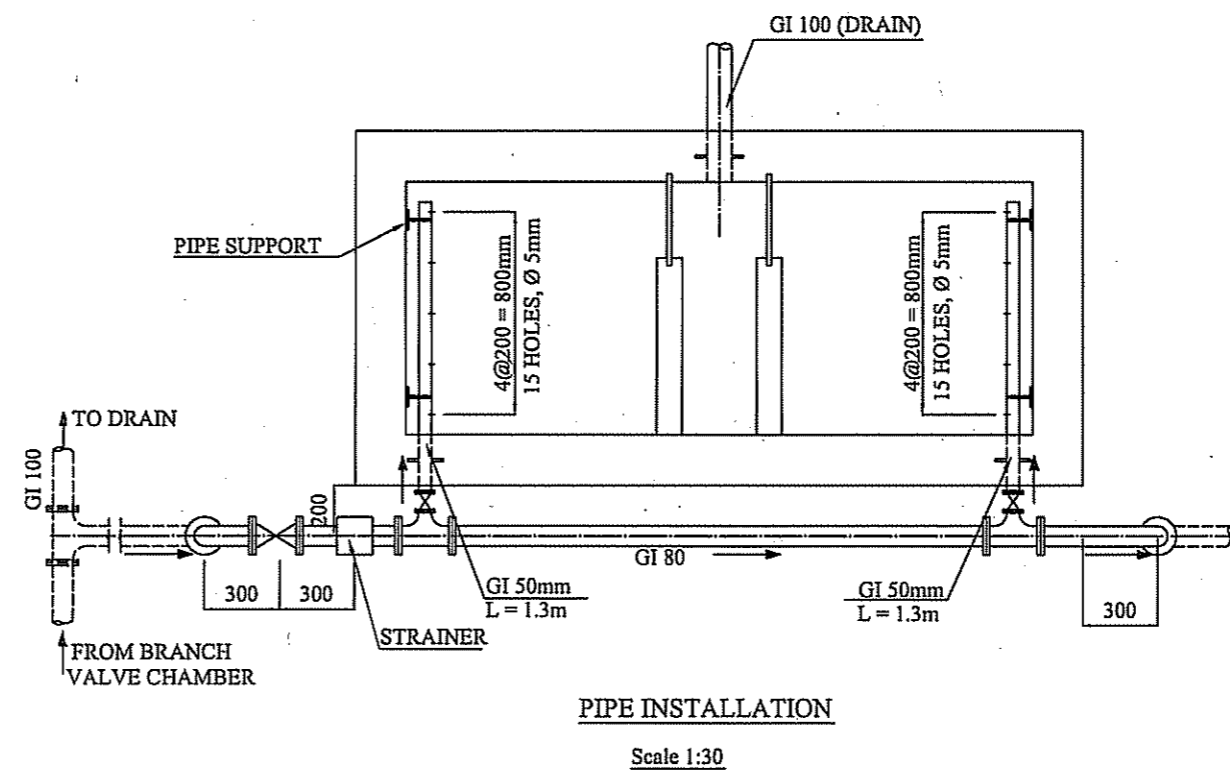
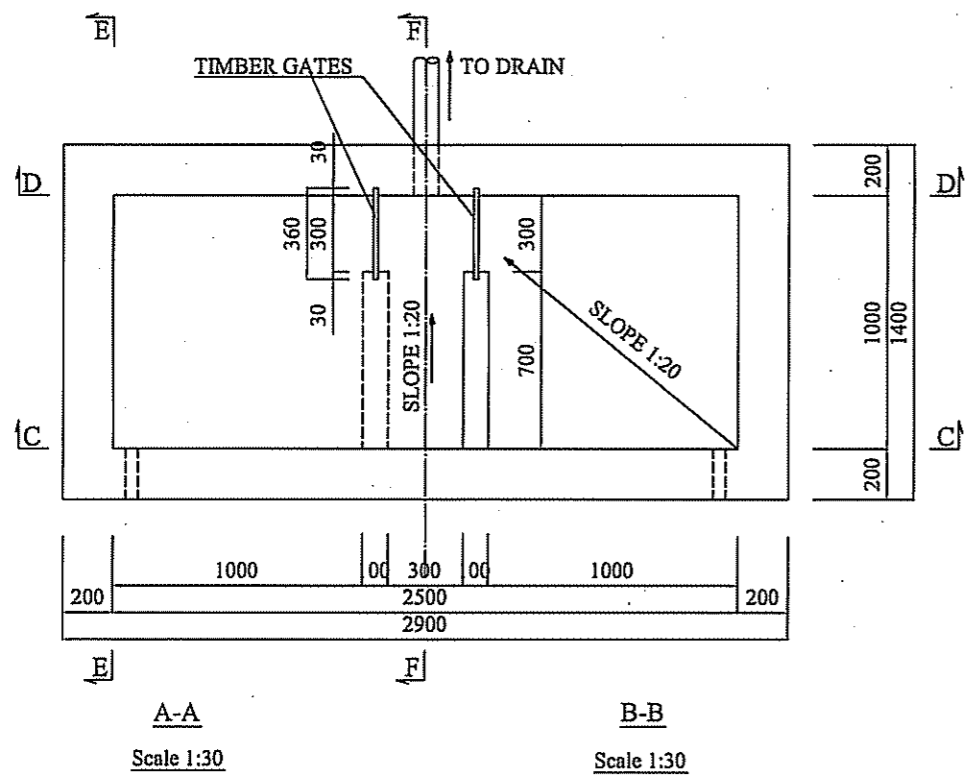
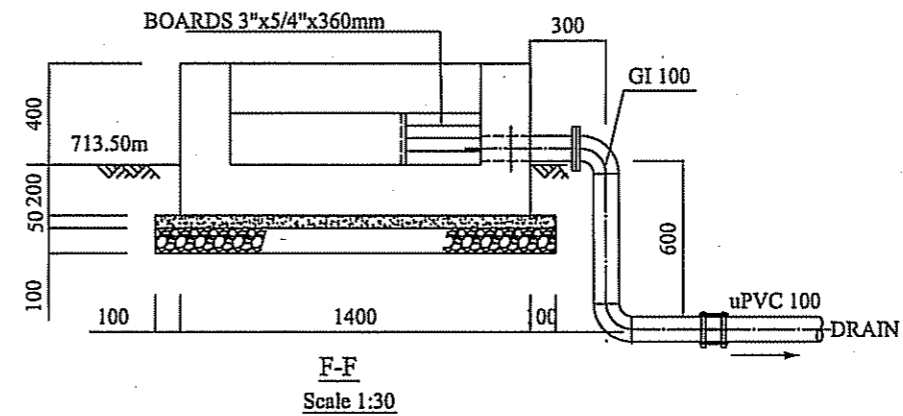
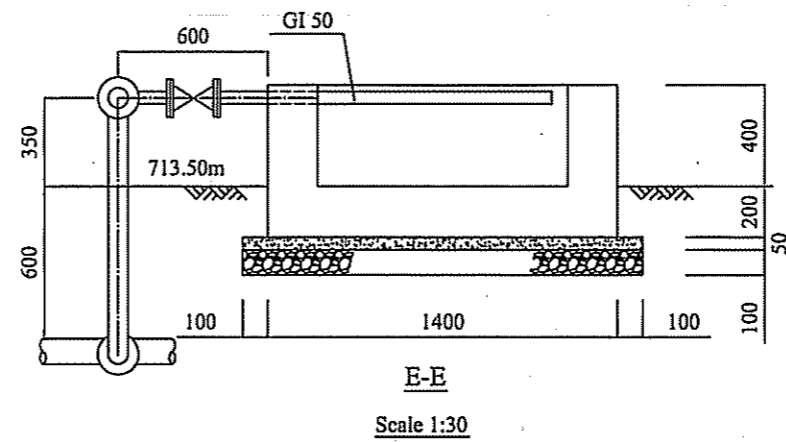
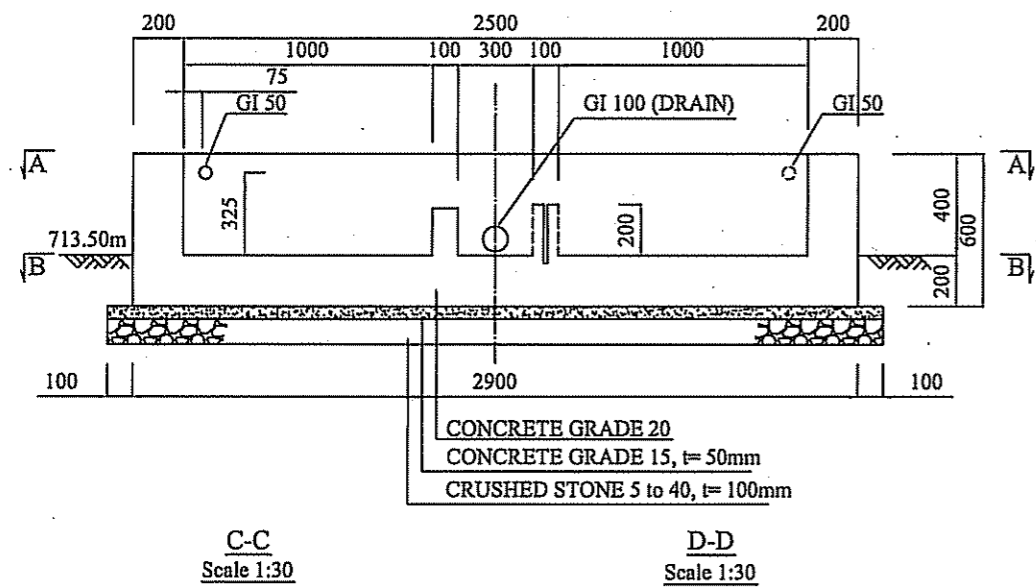
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
SPRING WATER SUPPLY FACILITIES
REINFORCEMENT BAR ARRANGEMENT OF SLOW SAND FILTER (2/2)

SCALE	DATE	DRAWING NO.
1:50	FEB.2006	WSF-070



NOTES: : ALL SURFACES OF THE STRUCTURE IN CONTACT WITH WATER SHALL BE LINED WITH 30mm THICK WATER PROOFING MORTAR

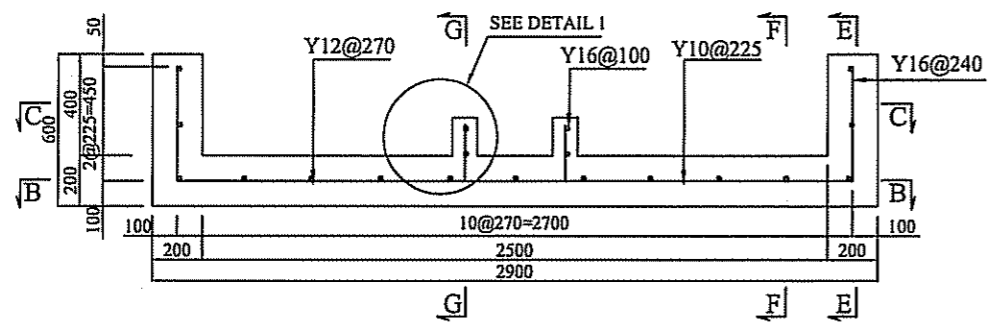
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

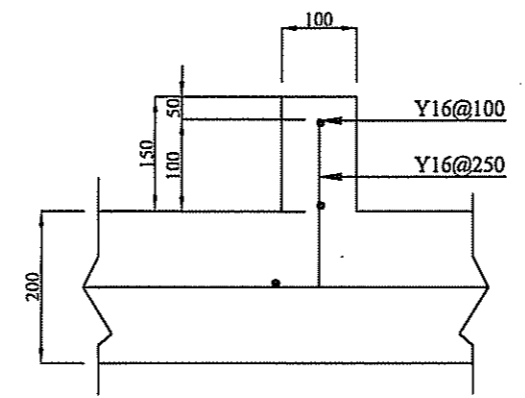
CONSULTING ENGINEERS:
NIPPON KOEI CO.,LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
SAND WASH DETAILS

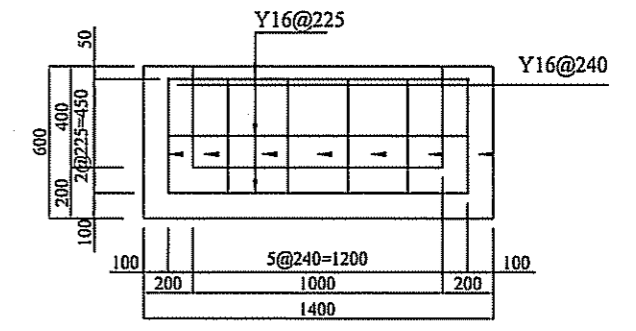
SCALE 1:5 1:30	DATE FEB.2006	DRAWING NO. WSF-071
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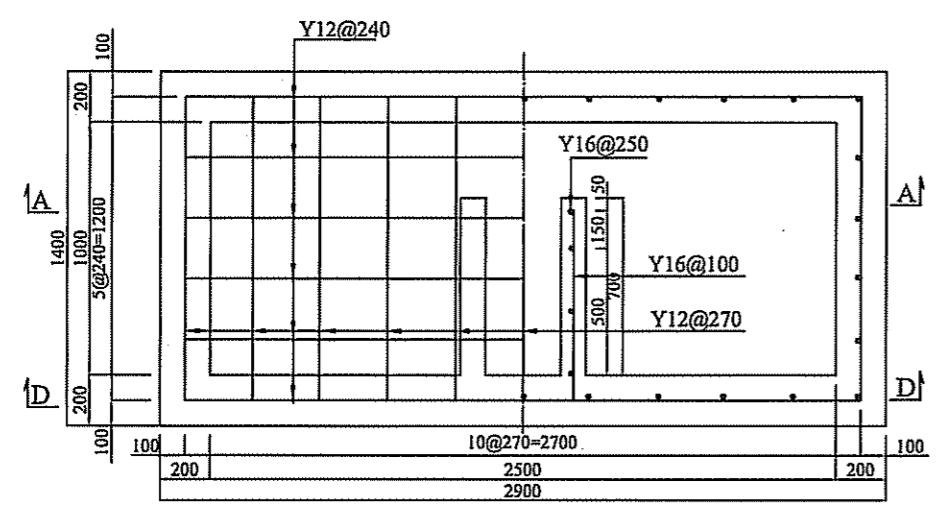
A - A
Scale 1:30



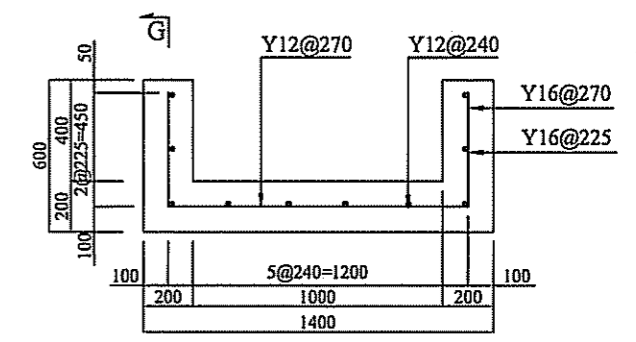
DETAIL 1
Scale 1:10



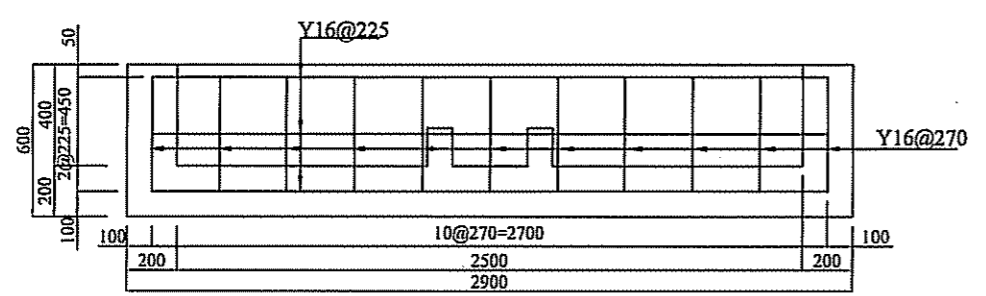
E - E
Scale 1:30



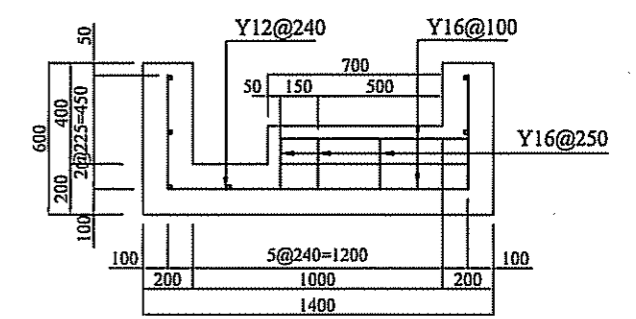
B-B Scale 1:30
C-C Scale 1:30



F - F
Scale 1:30



D - D
Scale 1:30



G - G
Scale 1:30

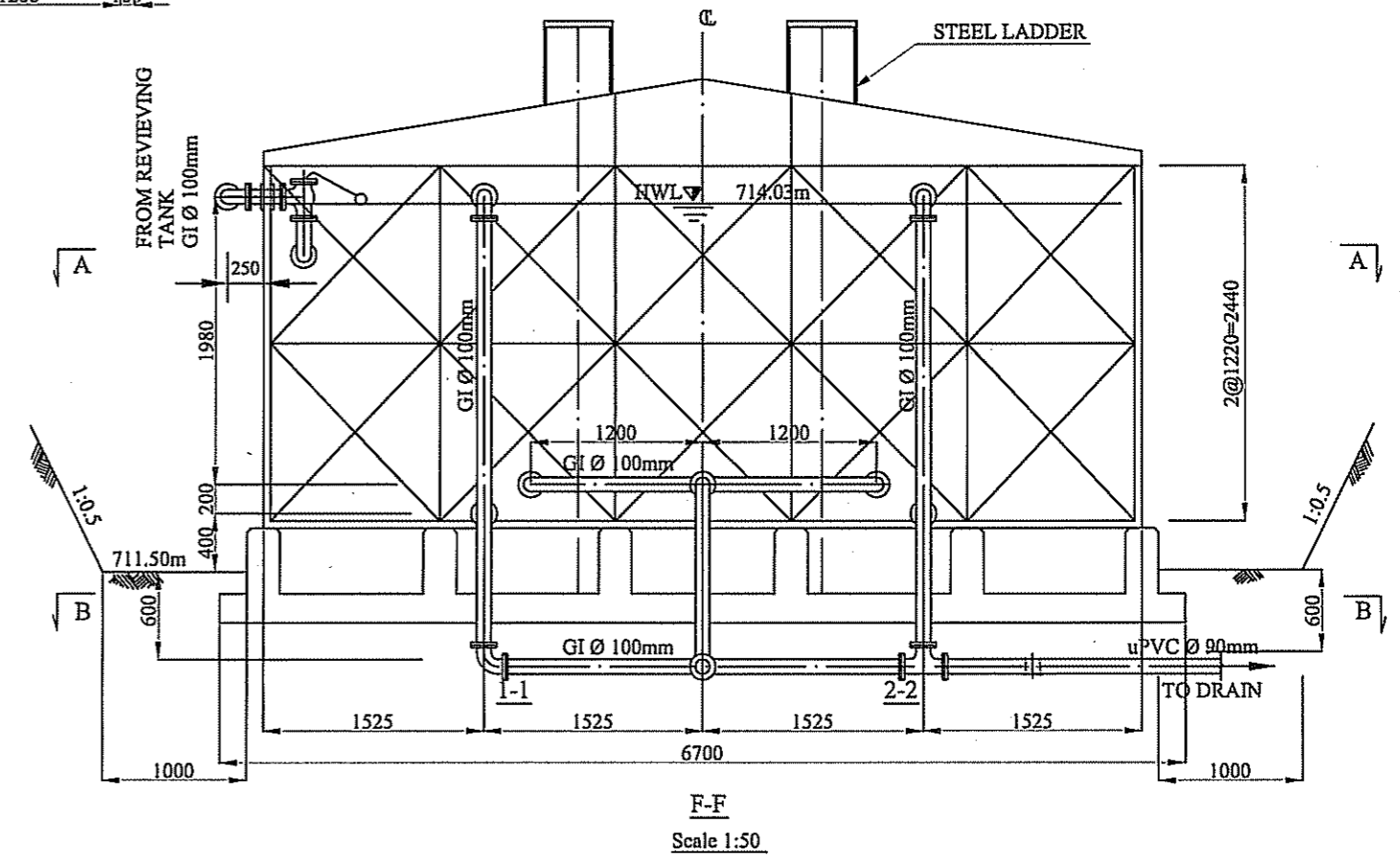
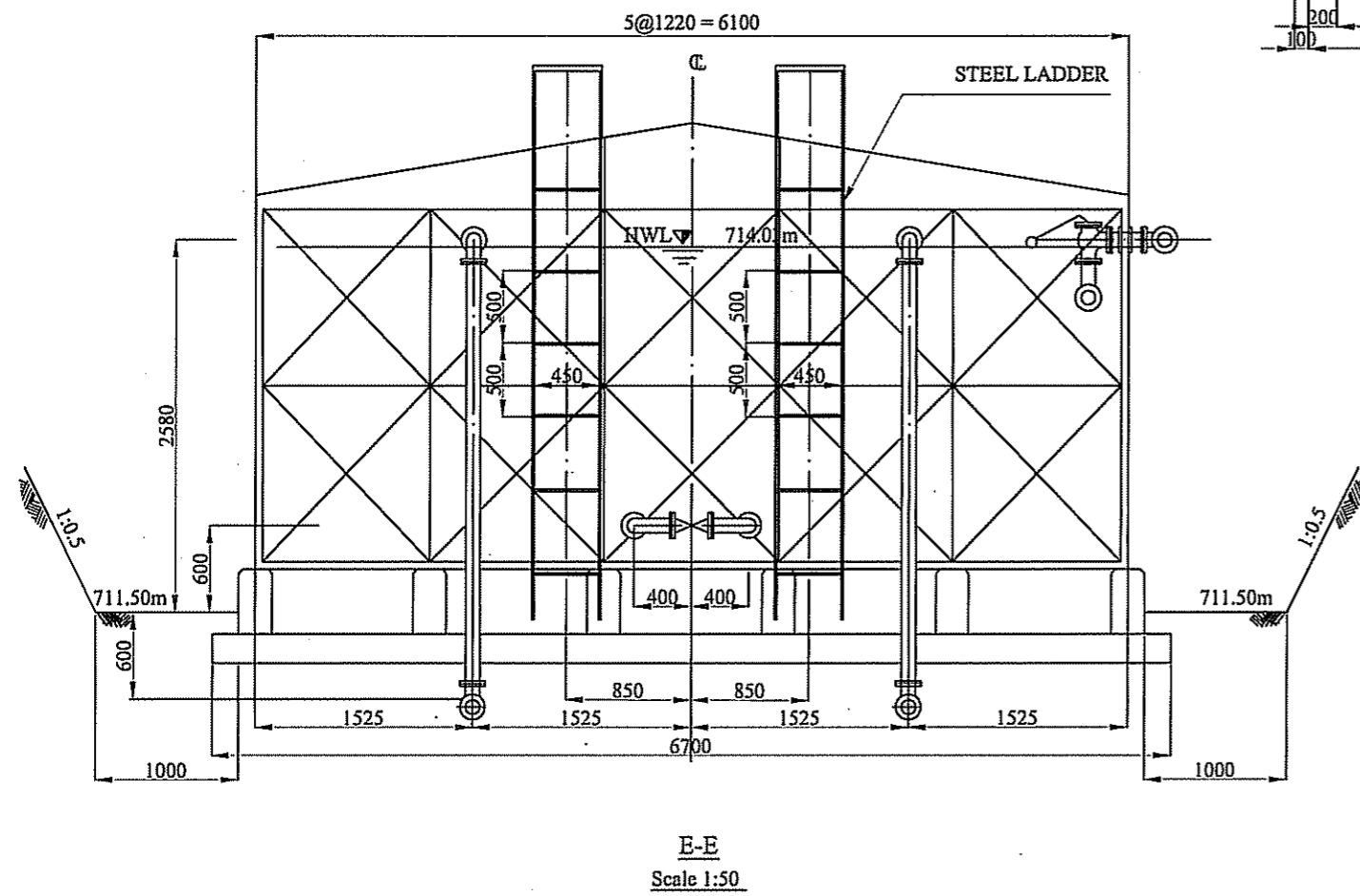
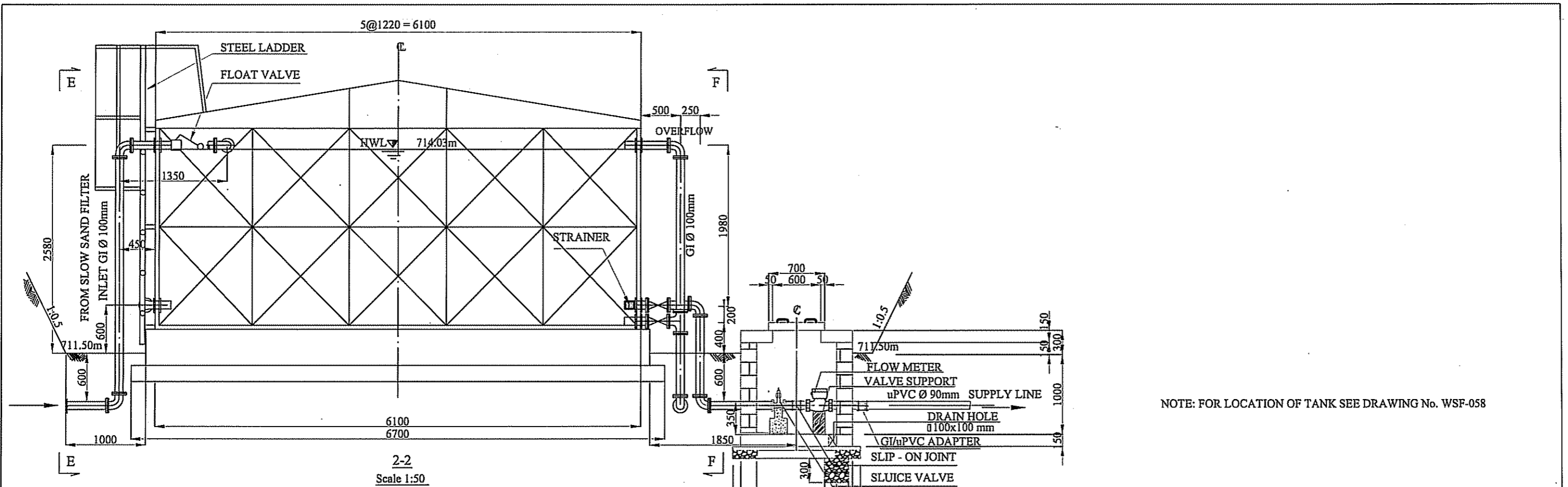
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO.,LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
REINFORCEMENT BAR ARRANGEMENT OF SAND WASH BASIN

SCALE	DATE	DRAWING NO.
1:30 1:10	FEB.2006	WSF-072



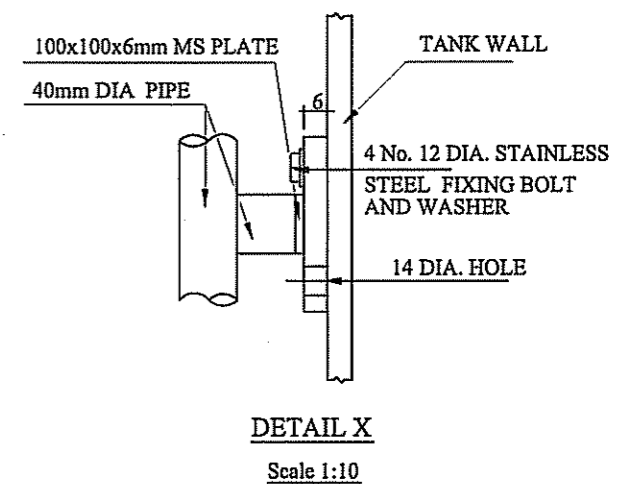
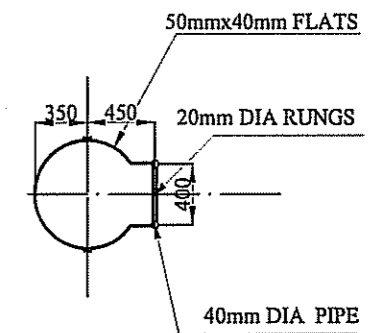
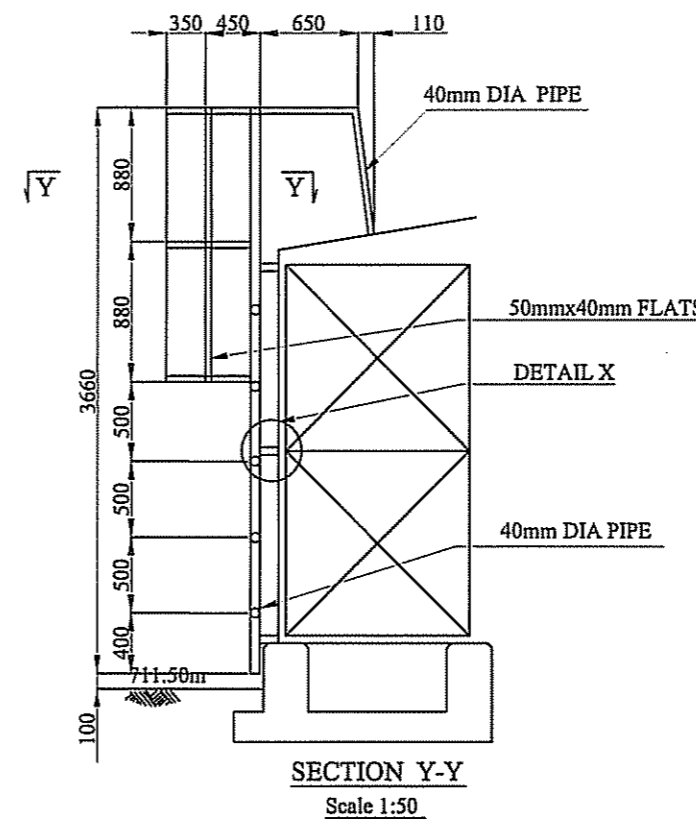
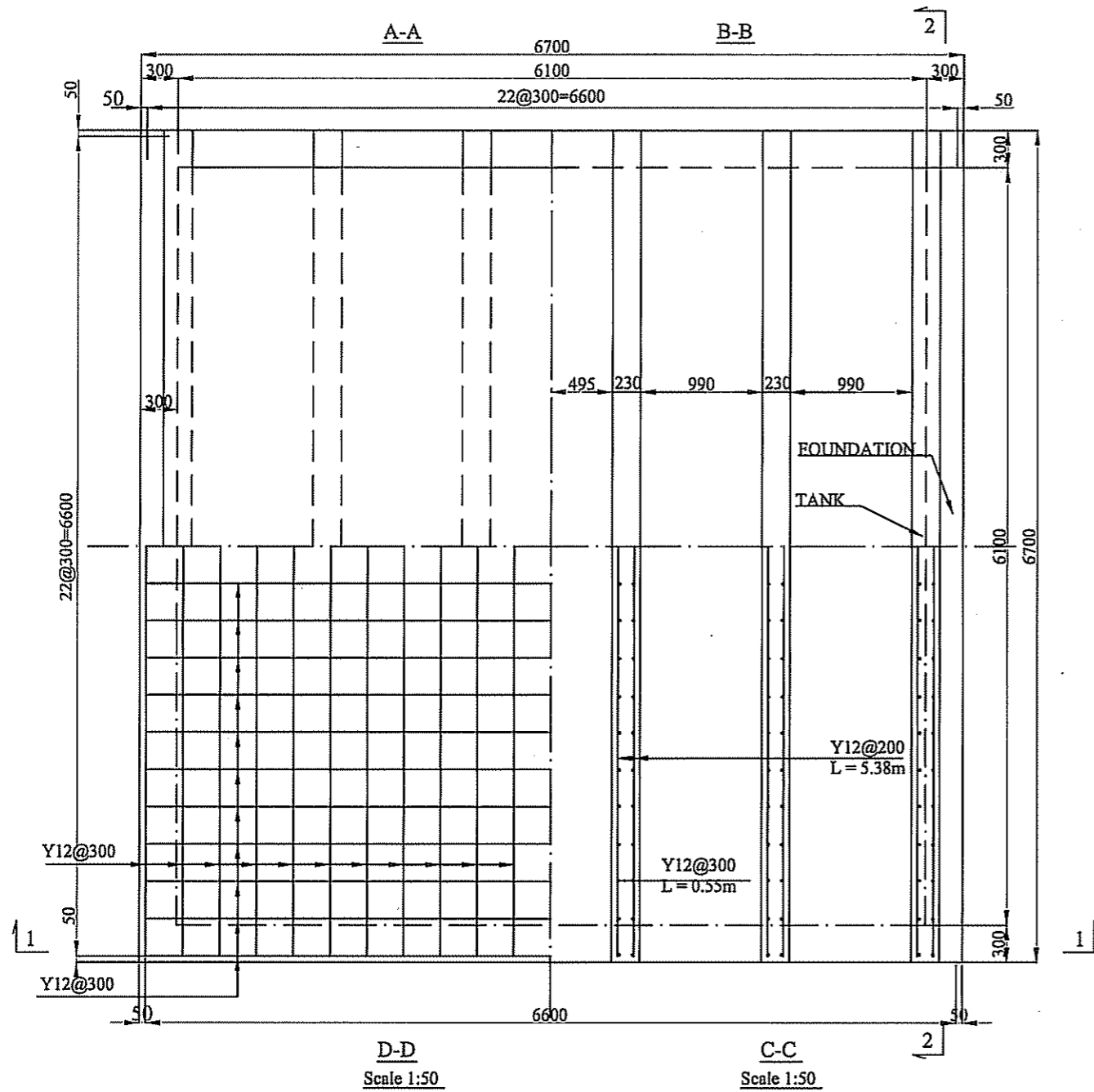
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

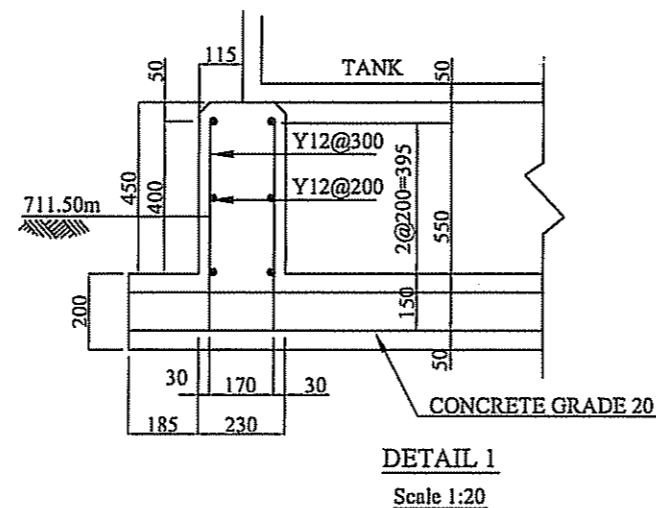
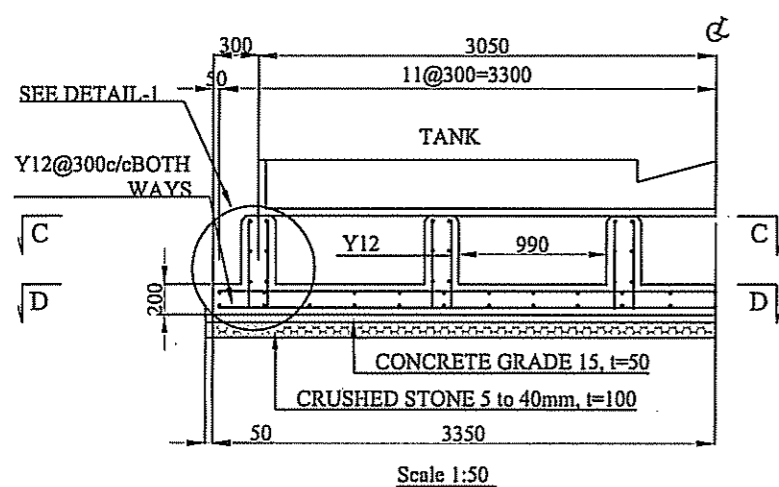
CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
REHABILITATION OF MORA SPING WATER SUPPLY FACILITY
CLEAR WATER TANK DETAILS (1/2)

SCALE	DATE	DRAWING NO.
1:50	FEB.2006	WSF-073



STEEL LADDER DETAILS



ACTUAL STORAGE TANK VOLUME: 90.8m³

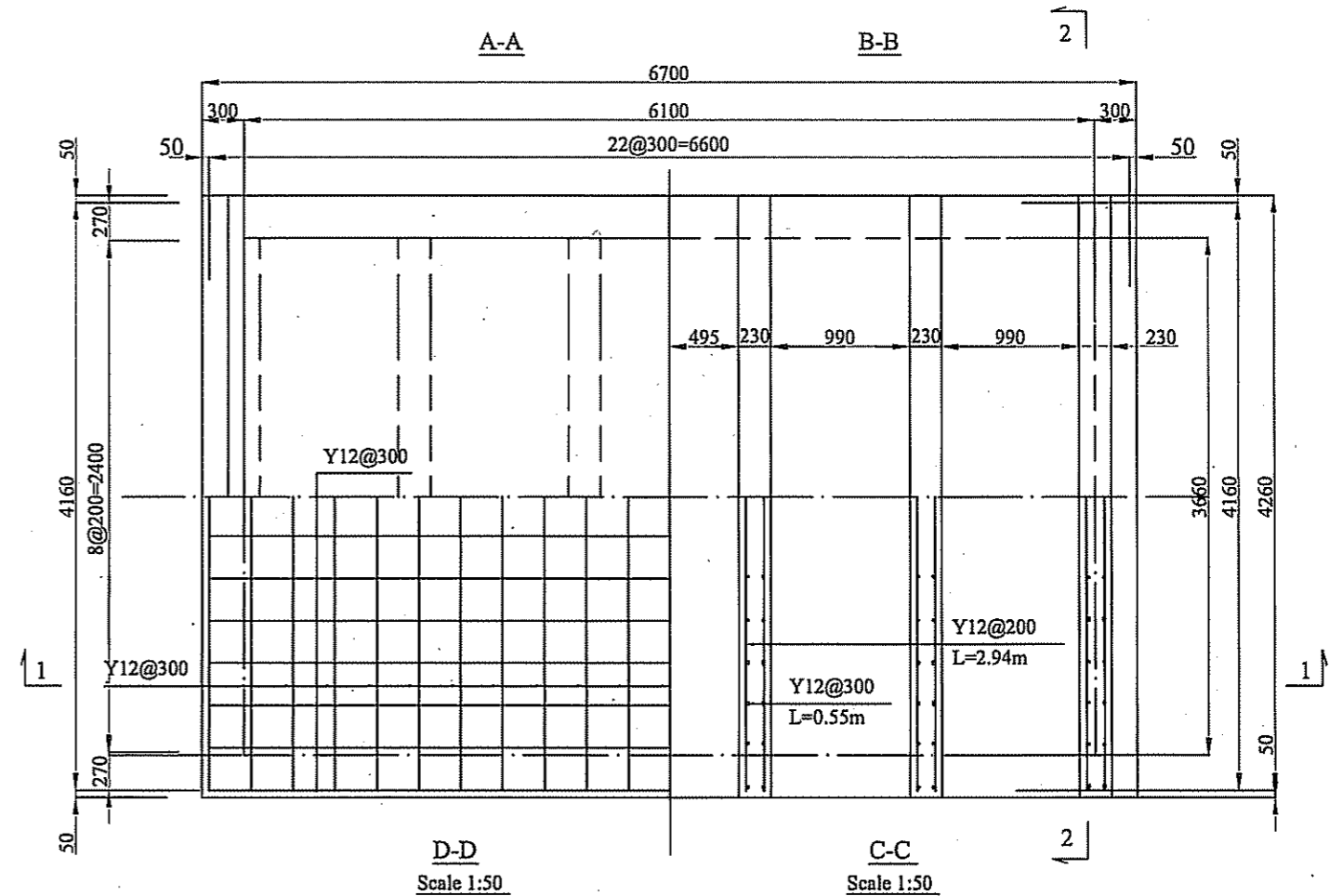
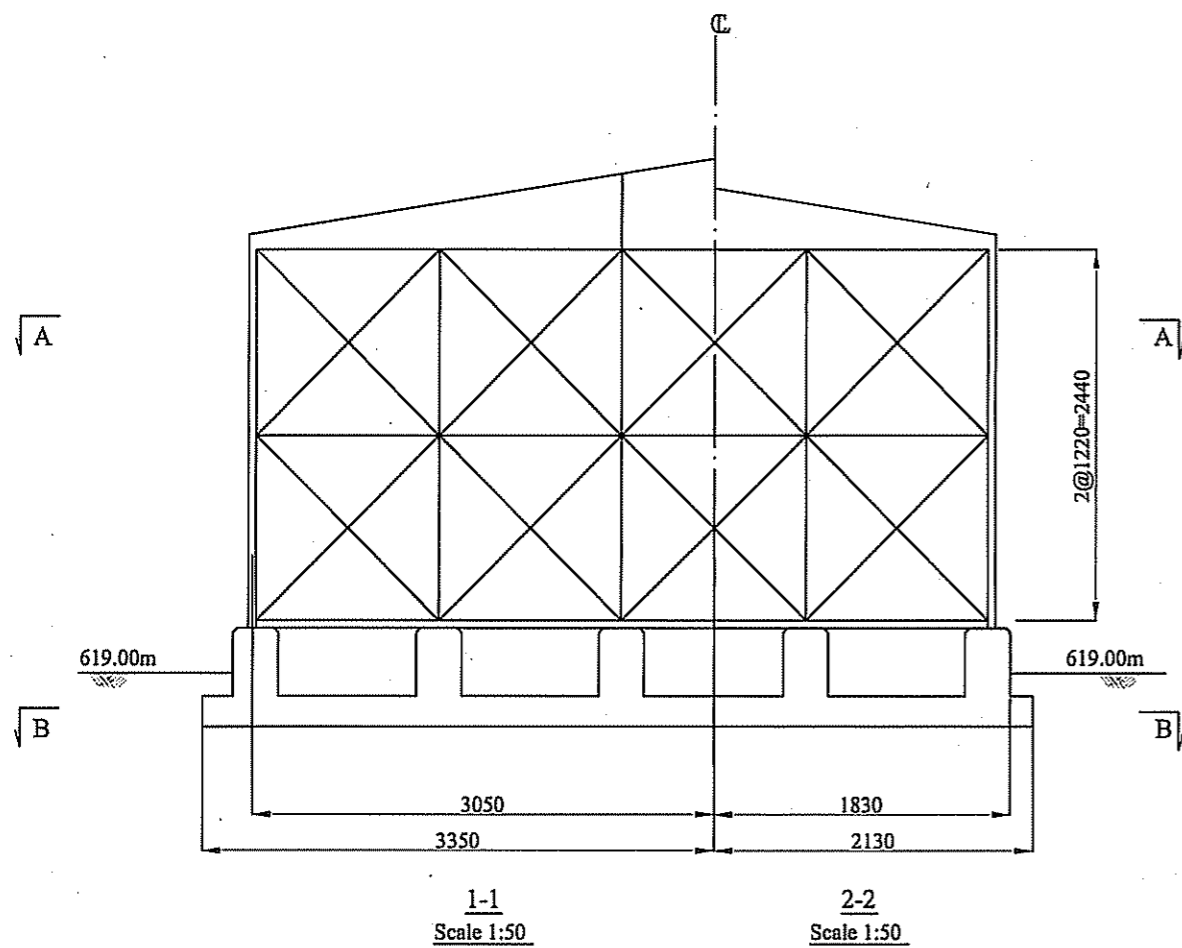
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

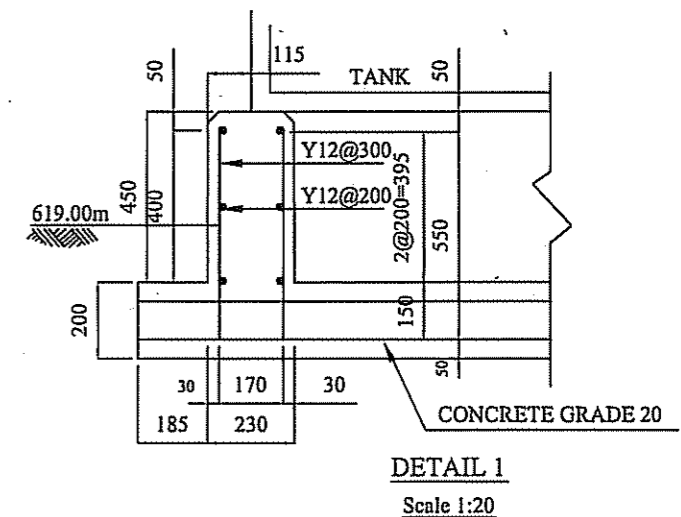
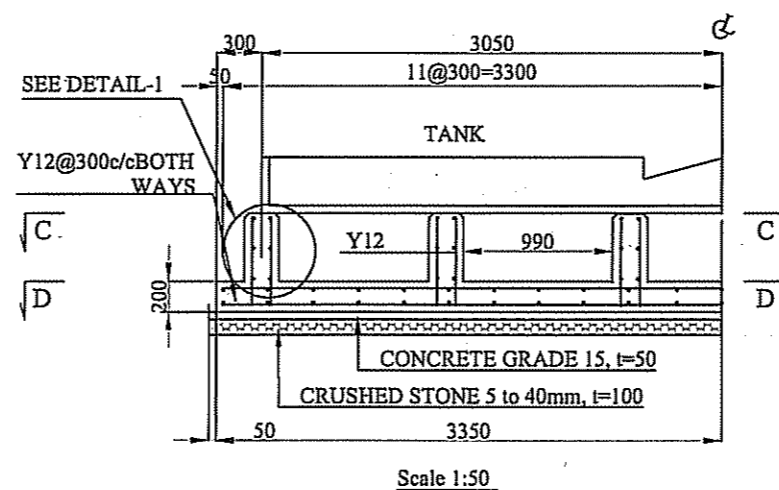
CONSULTING ENGINEERS:
 **NIPPON KOEI CO., LTD.**

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
CLEAR WATER TANK DETAILS (2/2)

SCALE	DATE	DRAWING NO.
1:10 1:20 1:50	FEB.2006	WSF-074



Tank Type	Storage Tank Volume		Weight & Tank	
	Class (m ³)	Actual (m ³)	Empty (t)	Full Water (t)
V50	50.0	54.5	4.8	59.2



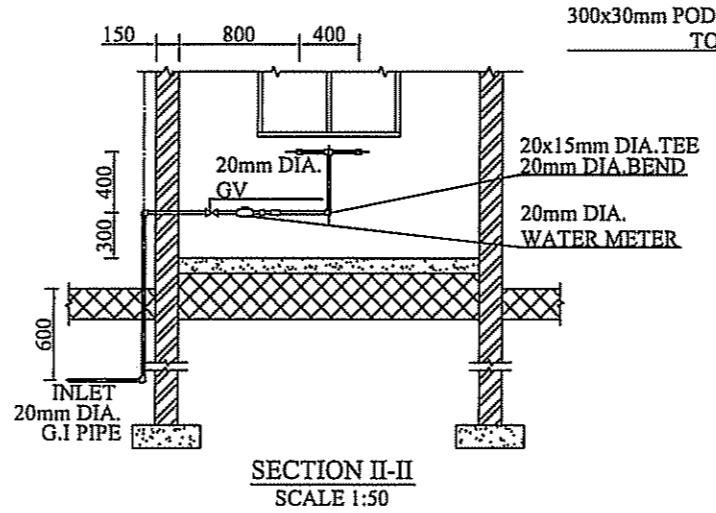
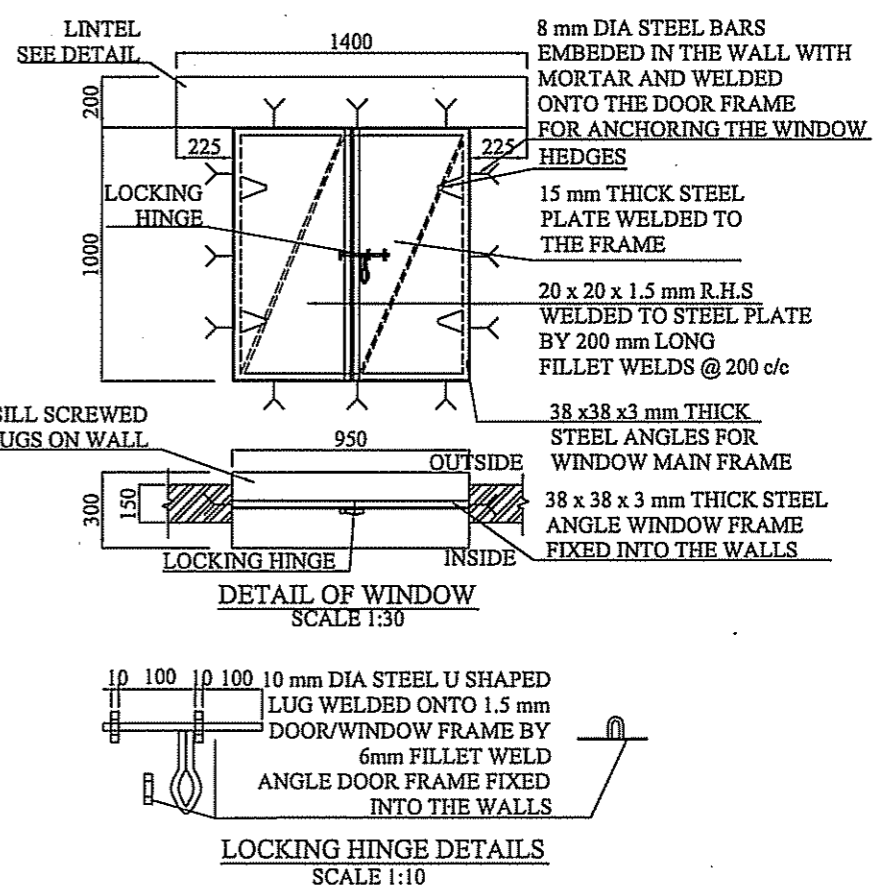
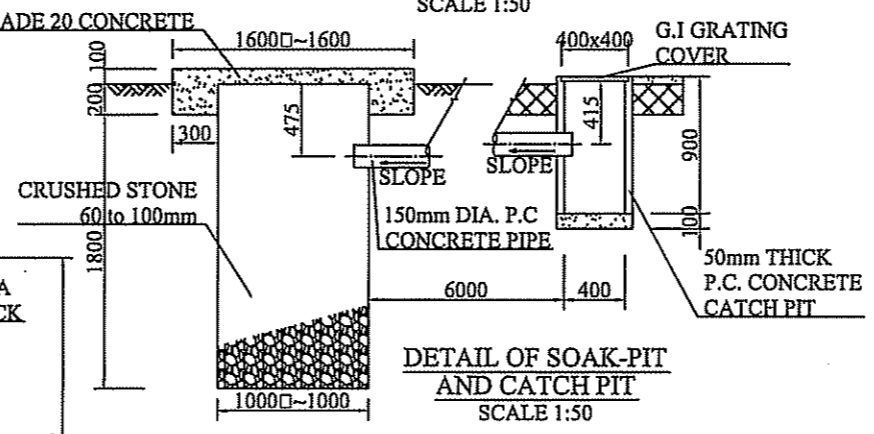
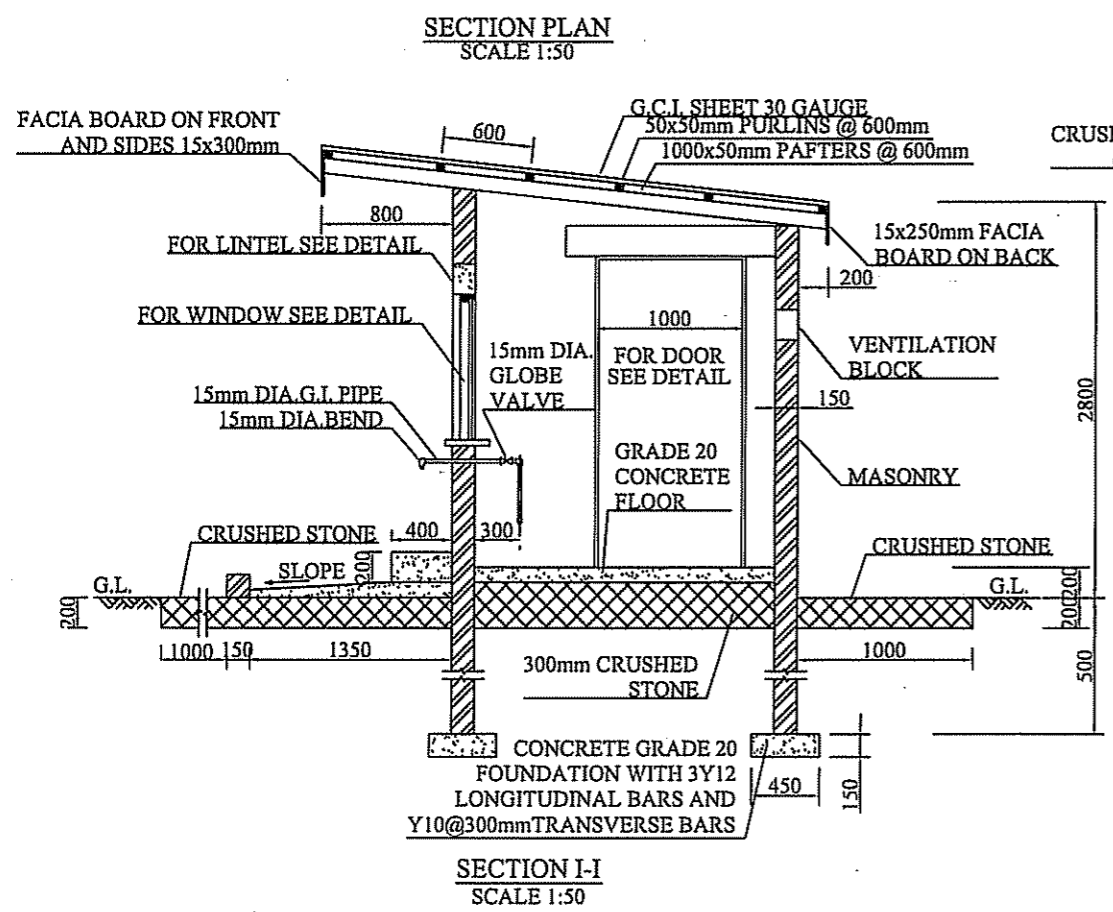
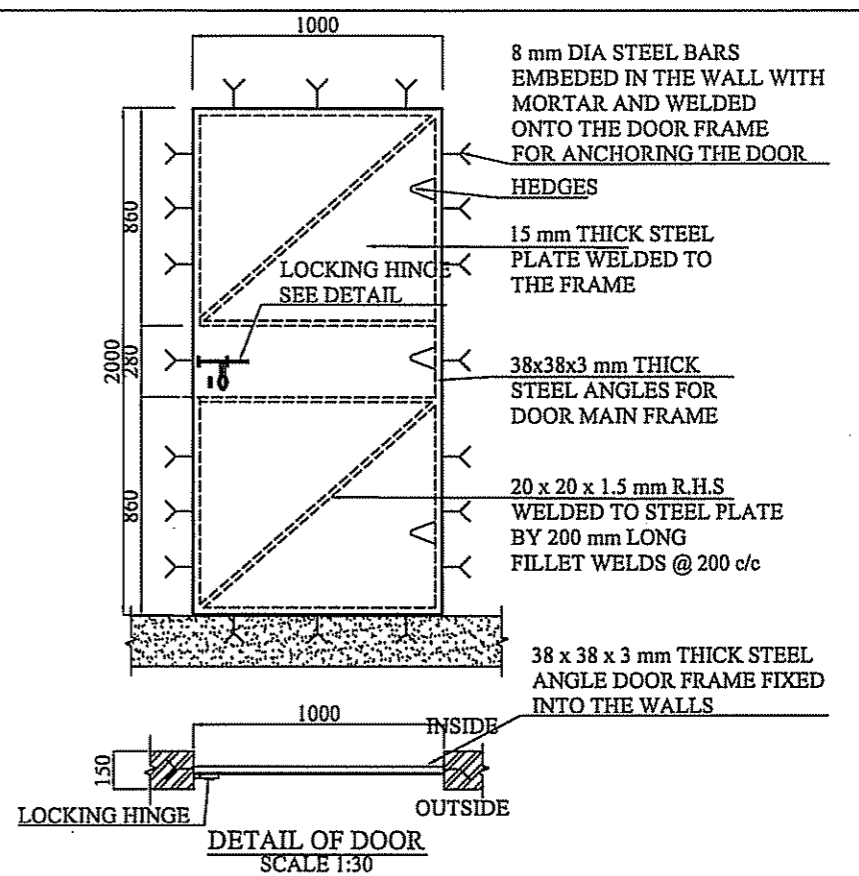
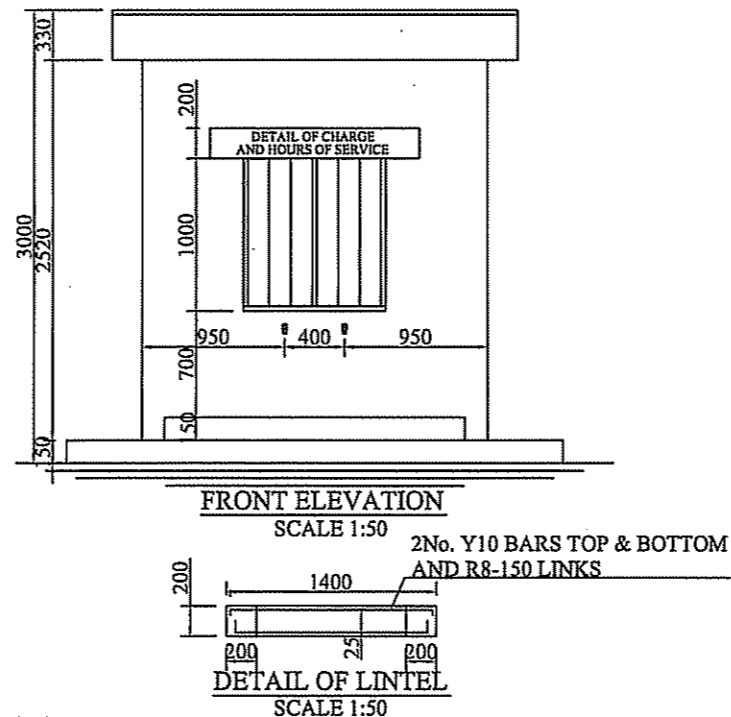
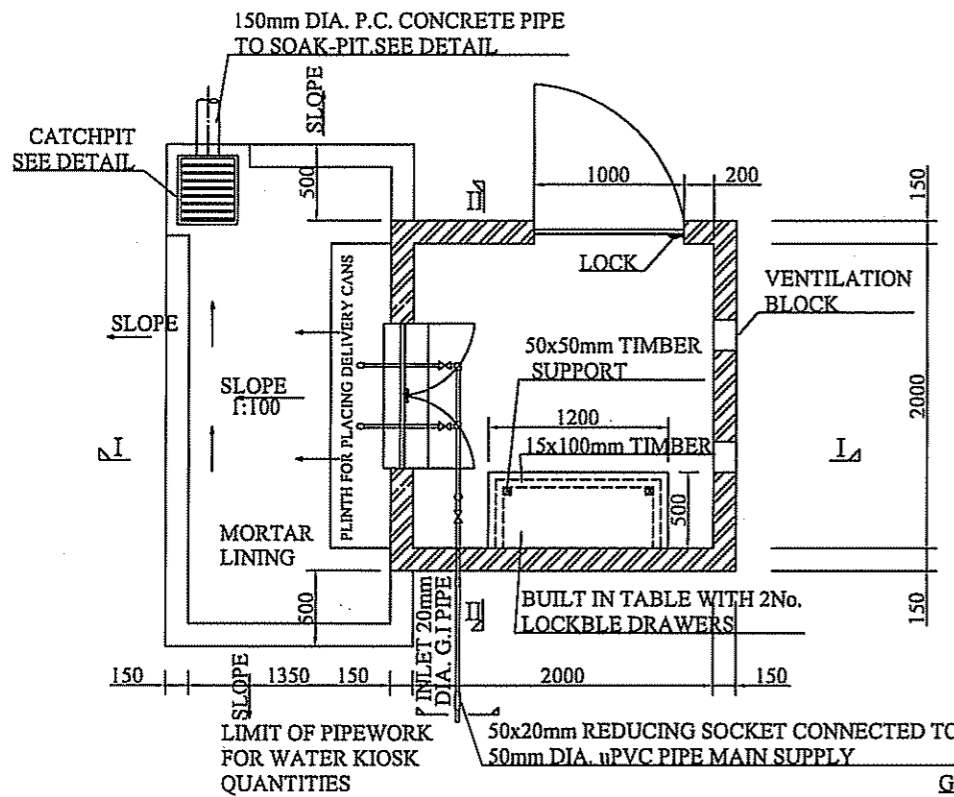
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
STORAGE TANK DETAILS (2/2)

SCALE 1:20 1:100	DATE FEB.2006	DRAWING NO. WSF-076
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NOTE: FOR LOCATION OF THE WATER KIOSKS REFER TO DRAWING NO GE-002

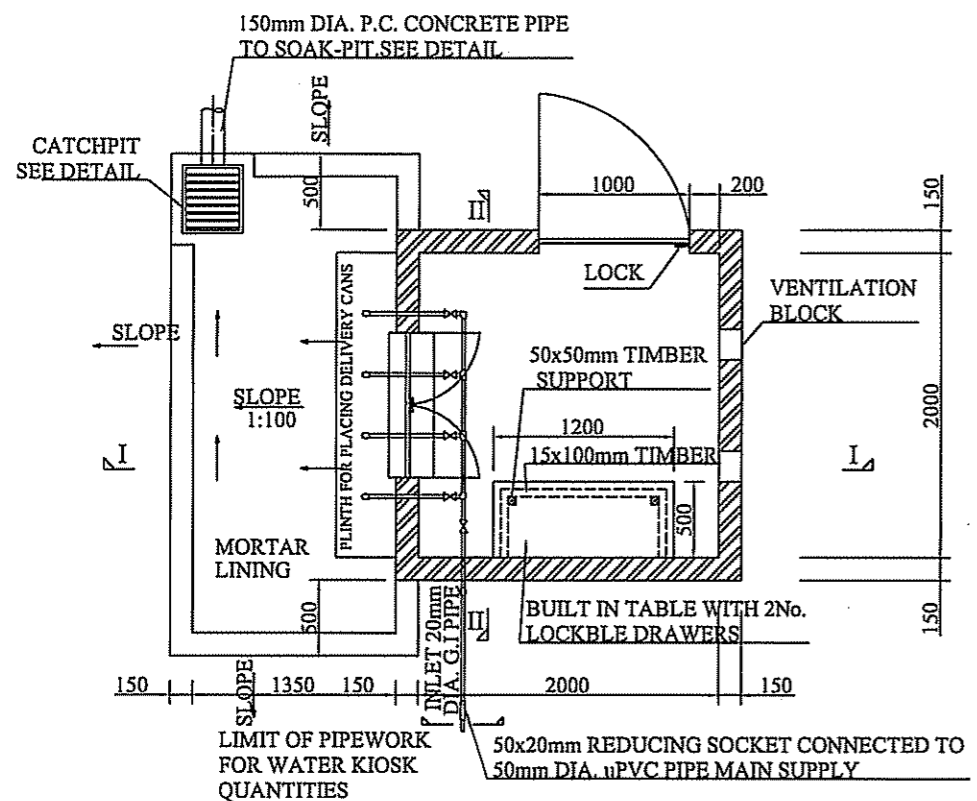
OWNER:
THE MINISTRY OF WATER
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

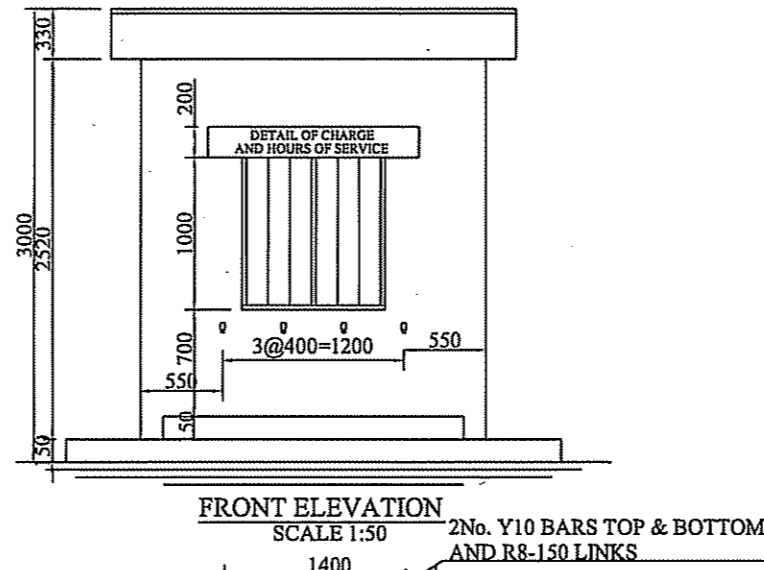
CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
WATER KIOSK DETAILS (TYPE A)

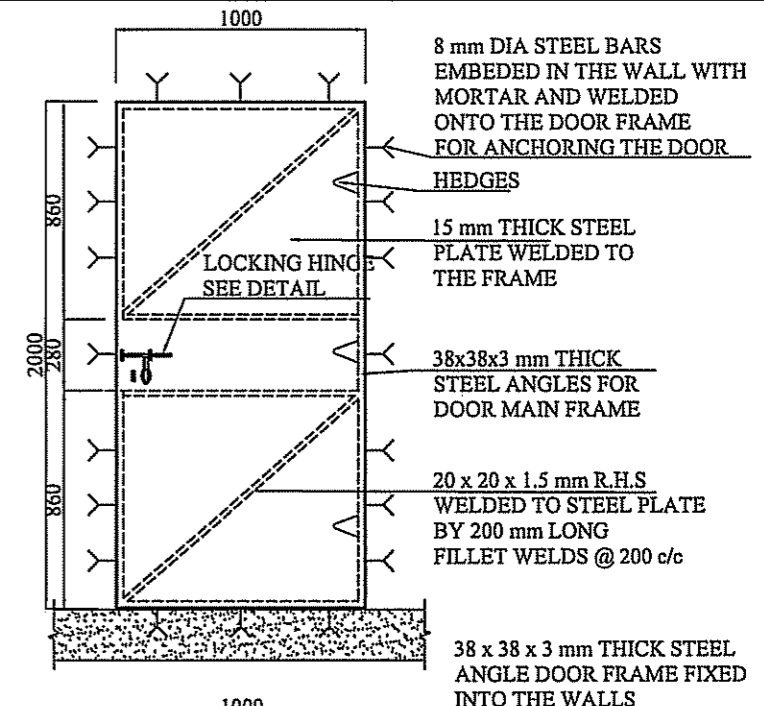
SCALE	DATE	DRAWING NO.
1:10 1:30 1:50	FEB.2006	WSF-077



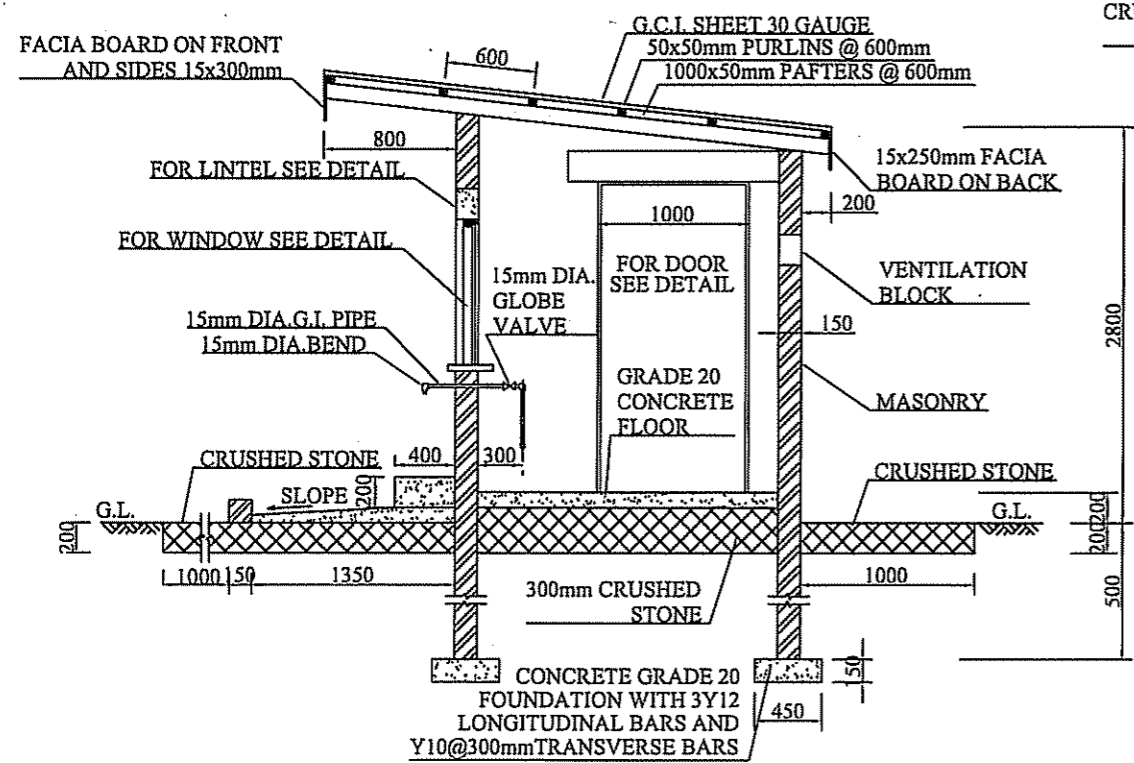
SECTION PLAN
SCALE 1:50



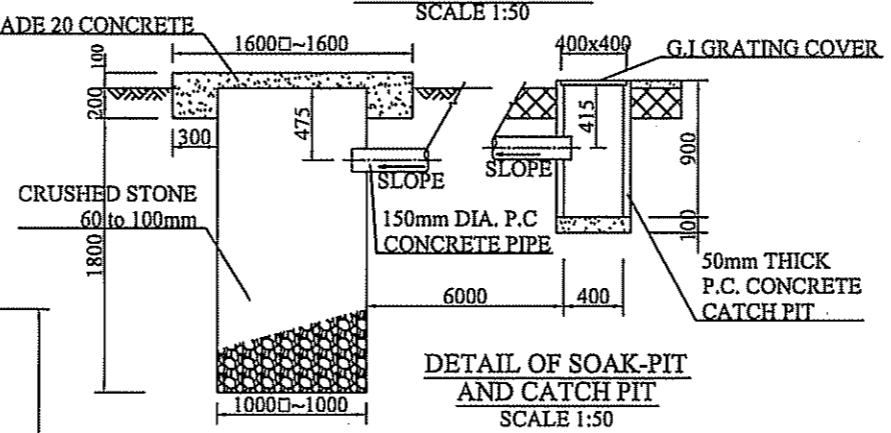
FRONT ELEVATION
SCALE 1:50



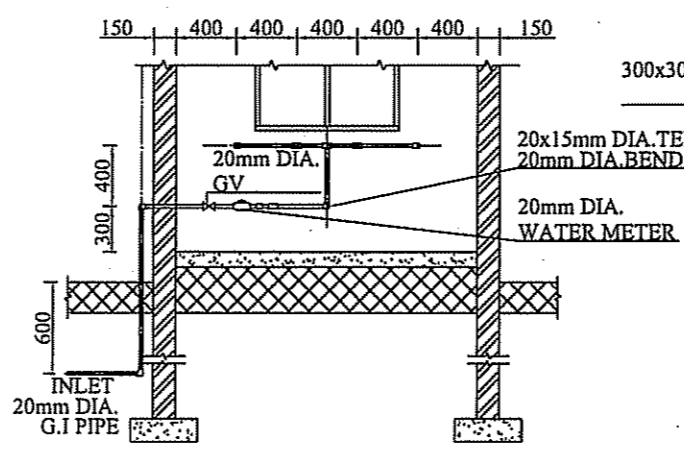
DETAIL OF DOOR
SCALE 1:30



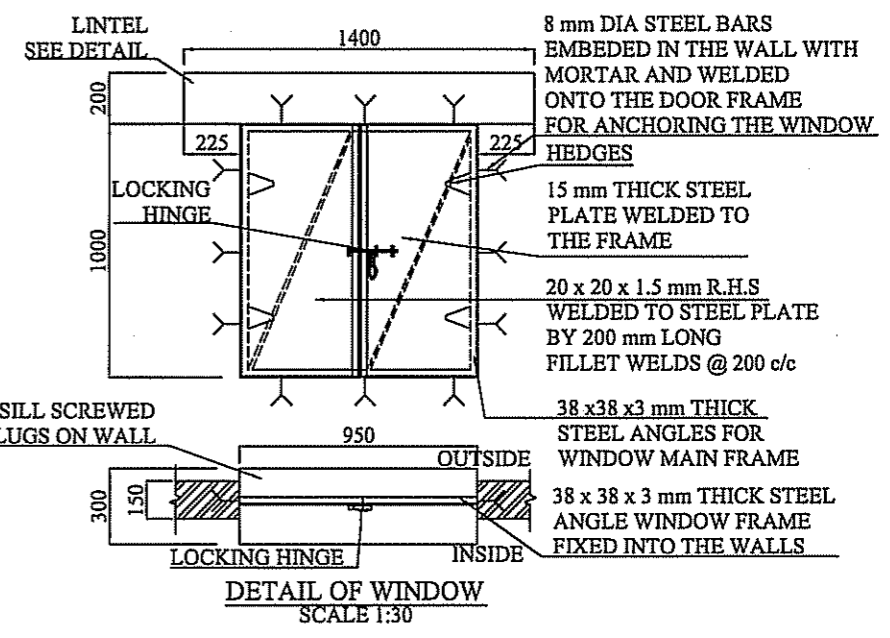
SECTION I-I
SCALE 1:50



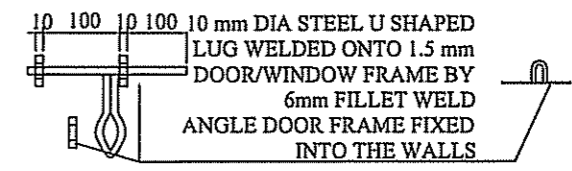
DETAIL OF SOAK-PIT
AND CATCH PIT
SCALE 1:50



SECTION II-II
SCALE 1:50



DETAIL OF WINDOW
SCALE 1:30




LOCKING HINGE DETAILS
SCALE 1:10

NOTE: FOR LOCATION OF THE WATER KIOSKS REFER TO DRAWING NO. GE-002

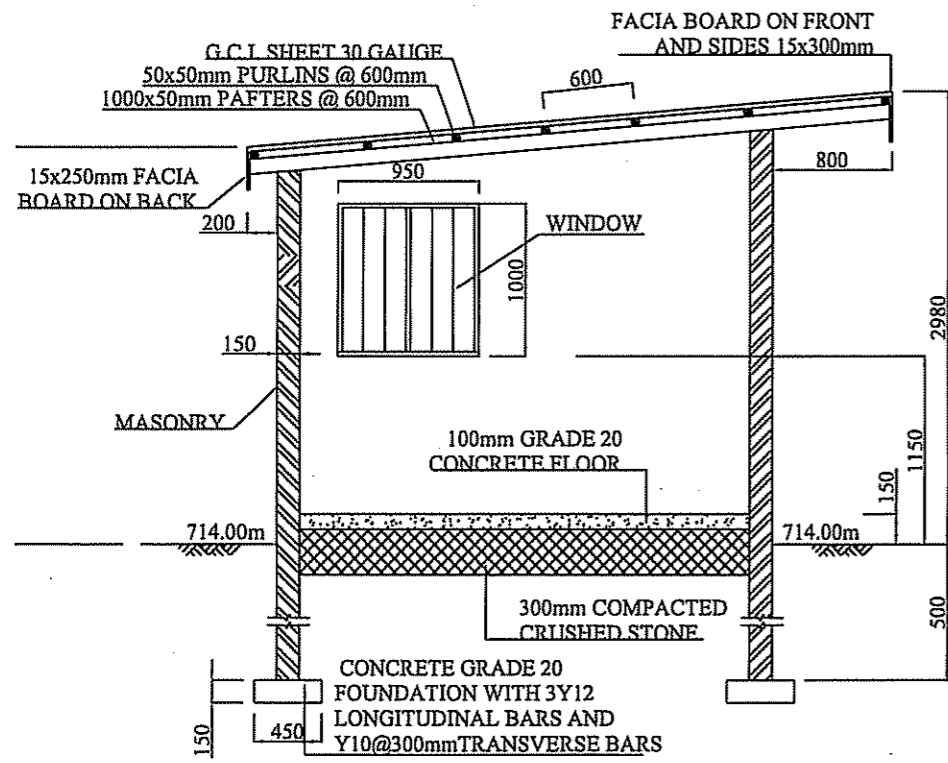
OWNER:
**THE MINISTRY OF WATER
THE REPUBLIC OF KENYA**

PROJECT NAME:
**THE PROJECT FOR
RURAL WATER SUPPLY**

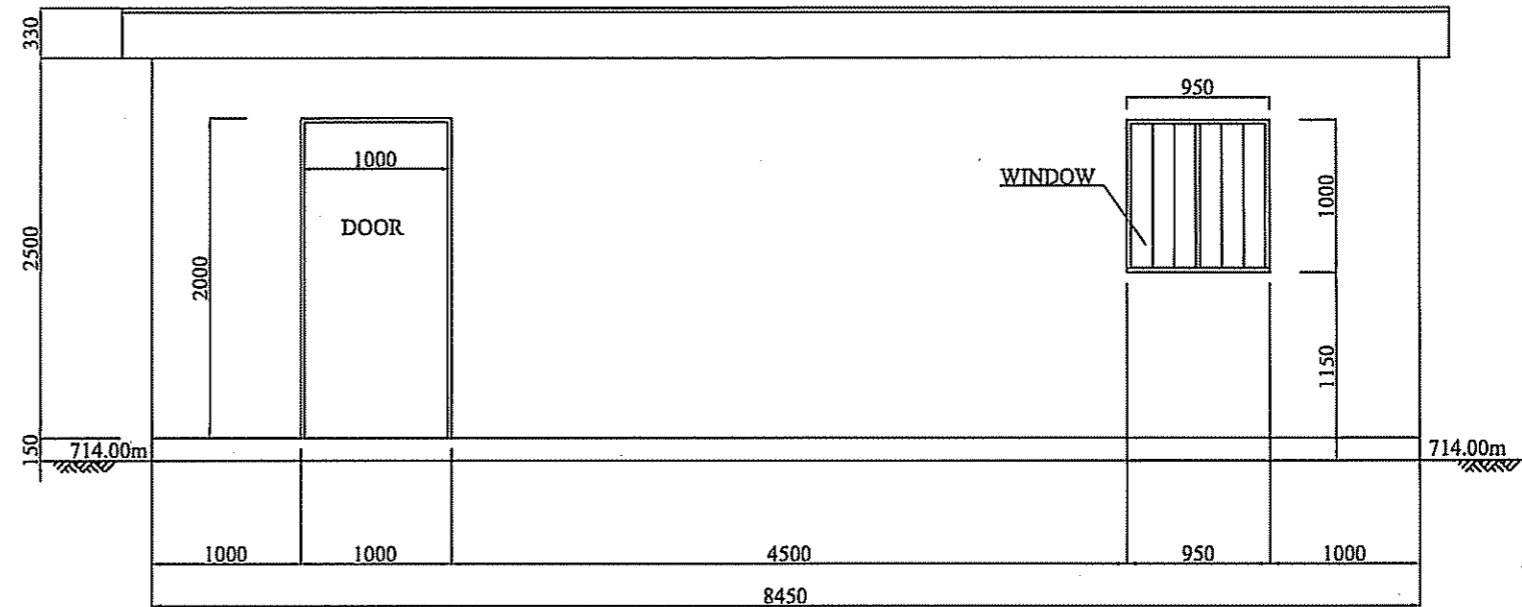
CONSULTING ENGINEERS:
 **NIPPON KOEI CO., LTD.**

TITLE:
**REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
WATER KIOSK DETAILS (TYPE B)**

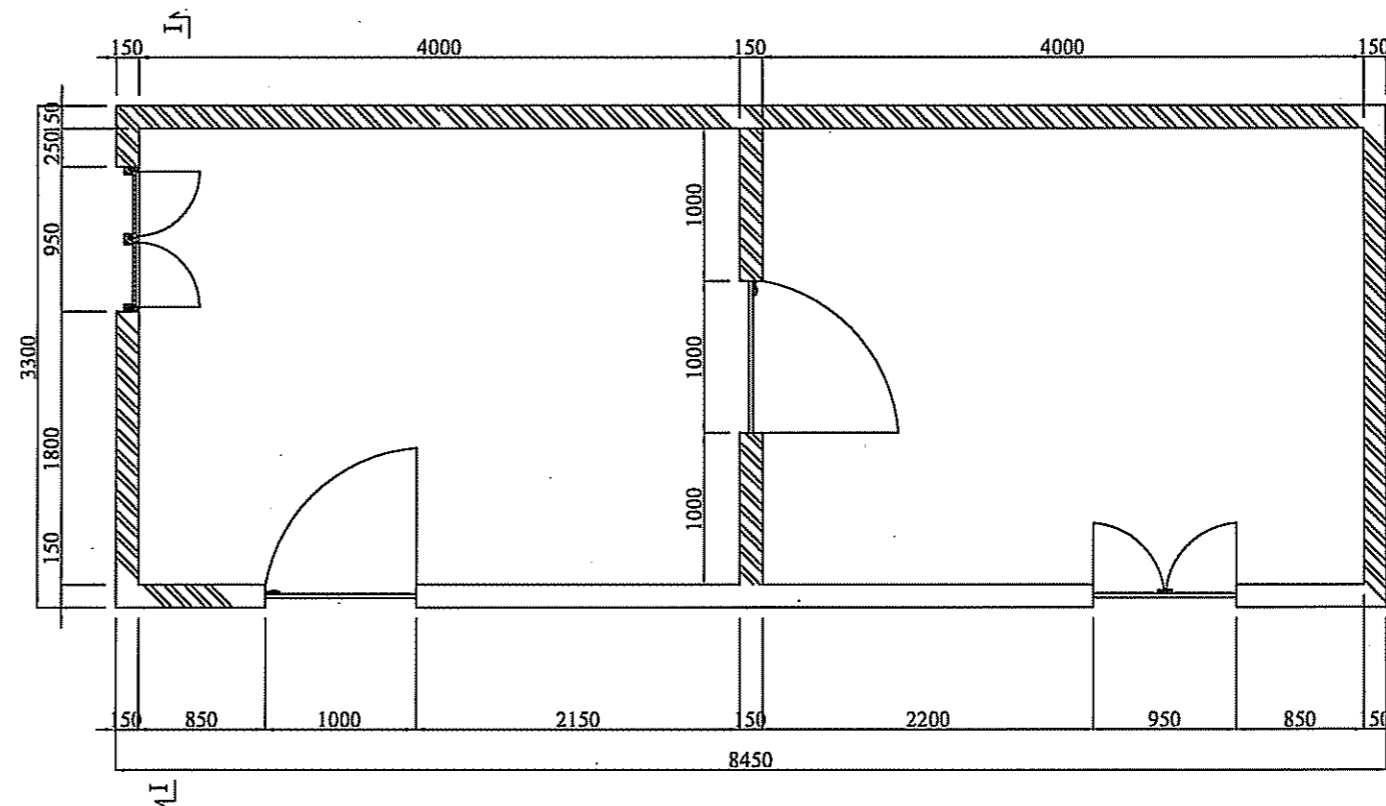
SCALE	DATE	DRAWING NO.
1:30 1:50	FEB.2006	WSF-078



SECTION I-I
SCALE 1:50



FRONT ELEVATION
SCALE 1:50



PLAN
SCALE 1:50

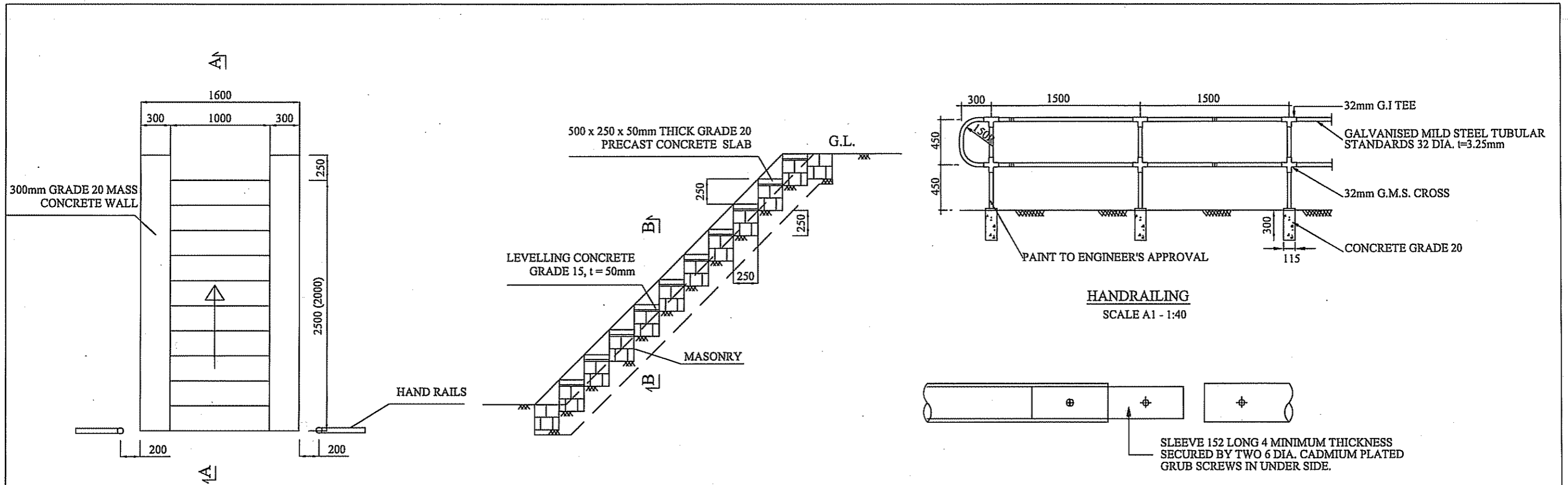
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
MAINTENANCE OFFICE

SCALE	DATE	DRAWING NO.
1:50	FEB.2006	WSF-079

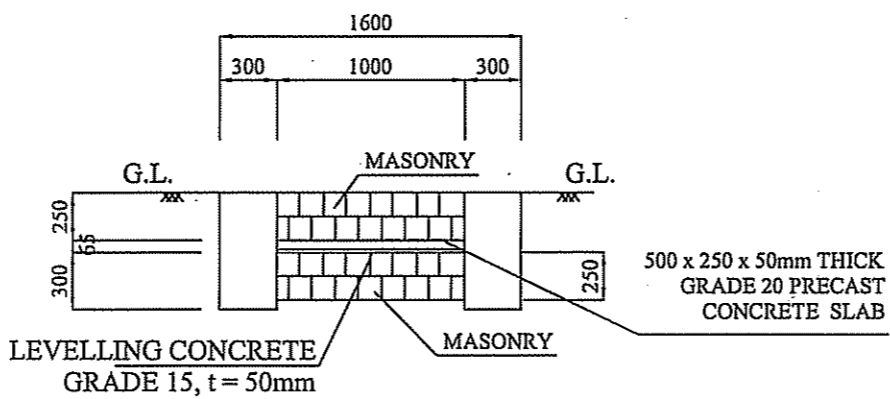


STAIRCASE PLAN
SCALE 1:50

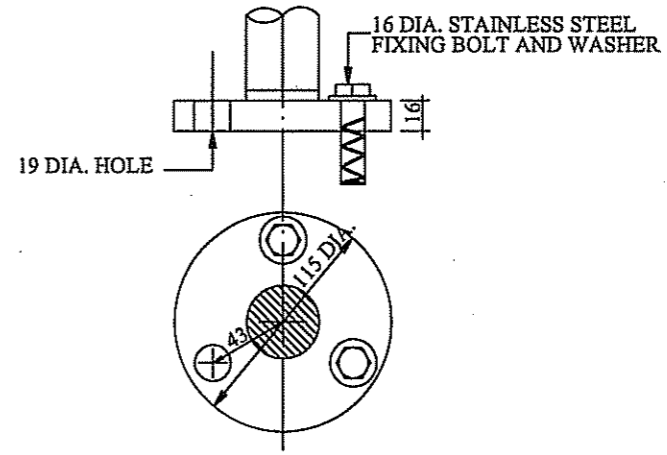
SECTION A-A
SCALE 1:50

HANDRAILING
SCALE A1 - 1:40

TUBULAR HANDRAILING JOINT
SCALE - 1:4



SECTION B-B
SCALE 1:50



ROUND BASE
SCALE - 1:4

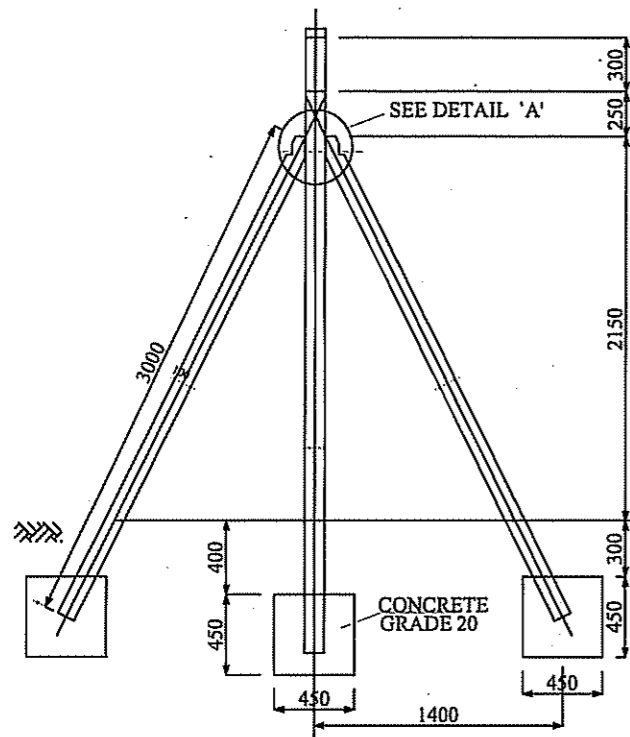
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO.,LTD.

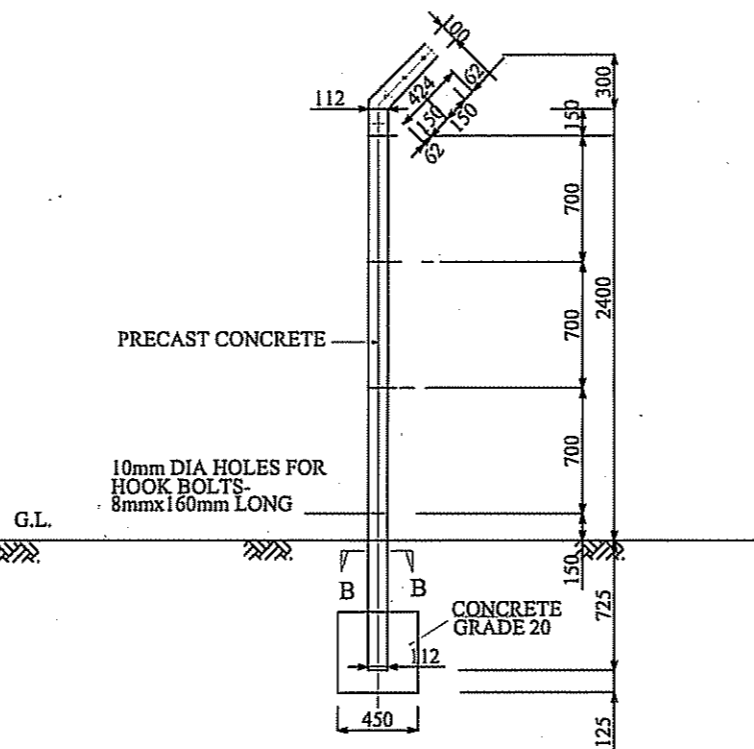
TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
DETAILS OF STAIRCASE AND HAND RAIL

SCALE	DATE	DRAWING NO.
1:4	FEB.2006	WSF-080
1:40		
1:50		



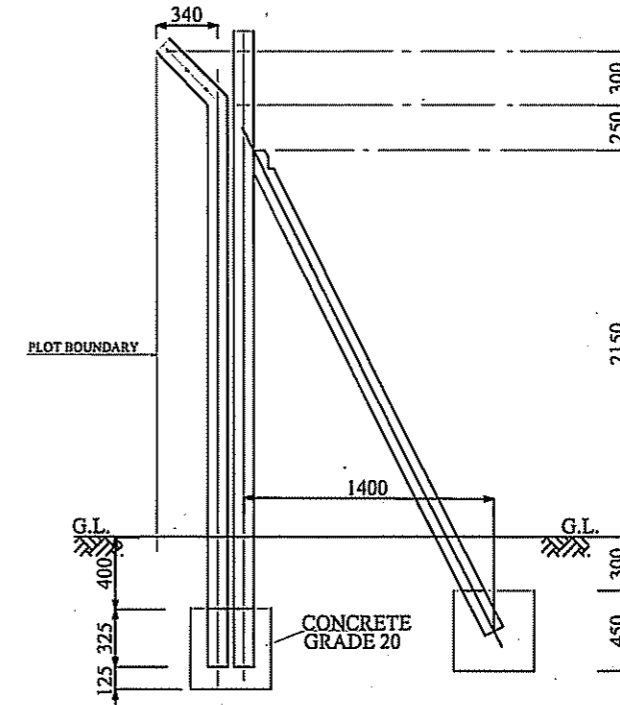
DETAILS OF STRAINING P.C.C. POST FOR
CHAIN LINK FENCE AT 33.3m. C/C

SCALE 1:40



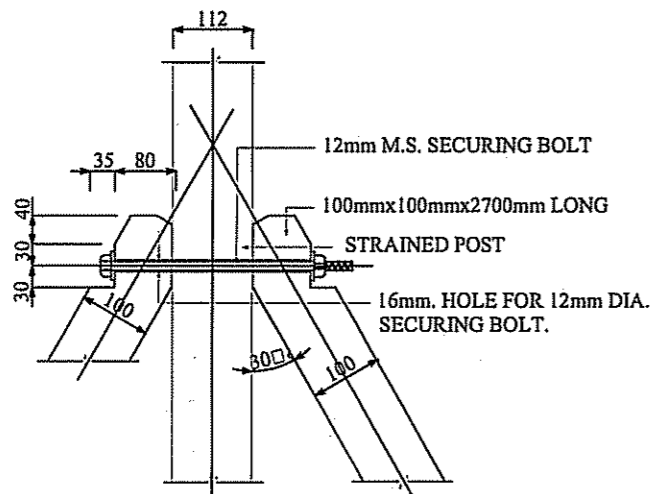
DETAILS OF SINGLE P.C.C.
POST AT 3.30m C/C

SCALE 1:40



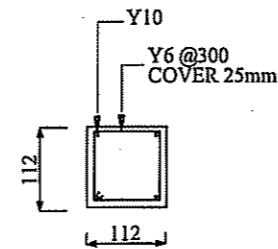
DETAILS OF CORNER POSTS

SCALE 1:40



DETAIL 'A'

SCALE 1:10



SECTION B-B

SCALE 1:5

NOTES

- APPROXIMATELY EVERY 10th POST TO BE STRAINED
- POST TO BE AT 3300mm CENTRES
- CONCRETE MIXES FOR:
 - POSTS GRADE 20
 - STRAINER POSTS GRADE 20
 - FOUNDATION BLOCK GRADE 20
- CHAIN LINK TO BE IN GAUGE 12 GALVANISED STEEL WIRE.
- STRAINING WIRES TO BE 12 GAUGE GALVANISED STEEL PLAIN WIRES.
- WIRES ON CRANK TO BE 12 GAUGE GALVANISED STEEL BARBED WIRE.
- ALL STRUCTURAL OPENING DIMENSIONS TO BE CONFIRMED ON SITE BEFORE COMMENCING ANY FABRICATION
- STRAINING WIRES TO BE FIXED TO POST WITH GALVANIZED HOOK BOLTS 8mm DIA. x 60mm LONG
- ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE STATED.
- C/C = CENTRE TO CENTRE.
- CTs. = CENTRES.
- M.S. = MILD STEEL.
- P.C.C. = PRECAST CEMENT CONCRETE.
- R.H.S. = RECTANGULAR HOLLOW SECTION.

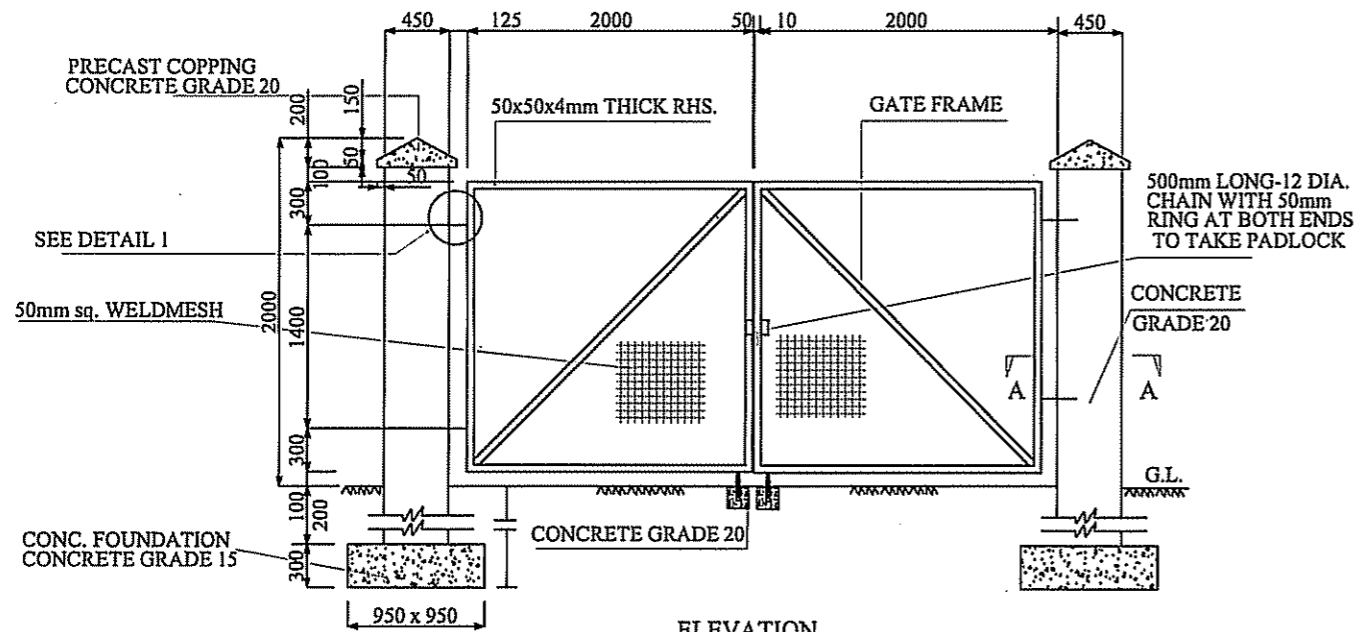
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.

TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
DETAILS OF FENCE

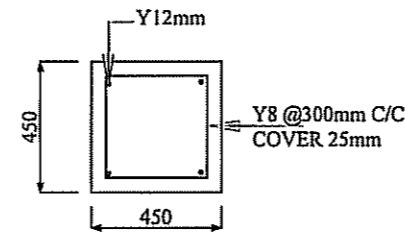
SCALE	DATE	DRAWING NO.
1:5 1:40	FEB.2006	WSF-081



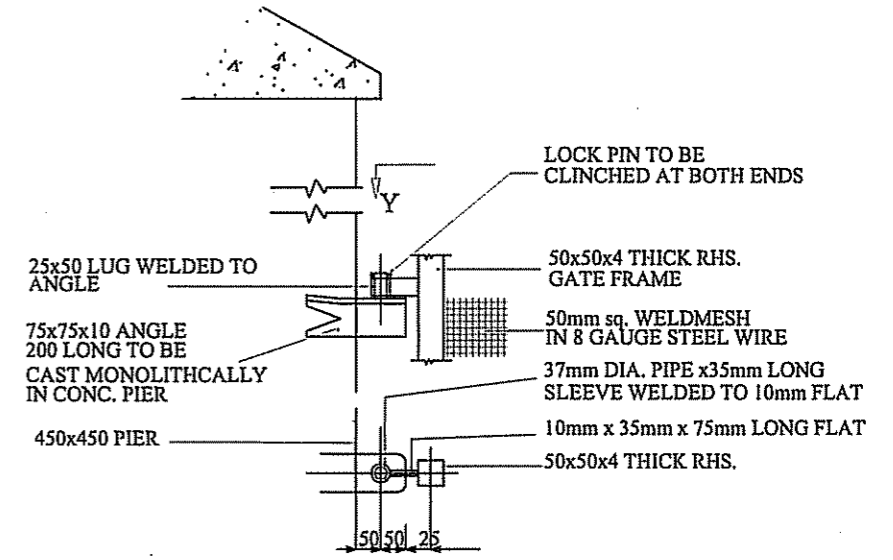
ELEVATION
SCALE 1:50

DETAILS OF 4m WIDE GATE

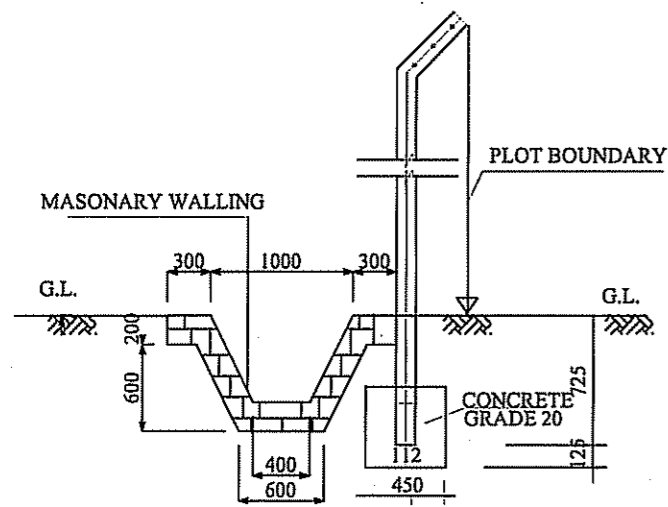
NOTE:
ALL STEEL WORK TO BE CLEANED
OF RUST AND PAINTED
TO ENGINEERS SATISFACTION



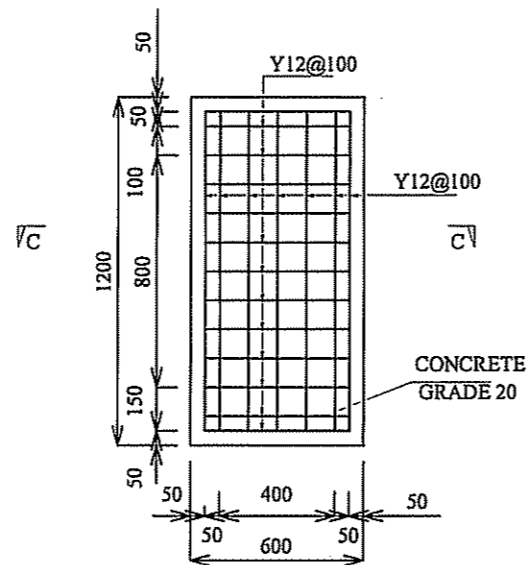
SECTION A-A
SCALE 1:25



DETAIL 1: GATE HINGE



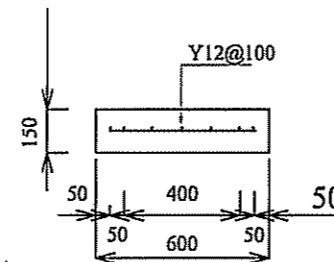
DETAILS OF DRAIN DITCH
SCALE 1:40



PRECAST CONCRETE COVER OVER DRAIN AT GATE

SIZE 1.2x0.6x0.15m

SCALE 1:40



SECTION C-C

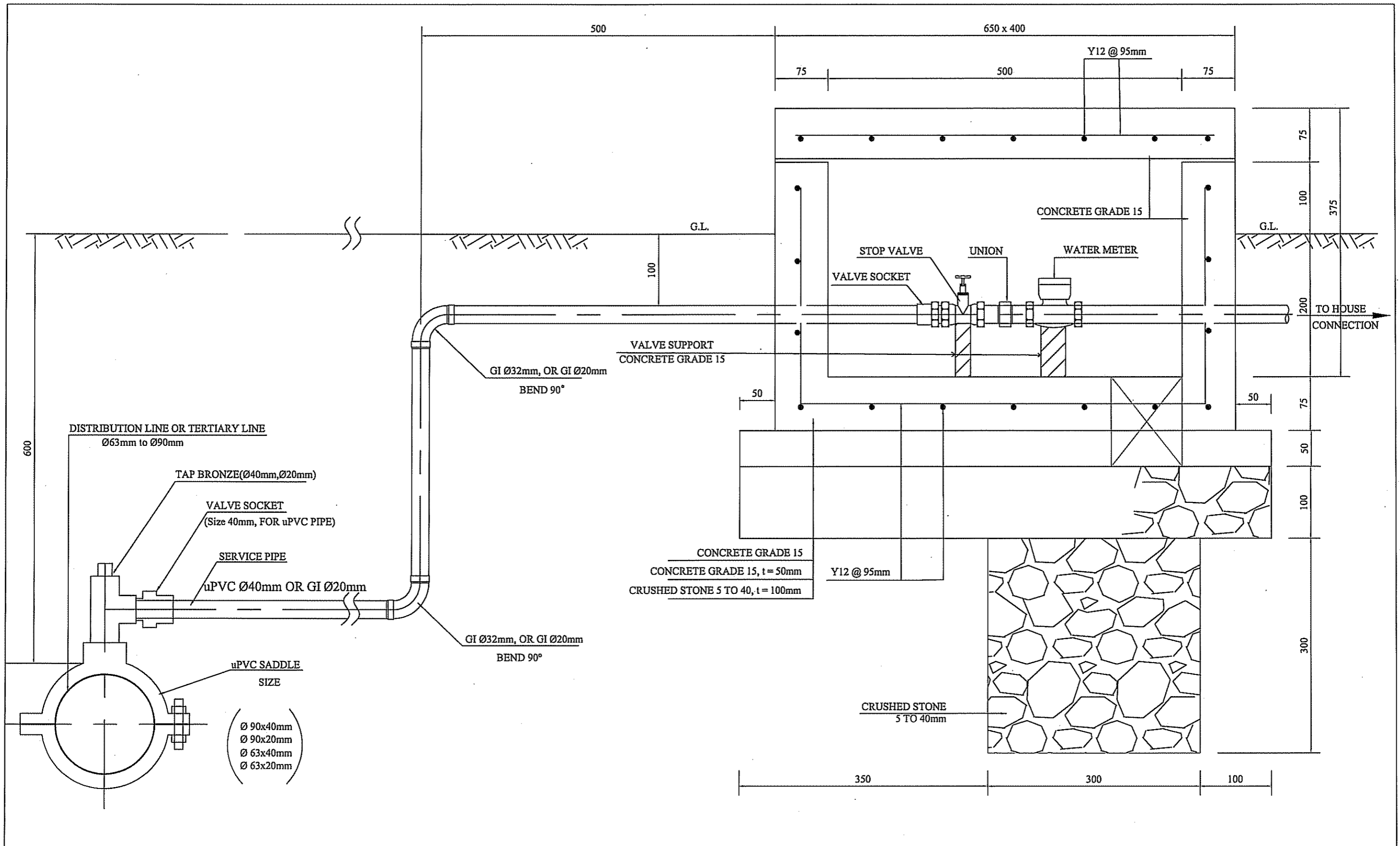
OWNER:
THE MINISTRY OF WATER AND IRRIGATION
THE REPUBLIC OF KENYA

PROJECT NAME:
THE PROJECT FOR
RURAL WATER SUPPLY

CONSULTING ENGINEERS:
 NIPPON KOEI CO., LTD.


TITLE:
REHABILITATION OF MORA SPRING WATER SUPPLY FACILITY
DETAILS OF GATE AND DRAIN

SCALE	DATE	DRAWING NO.
1:25 1:40 1:50	FEB. 2006	WSF-082



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CONSUMER CONNECTION DETAILS

SCALE 1:5	DATE FEB.2006	DRAWING NO. WSF-083
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5.13
List of Alternative Communities

Series No.	Data Sheet No.	Alternative site for	Administration					Population	Pump Type
			District	Division	Location	Sub Location	Village Name		
1	Macha-1	Mukukuni wp (No.167)	Machakos	Kathiani	Mitaboni	Kinyau	Syulunguni	2,250	Motor/Wind Pump
2	Macha-2	Makulumi (No.185)	Machakos	Yathui	Yathui	Kwakola	Kwakavili	1,250	Motor/Wind Pump
3	Macha-3	Kilembwa (No.187)	Machakos	Yathui	Wamunyu	Kyawango	Mwasua	2,250	Motor/Wind Pump
4	Macha-4	Iyuni (No.199)	Machakos	Kalama	Kola	Iyuni	Manzaa	1,800	Motor/Wind Pump
5	Macha-5	Kyawalia Dispensary (No.198)	Machakos	Kalama	Muumandu	Kyawalia	Kyawalia	300	Hand Pump
6	Macha-6	Kakongo Village (No.159)	Machakos	Masinga	Ekalakala	Nzukini	Nzukini	1,750	Motor/Wind Pump
7	Macha-7	Ekalakala (No.150)	Machakos	Masinga	Ekalakala	Nzukini	Wendano	1,800	Motor/Wind Pump
8	Macha-8	Utihini Primary School (No.164)	Machakos	Katangi	Kyua	Kyua	Itithini	800	Hand Pump
9	Macha-9	Kyamutheke (No.200)	Machakos	Kalama	Kathekakai	Kitanga	Kyamutheke	2,400	Motor/Wind Pump
10	Macha-10	Kivandini (No.153)	Machakos	Yatta	Matuu	Katulani	Kivandini	2,400	Motor/Wind Pump
11	Macha-11	Ndalani (No.165)	Machakos	Yatta	Ndalani	Ndalani	Ndalani Centre	2,500	Motor/Wind Pump
12	Macha-12	Ikombe (No.160)	Machakos	Yatta	Ikombe	Ikombe	Ikombe	1,500	Motor/Wind Pump
13	Macha-13	Utihini Primary School (No.164)	Machakos	Mwala	Mwala	Kivandini	Kivandini	4,000	Motor/Wind Pump
14	Macha-14	Masii Girls School (No.176)	Machakos	Mwala	Masii	Mbaani	Kawaa	2,400	Motor/Wind Pump
15	Macha-15	Leema Girls Secondary School (No.180)	Machakos	Mwala	Wamunyu	Mbaikini	Mbaikini	900	Hand Pump
16	Macha-16	Kyawango SHG (No.178)	Machakos	Mwala	Kyawango	Kangii	Kangii	2,000	Motor/Wind Pump
17	Kitui-1	Kwa Mutonga (No.43)	Kitui	Matinyani	Kwa Mutonga	Mutonga	Kithuyiani	500	Hand Pump
18	Kitui-2	Kalindilo (No.40)	Kitui	Matinyani	Kathiva	Kalindilo	Kalindilo	490	Hand Pump
19	Kitui-3	Ikutha (No.47)	Kitui	Ikutha	Ikutha	Ndili	Ndili/Ilaani	1,505	Motor/Wind Pump
20	Kitui-4	Kamutei (No.49)	Kitui	Ikutha	Ikutha	Ikutha	Kithiki	700	Hand Pump

Series No.	Data Sheet No.	Alternative site for	Administration					Population	Pump Type
			District	Division	Location	Sub Location	Village Name		
21	Kitui-5	Kyatune (No.51)	Kitui	Mutomo	Ikanga	Kyatune	Kwa Toma	1,600	Motor/Wind Pump
22	Kitui-6						Kamulambani /Kithumulani	500	
23	Kitui-7	Misewani (No.2)	Kitui	Chuluni	Nzambani	Maluma	Katothya	840	Hand Pump
24	Kitui-8	Mosa (No.6)	Kitui	Chuluni	Mosa	Mosa	Clinics of Care	1,200	Motor/Wind Pump
25	Kitui-9	Katwala (No.7)	Kitui	Chuluni	Nzambani	Misewani	Kilonzo Village	2,800	Motor/Wind Pump
26	Kitui-10	Kazauwu (No.8)	Kitui	Central	Kyangwithya	Mbusyani	Isovyia	700	Hand Pump
27	Kitui-11	Kisasi (No.9)	Kitui	Central	Mulango	Kyangunga	Kyangunga	2,800	Motor/Wind Pump
28	Kitui-12	Katika (No.38)	Kitui	Central	Misewani	Misewani	Kwa Ukungu	3,200	Motor/Wind Pump
29	Kitui-13	Kateiko (No.35)	Kitui	Yatta	Kwa Vonza	Mithikwani	Nyumbani Childrens Home	800	Hand Pump
30	Kitui-14	Ikulumbutani (No.34)	Kitui	Yatta	Yatta	Makusya	Ndamukini	1,200	Motor/Wind Pump
31	Kitui-15	Kaseu Secondary (No.18)	Kitui	Mtonguni	Ndulos Corner	Kyamutimba	Kyamutimba	2,000	Motor/Wind Pump
32	Maku-1	Uiini (No.125)	Makueni	Kalama	Kathulumbi	Kathulumbi	Kitoto	3,500	Motor/Wind Pump
33	Maku-2	Kilili Sec School (No.111)	Makueni	Matiliku	Nzau	Matiliku	Kukui	3,000	Motor/Wind Pump
34	Maku-3	Sakai (No.109)	Makueni	Kisau	Kiteta	Kakuswi	Ndithini	1,600	Motor/Wind Pump
35	Maku-4	Kazokeani (No.103)	Makueni	Kathonzweni	Kanthuni	Kanthuni	Yeembondo	1,800	Motor/Wind Pump
36	Maku-5	Kasikeu Market (No.129)	Makueni	Kasikeu	Kasikeu	Uualeni	Masaani	1,500	Motor/Wind Pump
37	Maku-6	Kiou Village (No.131)	Makueni	Kasikeu	Kiou	Kiou	Ikutani	1,500	Motor/Wind Pump
38	Maku-7	Nguuni (No.134)	Makueni	Kasikeu	Kiou	Kiou	Mvani	600	Hand Pump
39	Maku-8	Kwekolya (No.127)	Makueni	Kilome	Kiimakui	Ngaamba	Ngondini/Lambati	1,500	Motor/Wind Pump
40	Maku-9	Enzae (No.128)	Makueni	Kilome	Kiimakui	Ngaamba	Kwa Ilela	2,000	Motor/Wind Pump

Series No.	Data Sheet No.	Alternative site for	Administration					Population	Pump Type
			District	Division	Location	Sub Location	Village Name		
41	Maku-10	Kithundi (No.98)	Makueni	Wote	Wote	Kamui-Mawe	Kambi-Mawe	4,800	Motor/Wind Pump
42	Maku-11	Utui Wa Wote (No.99)	Makueni	Wote	Wote	Mumbuni	Kathiani	3,500	Motor/Wind Pump
43	Maku-12	Nthangu Pri School (No.101)	Makueni	Wote	Wote	Unoa	Nthangu Village	1,800	Motor/Wind Pump
44	Maku-13	Yindundu (No.141)	Makueni	Mtito Andei	Nzambani	Muthingiini	Manguluku	1,800	Motor/Wind Pump
45	Maku-14	Nthunguni SHG (No.144)	Makueni	Mtito Andei	Nzambani	Muthingiini	Kwa Matundu	2,400	Motor/Wind Pump
46	Maku-15	Kitengei (No.146)	Makueni	Mtito Andei	Kambu	Kitengei	Kilumilo	1,400	Motor/Wind Pump
47	Maku-16	Kikumini (No.138)	Makueni	Nguu	Mweini	Kalii	Yikivumbu	2,500	Motor/Wind Pump
48	Mwin-1	Migwani Market (No.63)	Mwingi	Migwani	Ngutani	Kavoloi	Kavoloi	640	Hand Pump
49	Mwin-2	Ndaluni (No.66)	Mwingi	Migwani	Kyome	Kyome	Ndaluni Secondary	720	Hand Pump
50	Mwin-3	Nzauni (No.62)	Mwingi	Migwani	Migwani	Kitulani	Kitulani	700	Hand Pump
51	Mwin-4	Itumbi (No.59)	Mwingi	Migwani	Nguulani	Kanyaa	Kwambuta	700	Hand Pump
52	Mwin-5	Makengekani (No.58)	Mwingi	Migwani	Nzauni	Kea	Kea	640	Hand Pump
53	Mwin-6	Kavaini (No.61)	Mwingi	Migwani	Thitani	Thitani	Thitani Secondary	1,400	Motor/Wind Pump
54	Mwin-7	Kyanika (No.95)	Mwingi	Kyuso	Mivukoni	Kamula	Kyanika	3,528	Motor/Wind Pump
55	Mwin-8	Twimiwa (No.92)	Mwingi	Kyuso	Mivukoni	Twimilyua	Kwa Kavuri	700	Hand Pump
56	Mwin-9	Muruu (No.88)	Mwingi	Kyuso	Kyuso	Gai	Central Village	660	Hand Pump
57	Mwin-10	Ngungi (No.70)	Mwingi	Mui	Mui	Ngungi	Ngungi Pri. School	2,400	Motor/Wind Pump
58	Mwin-11	Kalitini (No.73)	Mwingi	Mui	-	Itiko	Kalitini Secondary School	3,500	Motor/Wind Pump
59	Mwin-12	Engamba (No.79)	Mwingi	Nuu	Wingemi	Kalawa	Matia	225	Hand Pump
60	Mwin-13	Gankanga (No.84)	Mwingi	Mumoni	Tharaka	Kacigongo	Miramba Ikamba	475	Hand Pump
61	Mwin-14	Ndatha (No.83)	Mwingi	Mumoni	Katse	Konyu	Muvunga	3,220	Motor/Wind Pump
62	Mwin-15	Kanthingu (No.87)	Mwingi	Mumoni	Kawthuwgu	Kawthuongu	Kamwerini	582	Hand Pump