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ANNEX 1

SCHOOL LOCATIONS

SCHOOLS AFFECTED- MBALA DISTRICT

	School	Toilets affected	Nb toil rebuilt	Nb toil re-inforce	Comments
1	Kalonde CS	2	2		Completely collapsed
2	Katete CS	6 of 6	6		Completely collapsed
3	Chizanzu CS	3 of 6	3	3	2 completely collapsed, 1 with serious cracks
4	Mahule PS	1 of 5	1	4	1 completely collapsed, 1 with minor cracks
5	Mila CS	1 of 3	1	2	1 collapsed during heavy rain
6	Sichise CS	2 of 2	2		Need to be re-built
7	Kalala CS	1 of 2	1	1	Need to be re-built
8	Insarva PS	3 of 3	3		Need to be re-built
9	Vvula PS	4 of 6	4	2	Need to be re-built
10	Kawala PS	2 of 6	2	4	Need to be re-built
11	Mjile CS	1 of 2	1	1	Need to be re-built
12	Malinga CS	1 of 5	1	4	Need to be re-built
	12		27	21	

SCHOOLS AFFECTED- MPULUNGU DISTRICT

	School	Toilets affected	Toilets rebuilt	Toilets reinforced	Comments
1	Makayi CS	4 of 4	4	4	Completely collapsed by storm run-off. Re-built by Masons – still needs remedial and to re-position 1 toilet
2	Musakala CS	2 of 3	2	1	Caused by High water table. Re-position on ant hill next to unaffected toilet.
3	Chifungu CS	5 of 5	5		1 collapsed, 2 with serious cracks, 2 minor cracks. Soil problem. Demolish and rebuild all 5.
4	Mumila CS	2 of 5	2	3	Need to be re-built
5	Kalambwe CS	2 of 4	2	2	2 need to be re-built, 2 with minor cracks need reinforcing
6	Yamwela CS	2 of 3	2	1	2 need to be re-built, 1 with minor cracks need reinforcing
7	Vvula PS	4 of 6	4	2	Need to be re-built
	7		21	13	

SCHOOLS AFFECTED - KASAMA DISTRICT

	School	Toilets affected	Toilets rebuilt	Toilets reinforced	Comments
1	St Bakhita CS	5 of 6	5	1	1 completely collapsed, 4 serious cracks
2	Mankalala CS	5 of 5	5		1 completely collapsed, 4 serious cracks. All 5 closed by DEBS
3	Mpango CS	2 of 4	2	2	2 total to be re-built
4	Chikalipa CS	3 of 3	3		Need to be re-built. All 3 closed by DEBS
5	Chisokolo CS	1 of 2	1	1	1 needs to be re-built
6	John Chikula CS	1 of 3	1	2	1 needs to be re-built; 2 need reinforcement
7	Menga CS	4 of 5	4	1	4 need to be re-built 1 needs reinforcement
8	Katampa CS	2 of 3	2	1	2 need to be re-built 1 needs reinforcement
9	Muchanga CS	3 of 4	3	1	3 need to be re-built 1 needs reinforcement
10	Kapopa Sanja CS	1 of 3	1	2	1 needs to be re-built
11	Chitandu CS	1 of 3	1	2	1 needs to be re-built
	11		28	13	

SCHOOLS AFFECTED - MUNGWI DISTRICT

	School	Toilets affected	Toilets rebuilt	Toilets reinforced	Comments
1	Bwebe CS	4 of 4	4		2 completely collapsed, 2 with serious cracks.
2	Lunyungu CS	1 of 1	1		Completely collapsed
3	Pulumwe CS	3 of 5	3	2	3 need to be re-built, 2 need reinforcement
4	Nabulungu CS	1 of 2	1	1	1 needs to be re-built, 1 needs reinforcement
5	Sompe CS	2 of 3	2	1	2 need to be re-built, 1 with minor cracks needs reinforcing
6	Luango CS	1 of 2	1	1	1 needs to be re-built
7	Mwela PS	1 of 2	1	1	1 needs to be re-built, 1 needs reinforcement
8	Mfinshe PS	4 of 4	4		4 need to be re-built
9	Chitanga PS	4 of 4	4		4 need to be re-built
10	Chitemfuma CS	2 of 4	2	2	2 need to be re-built, 2 needs reinforcement
11	Chibula CS	1 of 3	1	2	1 needs to be re-built, 2 need reinforcement
12	Kambole CS	3 of 6	3	3	3 need to be re-built
	12		27	13	

SCHOOLS AFFECTED - ISOKA DISTRICT

	School	Toilets affected	Toilets rebuilt	Toilets reinforced	Comments
1	Figolo CS	3 of 3	3		All 3 completely collapsed
2	Lwenda CS	3 of 3	3		All 3 subsiding / tilting. All closed by school
	2		6		

SUMMARY OF CONSTRUCTION ISSUES – 5 DISTRICTS

District	SNV schools reported completed	SNV toilets reported completed	Monitoring visits								
			schools with collapse	Toilets collapsed	schools with serious cracks	Toilets with serious cracks	Schools with collapse and/or serious cracks	Toilets collapsed and/or with serious cracks	Toilets in same schools to be reinforced	Additional schools with toilets w/minor cracks to be reinforced	Toilets with minor cracks to be reinforced
MBALA	56	212	5	12	9	15	12	27	21	7	12
MPULUNGU	33	110	3	7	5	14	7	21	13	7	12
KASAMA	44	146	2	2	5	26	11	28	13	9	20
MUNGWI	33	110	2	3	12	24	12	27	13	3	7
ISOKA	8	29	1	3	1	3	2	6		2	4
TOTAL reported in programme	174	607									
TOTAL following monitoring visits (90% of schools visited)			13	27	32	82	44	109	60	28	55
TOTAL estimated (extrapolation of monitoring visits data)			14	30	35	90	49	120	66	31	61

ANNEX 2

TENDERING FORMAT - BoQs

REMEDIAL WORKS ON TOILETS AND MHWS, 5 DISTRICTS, NORTHERN PROVINCE

BoQ FORMAT FOR TENDERING:

Item	Description	Unit	Qty	Rate (ZMW)	Amount (ZMW)
1	Training				
1.1	Training session on the reviewed design for local masons and building officers	lump	1		
2	Demolition low cost and re-building of "Fail Safe" Design				
2.1	Demolition and backfill of condemned toilets at approx. 50 Community Schools	Toilet	120		
2.2	Building "Fail Safe" Low Cost toilets per drawing at approx. 50 Community Schools. Includes supply of materials, transportation and construction inclusive of all associated costs. Design summary. All backfill well compacted. Pit 1.8m and 1.2m in diameter and 2.5-3.0m deep. Lower hole lined with burnt brick cylinder (1 brick thick - stretchers - resting on concrete footing). Concrete ring beam placed on Cylinder at 1.0m depth, reinforced with two 12mm re-bar loops (OD - 2.2m, ID 1.2m). Burnt-brick corbelled dome built on ring beam (starting diameter 1.2m ID), closing as a drop hole and slab support at + 0.2m abgl. Concrete slab measuring 2.7 x 3.0m and 100mm thick (between 100 and 300mm abgl - reinforced with 257 mesh) with peripheral burnt brick footing to 0.5m depth resting on concrete base 300mm wide and 100mm thick. Burnt-brick super-structure measuring minimum of 2.35 x 1.65m and 2.1m high (complete with inner vent pipe with cap, tin roof (4 sheets x 2.2 x 0.25mm thick) and rafters (cut 3 x 50 x 75mm x 5m long). Girls to have an entrance WASH slab with soak away box with lid and a pole / grass privacy fence on 3 sides measuring approx. 10m in length and at least 1.8m in height. Toilet supplied with a Kalingalinga style steel stand with bucket/tap (20 liter) and bowl (11 liter).	Toilet	120		
3	Demolition and rebuilding of Mass Hand Washing Stations				
3.1	Demolition and re-building of the Mass Hand Washing Station. Location to be central in the quadrangle or by the feeding station (not by toilets). Consists of burnt brick cube measuring 0.7m on each side with 60l HDPE drum placed on top and encased in burnt bricks. Standing strips are single brick thick, well plastered measuring approx. 2.5-3m long. Steps to tank are also plastered. To the base of drum are connected drum connector, adaptor, spacer pipe, ball valve, 2.2m long pipe and end cap (3/4" fittings all CPVC or GI). Pipe is drilled with 0.4mm holes at 150mm centers - providing 12 washing points (6 on each side). Pipe is supported in two places by plastered brick stands. Drain is filled with stones. An O&M pack is provided consisting spare fittings (1 of each as detailed, plus 4 spare Kalingalinga plastic bucket taps, CPVC glue, thread tape, wrench and hack saw as appropriate)	School	50		
4	Strengthening of floors and peripheral strips				
3.1	Generally at other toilets at schools addressed above or approx. 40 schools (on same program), visit and carry-out strengthening works on toilets designated with "minor cracks" or as assessed. Consists of new concrete floor slab (reinforced with 257 mesh embedded, at least 75mm thick). Peripheral brick strips removed (if found), thorough compaction and placing of a concrete strip slab measuring 600mm wide and 100mm thick. On both boys and girls but on girls additionally extended into a WASH Slab with soak away box and lid. Pole and grass privacy fence on the girls toilets where not found or where beyond repair.	Toilet	130		
4	Handover to DEBS and School				
4.1	A pre-arranged date coordinated with each school worked on. Attendees to be invited: DBO (from DEBS - to budget ZMW 75 lunch allowance), school teachers, children, headman and PTA members. Content: Explaining the facilities and their respective cleanliness, usage and upkeep (toilets, Kalingalinga buckets, MHWS); handing over and signing for the O&M pack for MHWS, completion Certificate for the toilets and MHWS, etc. Approx 2 can be done per day if well coordinated.	School	80		
5.0	Supervision and management				
	Sub total				0.00
6.0	Contingency (5%)				0.00
	VAT (16%)				Exempt
	Total				0.00

Notes

- The Tenderer must ensure builders know what they are doing (through training) and supervision to ensure that the structures built are to the design plan AND SUSTAINABLE for intended lifespan (up to 10-years for the toilets)
- UNICEF will carry-out spot check visits during duration of the Contract period. Unsatisfactory works will be condemned and the Contractor will be responsible to re-build to the specification until UNICEF / DEBS are satisfied.

ANNEX 3

BUILDING MATERIAL CHECKLIST "FAIL-SAFE" LOW COST TOILET AND MASS HAND WASHING STATION

UNICEF FAIL-SAFE DESIGN

INIT COST: TOILET INCLUDING A BURNT BRICK CYLINDER IN LOWER PIT, BRICK DOME IN UPPER PIT, RING BEAM, REINFORCED SLAB WITH PERIPHERAL SUPPORT FOOTINGS AND BRICK SUPER-STRUCTURE					Item	Qty	Qty for reconstr	Unit cost (ZMW)	Total cost (ZMW)	Comment
1.1	Cement for dome		pocket	1	1					
1.2	Cement for ring beam (ID = 1.2m, OD = 2.4m x 150mm thick)		pocket	1	1					
1.3	Cement for half brick cylinder (ID = 1.2m OD = 1.5m, height = 1.5m single line)		pocket	2	2					
1.4	Cement for slab (2.6 x 3.1 x 100mm thick)		pocket	6	6					
1.5	Cement for super-structure and slab, drain, edgings (1.55 x 1.95 x 2.0m high)		pocket	2.5	2.5					
1.6	Cement for slab footings and brickwork		pocket	3	3					
2.1	Y10 re-bar for ring beam (12m long)		bar	1	1					
2.2	257 reinforcing mesh for slab (2.5 x 3.0m = 7.5m ²)		60x2.5m roll	0.05	0.05					
3.1	Brick for dome Sub-structure (1.2m dome from 1.0m depth)		Burnt brick*	200	200					Nb of bricks recuperated estimated at 330
3.2	Brick for Super-structure (1.95 x 1.55 x 2.0m high, square spiral) 533 rounded to 550		Burnt brick*	550	220					
3.3	Brick for lower-cylinder (1.5m OD x 1.5m high) 206 rounded to 220		Burnt brick*	220	220					
3.4	Brick for peripheral slab footings (11m x 4 single lines) = 40 x 4 lines = 160		Burnt brick*	160	160					
4.1	Stone for ringbeam (3 wheelbarrow)		wheelbarrow	3	3					
4.2	Stone for slab (2.6 x 3.0m x 100mm thick (1.33 m ³ = 9 x 100 liter w/barrow)		wheelbarrow	9	9					
4.3	Stone for slab peripheral footings (150 x 450mm x 11m = 0.74 m ³ = 5 x 100l w/barrow)		wheelbarrow	5	5					
5.1	River sand for ringbeam (3 wheel barrow)		wheelbarrow	3	3					
5.2	River sand for slab (2.6 x 3.0m x 100mm thick (1.33 m ³ = 6 x 100 liter w/barrow)		wheelbarrow	6	6					
5.3	River sand for peripheral footings (150 x 450mm x 11m = 0.74 m ³ = 3 x 100l w/barrow)		wheelbarrow	3	3					
6.1	Vent pipe 2.5m with cover (simple balloon grating - not valve-type)		pipe	0.5	0.5					Expected to be replaced in most cases
7.1	Timber purloins for roof 50 x 75mm x 5m long		piece	2	2					longer timber purloins required
9.1	Tying wires (2.5mm soft)		mini roll	1	1					
9.1	Roof sheets 3 x 2.2m x 0.25mm		sheet	3	1					Recuperated
0.1	Timber nails (4")		1kg	0.5	0.5					
0.1	Roofing nails (3")		1kg	1	1					
1.1	Wood preservative (creasote)		5 liter	1	1					
2.1	Kalingalinga bucket with bowl and stand		20 liter	1						Recuperated
3.1	Poles/ sticks (for Girls grass partition) - 2.5m long 5cm wide		pole	12	12					
4.1	Grass or grass/reed mats (for Girls partition)		bundle	20	20					
5.1	Loading, offloading bricks and materials		toilet	1	1					
6.1	Labour, to assist the Mason, digging hole, mixing mortar etc.		toilet	1	1					
7.1	Transportation of building materials (cement, bricks, etc)		toilet	1	1					
8.1	Fee paid to assigned MASON to build complete latrine		toilet	1	1					
SUMMARY OF COST (ZMW)					toilet			Total	0	
					toilet			Contingency (5%)	0	
					toilet			Grand total	0	

Notes

- The contingency is used to administer unexpected costs such as more expensive items or unforeseen circumstances
- Most Community schools up-front some or all the bricks - the saving can offset additional expense of fail-safe measures
- "Low" refers to districts along the main transport routes including Southern, Lusaka, Central up to Copperbelt Districts
- "High" refers to districts off the main transport routes including Western, Northwestern, Central (some), Luapula and Northern Districts

GUIDELINES ON PRICING OF THE APPROVED MINI "MULTIPLE MASS HAND WASHING STATION"

Multiple MHWS Unit Cost

					Unit cost variation	Total cost
A	Material costs (administered by IP)	Item	Qty	Qty for reconstr	cost / unit (low)	Total (low)
1.1	HDPE PVC drum 60 liter (HDPE quality second hand)	Drum	1	0		
1.2	UPVC 3/4" Plumbers pipe (2.4m long)	per 6m	0.5	0.25		
1.3	UPVC 3/4" ball valve female threaded	unit	1	0.5		
1.4	UPVC 3/4" Tank connector (complete with washers)	unit	1	0.5		
1.5	UPVC 3/4" female double ended socket	unit	1	0.5		
1.6	UPVC 3/4" End Cap	unit	1	0.5		
1.6	Portland Cement	50kg	2	2		
1.7	Drilling drum and pipe	lump	0.5			
1.8	Plastic water bottles and boom soap (about 6)	lump	1	1		
2.1	Transportation of building materials (cement, bricks, etc)	MHWS	0.1	0.1		
2.2	Fee paid to assigned MASON to build complete MHWS	MHWS	1	1		
2.3	O&M pack for MHWS and Kalingalinga buckets	MHWS	1			
3.1	Stand, steps, standing strips, drum encasement	Burnt brick	150	75		
3.2	Building sand (for brickwork)	wheelbarrow	3	3		
3.3	Broken bricks and rubble (soak away)	wheelbarrow	6			
4.1	Pole and stick enclosure fence		12	12		
					sub-totals	0

recuperated

50% recuperated, considering breakages

50% recuperated, considering breakages

50% recuperated, considering breakages

50% recuperated, considering breakages

50% recuperated, considering breakages

recuperated

Available at MoGE

50% recuperated

Recuperated

ANNEX 4

BUILDING PLAN "FAIL-SAFE" LOW COST TOILET

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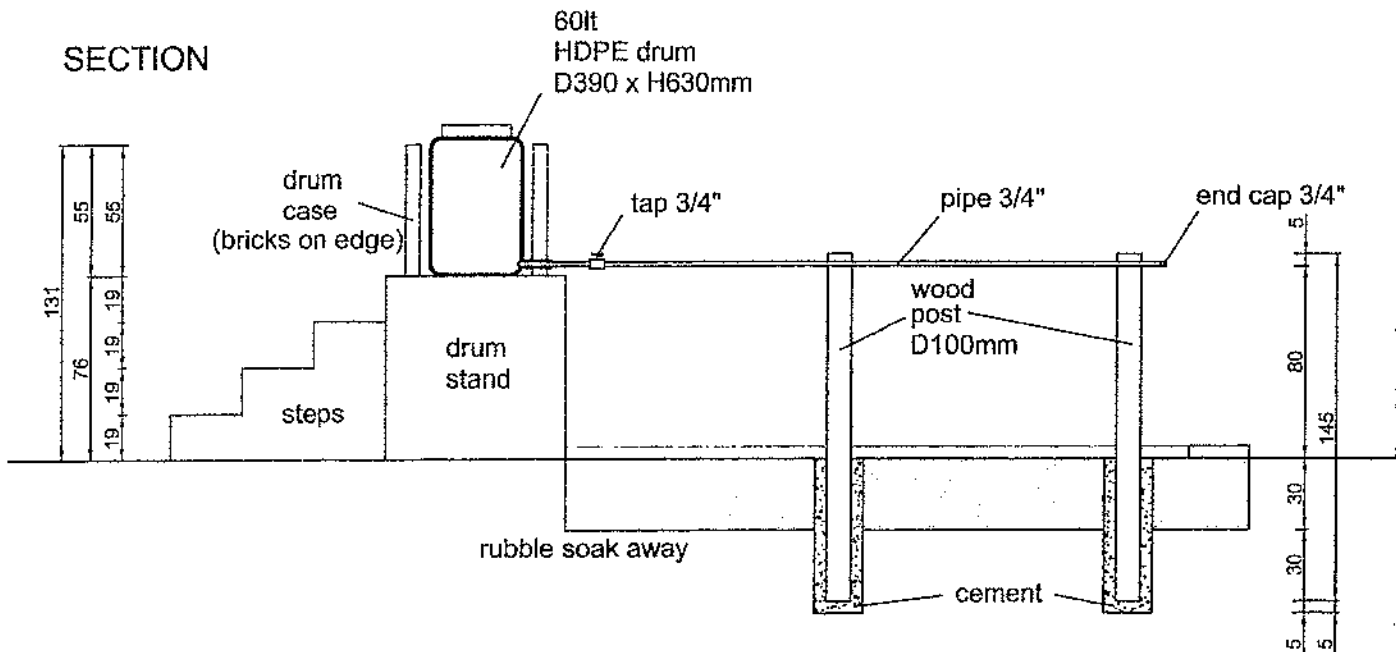


ANNEX 5

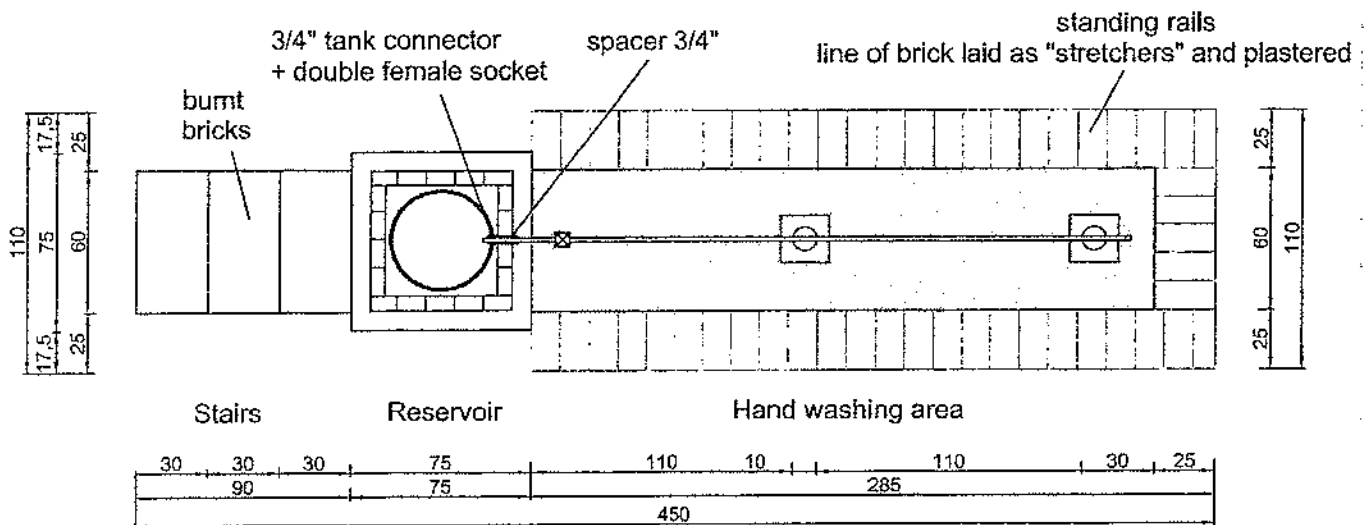
BUILDING PLAN MASS HAND WASHING STATION

MULTIPLE HAND WASHING STATION

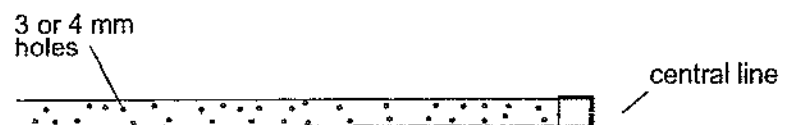
SECTION



PLAN



PIPE UNDERSIDE ZOOM IN



MASS HAND WASHING STATION PIPE, FITTINGS AND HOLE POSITIONS

