

WaterAid Ghana

Water for African Cities Project (WAC II)

Component 2

Increasing Access to Sanitation Facilities and Services

FINAL COMPLETION REPORT FOR WORKS IN SABON ZONGO

Lot 1 - 20 Seater Water Closet Toilets, Septic Tank, Toll Booth, Solid Waste Holding Bay, Paving and Fencing of St. Thomas Avenue Sanitary Site;

Lot 2 - 2 No. 8 Seater Water Closet Toilets, Urinal and Septic Tank for Laterbiokoshie 2 & 3 and Da-Awatul Primary Schools; and

Lot 3 - Selected Open Concrete Drains.



WASTECARE

Consultant

WasteCare Associates
P. O. Box LG 486
Legon-Accra

Tel: 233-21-786072
Fax: 233-21-786072
E-mail: info@wcghana.com



Client

WaterAid Ghana
P. O. Box 16189
KIA – Accra

Tel: 233-21-780581
Fax: 233-21783947
E-mail: info@wateraidghana.org

September 2009

EXECUTIVE SUMMARY

This report provides a summary of various activities carried out, challenges and lessons learnt during the pre, construction and post construction phases of Water for African Cities Project-Phase 2 (WAC II), Component 2 which requires the provision of technical services for the design and construction supervision of sanitation facilities (i.e. public toilets, drainage and refuse management facilities).

The facilities provided are grouped under three working Lots as follows:

Lot 1: Construction of 20 seater WC Toilet (with two cubicles for the physically challenged), septic tank, toll booth and solid waste holding bay at the Amper (St. Thomas) Sanitary Site,

Lot 2: Construction of 2 No. 8 seater WC toilet and septic for the Laterbiokoshie 2&3 and Da-Awatul Islamic Primary Schools,

Lot 3: Construction of 1,077m length of a mix of 450x600mm and 600x750mm of U-drains

Due to the highly participatory approach adopted for the successful completion of the assignment, there were a number of variations to the original project scope bearing in mind the cost implications (*see Table A below for variations a summary of variation made to the original project scope*)

Table A: Summary of Variations and Cost at Various Stages of carrying out the Assignment

Facility	UN-Habitat		Design Scope	Modified Scope			Construction Scope	
	Original Scope	Budgeted Cost (USD)		Scope at Tender Stage	Tender Sum (GHS)	Contract Sum (GHS)	Facilities Provided	Cost (GHS)
Public Toilet	3 No. 10 Seater WC Toilet	60,000	1 No. 20 Seater WC toilet and Septic tank for Amper Sanitary Sites + Ancillaries	1 No. 20 Seater WC toilet and Septic tank for Amper Sanitary Sites + Ancillaries	93,751.36	91,122.47	1 No. 20 Seater WC toilet and Septic tank for Amper Sanitary Sites + Ancillaries	92,402.85
Institutional Toilet	-	-	-	1 No. 20 Seater WC toilet and Septic tank for Laterbiokoshie 2&3 and Da-Awatul Islamic Primary Schools + Ancillaries	88,860.42	62,906.66 ¹	2 No. 8 Seater WC Toilet and Septic Tank for Laterbiokoshie 2&3 and Da-Awatul Islamic Primary Schools + Ancillaries	61,717.06
Rehabilitation of Dump Sites	3 No. dump sites to be rehabilitated	60,000	Solid Waste Holding Bays for Amper, Gaskia and Candle Link Sanitary sites	Solid Waste Holding Bay for Amper Sanitary Site	Inclusive in amount stated for Public Toilet	Inclusive in amount stated for Public Toilet	Solid Waste Holding Bay for Amper Sanitary Site	Inclusive in amount stated for Public Toilet
Construction of Drains	1000m of drains (450/600 mm ø)	90,000	2086m of priority drains (450/600 mm ø)	2,086m of priority drains (450/600 mm ø)	320,967.09	126,006.54 ²	1,077m of priority drains (450/600 mm ø)	124,503.45
Rehabilitation of Public Toilets	2 No. Public Toilets to be rehabilitated	30,000	Rehabilitation of existing AMA Public toilet at Gaskia and holding tank at Market Sanitary Site	-	-	-	-	-
TOTALS		240,000³			503,578.87	280,035.67		278,623.36

At the planning stage, the entire assignment which started in July 2006 was envisaged to end in December 2008. Due to challenges and setbacks which are peculiar to projects of this nature, the assignment was practically completed and handed over in June 2009. Works under Lots 1 & 2 are still in the defects liability period which will elapse at the end of October 2009.

¹ Amount represents contract sum for construction of 2 No. 8 seater WC toilet and Septic Tank + Ancillaries for Primary Schools

² Amount represents contract sum for 1,077m of drains (Phase 1 of proposed priority drainage works)

³ Using current exchange rate (1USD-1.5 GHS) amount comes to 360,000 USD

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1.0 INTRODUCTION (Project Brief, Description and Location)

1.1 General

1. The second phase of the Water for African Cities (WAC II) project is a follow-up to the WAC I, a comprehensive initiative by UN-Habitat to support national governments and their partners to effectively manage the growing urban water and sanitation crisis, owing to the increasing volumes of point and non point sources of pollution from urban areas, with a focus on low income communities and settlements.

2. The overall objective of the piloting activities under WAC II is to increase access to water supply and sanitation facilities and services in impoverished urban settlements in Ghana including managing the interventions provided in an efficient and sustainable manner. Sabon-Zongo in Accra is one of the beneficiary communities selected for the pilot project.

3. The Seven (7) components of water supply and sanitation improvements to be carried out under WACII are as follows:

- ❖ Component 1: entails setting up a mechanism for the community to be involved in decision-making and -taking to improve and manage water supply and sanitation facilities;
- ❖ Component 2: requires the provision of technical services for the design and construction supervision of sanitation facilities (i.e. public toilets, drainage and refuse management facilities);
- ❖ Component 3: requires the provision of technical services for the provision of adequate water supply facilities and services to the community;
- ❖ Component 4: requires ensuring that effective operation and maintenance and management mechanisms are put in place to bring to practical minimum physical losses in the provided water supply services;
- ❖ Component 5: requires the provision of technical services for quality and values based water, sanitation and hygiene education promotion in targeted schools;
- ❖ Component 6: requires providing advocacy and awareness creation; and
- ❖ Component 7: entails management of the urban catchment around the Weiija Reservoir

4. Water Aid Ghana acting as Cooperating Partner for Components 1 and 2, received funds from the UN-HABITAT, and applied part of these funds to cover eligible payments under contract for the construction of the following projects at Sabon Zongo in Nmenmetee Electoral Area of Ablekuma Sub-Metropolitan Assembly:

Lot 1 - 20 Seater Water Closet Toilets, Septic Tank, Toll Booth, Solid Waste Holding Bay, Paving and Fencing of St. Thomas Avenue Sanitary Site;

Lot 2 - 2 No. 8 Seater Water Closet Toilets, Septic Tank and Urinal for Laterbiokoshie 2 & 3 and Da-Awatul Primary Schools; and

Lot 3 - 1000m of selected Open Concrete Drains.

2.0 Project Outputs

2.1 Planned Interventions

5. After detailed field work and designs have been completed, the following interventions were recommended.

6. The proposed minimum intervention to improve storm drainage and sullage conveyance is shown in table 2.1 below. Proposed interventions to improve sanitary conditions at existing sanitary sites are presented in table 2.2.

Table 2.1 Proposed minimum intervention to improve drainage and sullage conveyance

	DETAILS OF ROADSIDE DRAINS			
	DISTANCE		SIZE OF DRAIN(mm)	
	Western side	Eastern side	Western side	Eastern side
HIDE LINK	395m	315m	600x 750	450x600
ALHAJI STREET	367m	317m	600x 750	450x600
VOLTA STREET	376m	316m	600x 750	450x600
TOTAL	1138m	948m		

Table 2.2: Proposed interventions to improve sanitary conditions at existing sanitary sites

Item	Construction Site	Project Measure
1	St. Thomas Site	<ul style="list-style-type: none"> ❖ Construction of New 1No. 20-Seater W/C Toilet. Total floor areas 83m² for options 1 & 90m² for option 2 respectively. ❖ 2 Compartment Septic Tank, Total tank capacity = 62.10m³. Dimensions of tank Total Length L = 9.0m, Width W = 3.0m and depth = 2.3m. Length of 1st Compartment = 6.0m and Length of 2nd Compartment = 3.0m. All dimensions provided are exclusive of wall thicknesses. Tank Base Area = 27m² minus wall thickness of 200mm. ❖ Installation of Overhead Water Polytank, Tank Specifications are as follows: Capacity= 7000 litres, Type Rambo 700, Diameter D = 2050mm and Height H = 1920mm ❖ Total Area of Site to be Paved = 775.4m² ❖ Drainage Measure: (1no.) interceptor concrete drain of total length = 41m and cross-section 450mm wide x U450mm depth ❖ Skip pad is solid waste holding bay (SWHB) of Floor Area = 70m², Length L = 9.35m and Width W= 7.5m. This will accommodate 2no. 15m³ Skip Containers ❖ Fencing: Block wall fence, total length = 155m, Thickness of Wall 150mm with 300mm x 300mm RC columns spaced 3.0m intervals. ❖ Internal and external services design will be provided in accordance with the design provisions in articles 7.11 and 7.12 above and shall be constructed according to the layout designs in Annex B.
2	Gaskia Cinema Sanitary Site	<ul style="list-style-type: none"> ❖ Total Area of Site to be Paved = 962.2m² ❖ No drainage measure required existing roadside drain serves well the site's drainage needs. ❖ Solid Waste Holding Bay (SWHB), floor areas and pad dimensions as case 1 above. ❖ Fencing: Block Wall Fence of Total Length = 112m, Thickness of Wall 150mm with 300mm x 300mm RC columns spaced 3.0m intervals.

Item	Construction Site	Project Measure
3	Candle Link Sanitary Site	<ul style="list-style-type: none"> ❖ Total Area of Site to be Paved = 713.67m² ❖ Solid Waste Holding Bay (SWHB), floor areas and pad dimensions as cases 1 and 2 above. ❖ Fencing: Block Wall Fence of Total Length = 108.2m, Thickness of Wall 150mm with 300mm x 300mm RC columns spaced 3.0m intervals.
4	Zongo Market Sanitary Site	No Measure will be provided. The Site has all sanitary facilities that are entirely adequate for beneficiaries (i.e. 48 seater Pour Flush Toilet, Septic Tank, Skip Pad of Adequate Floor Area, Entire Sanitary Site Compound Paved, Both Internal and External Lighting)
5.	Laterbiokoshie 2&3 and Da-Awatul Islamic Primary Schools	<ul style="list-style-type: none"> ❖ Construction of New 1No. 20-Seater W/C Toilet (Options 1 & 2). Ditto same floor areas as cases 2 and 3 above. ❖ 2 Compartment Septic Tank, Ditto same capacity and dimensions as cases 2 and 3 above. <p>Installation of Overhead Water Polytank, same tank specifications as cases 2 and 3 above.</p>

7. Based on the above interventions, works were divided into 3 Lots as follows:

Lot 1:

Construction of 20-Seater WC Toilet, Septic Tank, Toll Booth, Refuse Holding Bay, Paving and Fencing of St. Thomas Sanitary Site.

Lot 2:

Construction of 20-Seater WC Toilet for Laterbiokoshie 2&3 and Da-Awatul Islamic Primary Schools and Ancillary Works for Gaskia Cinema and Candle Link Sanitary Sites.

Lot 3:

Construction of Selected Drains

8. Due to a number of reasons after recommendations made in design report, the scope of works was considerably reviewed. Some of the reasons included;

- Private operators on the sanitary sites at Zongo Market and Gaskia, on hearing of the rehabilitation works recommended for those sites quickly went in to carry out considerable rehabilitation. Notably among these were the construction of the cover slab of the holding tank for the Zongo Market public toilet and the repair works on the superstructure and holding tank of the dilapidated AMA public toilet located at asking. This led to the removal of works on these two sanitary sites from the scope of works.
- Even though the design recommended a total of about 2.1km length drain on both sides of Hide Link, Alhaji Street and Volta Avenue, the project recommended only a total of 1km length of drain. Due to initial anticipation of financial constraints the recommendations for drainage works was divided into 2 phases. The first phase which was awarded for contract comprises drainage works on both sides of Hide Link and one side of Alhaji Street.
- The school facility which was initially not included in the project scope was added, since the issue of school sanitation came up strongly in subsequent discussions.

2.2 Actual Outputs

9. After series of consultations took place on recommendations made in design report, the final scope of works constructed are shown in table 2.3 below.

Table 2.3: Actual Facilities Provided

LOT	FACILITIES PROVIDED
1	<ul style="list-style-type: none"> • 20 Seater WC toilet with 2 cubicles for the physically challenged, 2 store rooms (fitted with shelves) and handwashing area • Septic tank with filter medium • 2 No. Toll Booths • Washroom for cleaners • 7000 litres overhead tank • Solid Waste Holding Bay to accommodate 2 refuse containers • Paving and landscaping of site • Fencing • 55m length of 300 x 500mm U-drain
2	<ul style="list-style-type: none"> • No. 8 Seater WC toilet with 2 cubicles for each for teachers, 2 store rooms each and handwashing area • 2 No. Septic tanks with soakaway pits • Urinal facilities • 2 No. Overhead tanks
3	<ul style="list-style-type: none"> • 600 x 750mm U-drain of length 395m on western side of Hide Link • 450 x 500mm U-drain of length 315m on eastern side of Hide Link • 600 x 750mm U-drain of length 367m on western side of Alhaji Street

NB. The proposed minimum intervention to improve drainage and sullage conveyance as shown in Table 2.1 has not been reached. We find it expedient to carry out works under Phase 2.

See Annex 1 for List of Reports Presented at Various Stages of the Assignment

3.0 TIME MANAGEMENT

10. This section presents the projected time schedule and actual time schedule for the construction phase of the project.

WAC II - ACCRA CITY PROJECT

COMPONENT NO.: 2 (PHASE 2, CONSTRUCTION AND POST-CONTRACT ACTIVITIES FOR PROVISION OF WATER AND SANITATION FACILITIES)

CO-OPERATING AGENCY: WATERAID-GHANA

WORKPLAN FOR JANUARY 2008 TO JUNE 2008

ID NO.	OUTPUT/ACTIVITIES	JAN. 2008				FEB. 2008				MAR. 2008				APR. 2008				MAY. 2008				JUN. 2008			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Costruction Supervision																								
1.1	Pre-commencement activity and consultation																								
1.2	Commencement Meeting																								
1.3	Contract Administration																								
1.4	Vetting of contractor's work programme																								
1.5	Monitoring and Auditting of contractor's work schedule																								
1.6	Quality control of materials including testing & Management of contractor's site																								
1.7	Measurement of Works																								
1.8	Variation Ordering (if any)																								
1.9	Site Meeting																								
1.10	Completion Inspection																								
2	Post Construction Services																								
2.1	Works Audit for Remediation																								
2.2	Monitoring of Defect Liability																								
2.3	Issuance of Completion Certificate																								
3	Preparation of facilities Management Plan																								
4	Training and Implementation of Facilities Management Plan																								
5	Support to Procurement of Logistics, Equipment & Machinery																								

WAC II - ACCRA CITY PROJECT

COMPONENT NO.: 2 (PHASE 2, CONSTRUCTION AND POST-CONTRACT ACTIVITIES FOR PROVISION OF WATER AND SANITATION FACILITIES)

CO-OPERATING AGENCY: WATERAID-GHANA

[illegible]

4.0 FINANCIAL MANAGEMENT

4.1 Budgeted against Actual Expenditure

11. This section gives the history of various projected expenditure against actual expenditure made. Table 4.1 shows budgeted cost during project implementation planning.

Table 4.1: Budgeted Cost during Project Implementation Planning.

	Component 2: Improving Access to Sanitation Facilities and Management	Unit	Qty	Unit Cost (\$)	Amount (\$)
<i>Output 2.1: Adequate garbage, liquid and solid waste facilities</i>					
1.	Construction of Water Closet (septic tank system)	No.	3	20,000	60,000
2.	Construction of drains (450/600 mm ø)	M	1,000	90	90,000
3.	Provide 10m3 refuse containers	No.	10	2,750	27,500
4.	Rehabilitation of dump sites	prov. Sum	3	20,000	60,000
5.	Rehabilitation of public (neighbourhood) toilets	prov. Sum	2	15,000	30,000
<i>Output 2.2: Strengthening Sub-metro Waste Management Units</i>					
6.	Purchase of assorted working tools	prov. Sum			5,000
7.	Purchase of Vehicle	No.	1	23,000	23,000
8.	Training of Inspection Staff	No.	3	10,000	30,000
9.	Roundtable meetings for fixing of service rates	No.	4	1,500	6,000
Total					331,500

4.2 Actual Cost of Construction Works

12. This section gives a brief of certified value of works and estimated payments to be made.

Table 4.2: Summary of Cost Analysis

Lot	A Tender Price (GH¢)	B Contract Sum (GH¢)	C Value of Works Certified (GH¢)	D Fluctuation (GH¢)	E Estimated Value of Outstanding Payments (GH¢)	F= B-(C+D+E) Estimated Savings (GH¢)
1	93,751.36	91,122.47	85,045.15 (4,556.12)	-	6,000.00	67.32
2	88,860.42	62,906.66	64,828.49 (1,669.87)	1,921.36	3,591.23	-1,921.83
3	320,967.09	126,006.54	116,312.00 (3,150.00)	8,191.45	0.00	1,503.09

Note: Amounts in parenthesis in column B represents retention.

WACII-COMPONENT 2, IMPROVEMENT OF SANITATION FACILITIES, SABON ZONGO
COSTS AND PAYMENT SCHEDULES FOR WASTECARE LTD.

Output/Activity	1st Instalment (US\$)	2nd Instalment (US\$)	3rd Instalment (US\$)	Total Amount (US\$)	Amount Paid (US\$)	Balance (US\$)	Remarks
Construction Supervision	10,442	10,442	10,442	31,326.00	31,326.00	0	
Post-Construction Services	2,676.67	2,676.67	2,676.67	8,030.01	8,030.01	-	
Preparation of Facilities Management Plan	8,060.00			8,060.00	8,060.00	-	
Training and Implementation of FMP	6,238.00			6,238.00	6,238.00	-	
Support to Procurement of Logistics, equipment and Machinery	2,163.00			2,163.00	-	2,163.00	To be completed mid- June 2009
Additional Cost for Re-designing of Facilities				1,500.00	1,500.00	-	Additonal Cost due to redesign of public & school facilities
Total				57,317.01	55,154.01	2,163.00	

5.0 SOFTWARE ISSUES

5.1 Community Liaison

In line with the objective of ensuring community participation and ownership of facilities, the community through was involv^{lv}ed in all stages of the assignment-from design through to construction. This was anchored and driven around the Community Development Committee (CDC).

5.2 Employment

An important assertion of upgrading of facilities in urban poor communities is the temporary employment it provides to community members. During construction, some community members were recruited to works under the various Lots.

5.3 Training Provided

A one day training workshop was held to train the CDC and other stakeholders on the Operation and Maintenance of facilities provided.

6. HANDING OVER

6.1 Handing Over of Sites for Commencement of Construction:

13. Lots 1 & 2 were officially handed over for construction works to begin on the 9th of May, 2008. However, for Lot 2 the first official handing over took place on 19th of June, 2008. This lag in time was due to ongoing discussions on change in the original scope of works (*originally 20 Seater Water Closet Toilets, Septic Tank for Laterbiokoshie 2 & 3 and Da-Awatu Primary Schools, Solid Waste Holding Bay, Paving and Fence Wall for Gaskia Cinema and Candle Link Sanitary Sites*). After discussions it was agreed that only the 20 seater WC Toilet facility and Septic Tank be constructed for the primary schools. However due to dispute over piece of land earmarked for the works, construction could not begin as scheduled. Upon further deliberations with stakeholders, the consultant redesigned the school toilet facility into a 2 No. 8 Seater Water Closet Toilets, Septic Tank and Urinal for Laterbiokoshie 2 & 3 and Da-Awatul Primary Schools. Official handing over of the new sites for the construction of these facilities took place on the 16th of October, 2008.

6.2 Handing Over of Site after Completion of Construction Works

14. Official handing over of completed works for all three Lots took place on Tuesday, 30th June, 2009.

7.0 CHALLENGES, CONSTRAINTS AND LESSONS LEARNT

a. MoU on Role of CDC

An important aspect of components I and II of WACII, is the anchoring of the Community Development Committee (CDC) in the entire project process. Given that the CDC has played a very important role in sustaining interest of community members and serving as an important vehicle for community-entry its role is yet unclear without official endorsement of the Memorandum of Understanding (MoU) given the mandates of the CDC.

In future project designs the signing of the MoU should be linked to specific stages of the project, preferably prior to commencement of actual physical works.

b. Timing of Component 1 & 2

From the composite plan prepared in mid 2006 for Components 1 & 2, the entire project was envisaged to be completed at the end of 2007 (*See Annex 2 for composite workplan for components 1 & 2*).

The project duration has lapsed for more than expected and so this should be factored in the programming for future projects.

c. The Role of Interest Groups

There are a number of groups whose interests in such community-based projects whose interests should be thoroughly assessed during project design. Apart from the interests of the larger community, the interests of specific ones including Private Toilet Caretakers (Operators), Assembly-persons, CBOs (including youth groups, if any) and the Sub-Metropolitan Council should be taken into consideration.

The changes in the scope of the original project to exclude the facilities at Gaskia Cinema and Night Market sites was to accommodate private operators and youth groups who mobilised to carry out rehabilitation of facilities earmarked for WACII intervention. In the opinion of these groups the potential loss of revenue from discontinued operations and possible takeover after upgrading works presented serious threats.

The possible roles of all such interest groups in future community-based projects need to be taken into consideration.

d. Disputes Over Land Ownership:

Issues of land ownership was a main challenge that delayed completion of works under Lots 1 & 2. For Lot 1, the main issue had to do with ownership of the portion of land for construction of the solid waste holding bay. Regarding Lot 2, a family claimed ownership of the piece of land and the issue is in court and so a redesign for 2 No. 8 Seater Water Closet Toilets, Septic Tank and Urinal had to be carried out for the two schools.

To forestall such challenges future projects should ensure that all issues on land-ownership are determined including planning and legal opinion from statutory institutions – the Town and Country Planning Department, Lands Commission Secretariat and the Legal Department of the Metropolitan, Municipal and District Assembly (MMDA) concerned.

ANNEXES**Annex 1: List of Reports Prepared at Various Stages of the Assignment**

Item	Name of Report	Date of Issue
1.	PIP for WACII – Component 2	November, 2006
2.	Final Design Report	December, 2007
3.	Procurement Documents	January 2008
4.	Tender Evaluation Report	February 2008
5.	Monthly Progress Reports	May 2008 to May 2009
6.	Discussion Brief on Change of Scope for Schools Facilities	June 2008
7.	Discussion Briefs on Additional funding for WACII	July 2008
8.	Facility Operation and Maintenance Handbook	April 2009
9.	Practical Completion Report	July 2009
10.	As-Built Drawings	July 2009

Annex 2: composite workplan for components 1 & 2**WORKPLAN FOR PROJECT COMPONENT ONE (1)-MAPLE**

No	Activity	2006												2007												2008												TOTAL DAYS	ESTIMATED COST
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
1	Desk Study on various stakeholders/institutions																																					10	
2	Recoinnaisance visits to stakeholders /institutions																																					10	
3	Design data gathering instruments																																					3	
4	Data gathering on roles, responsibilities and collaboration among stakeholders																																					22	
5	Analysis of data and report writing and prepare TOR on DC																																					10	
6	Facilitate stakeholder buying-in workshop																																					2	
7	Finalise institutional framework and prepare draft report																																					5	

WORKPLAN FOR PROJECT COMPONENT ONE (1) - MAPLE -CONTD

No	Activity	2006												2007												2008												TOTAL DAYS	ESTIMATED COST	
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
8	Submission of draft report to client for comments																																					0		
9	Prepare final report																																					3		
10	Monitoring and Evaluation																																					8		
																																						Total	73	

WORKPLAN FOR COMMUNITY DEVELOPMENT ON WAC PROGRAMME PHASE II-PRONET Accra

WORK PLAN FOR COMMUNITY DEVELOPMENT ON WFP PROGRAMME PHASE II (JUNEY 2004)																																								TOTAL MAN DAYS
No	Activity	2006												2007												2008														
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
1	Community mobilisation and awareness creation																																							18
2	Constitution of Development committee																																							6
3	Orientation for Development committee																																							2
4	Training and capacity building																																							16
5	Gender Assessment																																							10
6	Review and prioritisation of community needs																																							6

OUTPUT 2.1: WORKPLAN FOR PROJECT COMPONENT TWO (2) - WASTECARE

No	Activity	2006												2007												2008												MAN-MONTHS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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OUTPUT 2.1: WORKPLAN FOR PROJECT COMPONENT TWO (2) – WASTECARE

CONCRETE WORK PLAN FOR PROJECT COMM. CLIENT TWO (2) WASTEWATER																																								
No	Activity	2006												2007												2008												MAN-MONTHS		
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8	TASK 8: Construction supervision																																							1.1
9	TASK 9: Post Construction Services																																							0.7
10	TASK 10: Preparation of FMP																																							0.4

OUTPUT 2.2: WORKPLAN FOR PROJECT COMPONENT TWO (2) – WASTECARE

COST OF 2.2. WORK PLAN FOR PROJECT COMPONENT TWO (2) – WASTECARE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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PHOTO GALLERY ON PROGRESS OF WORK

LOT 1



Plate 1: Demolishing works carried out at St. Thomas sanitary site



Plate 2: Excavated trench for the construction of fence wall



Plate 3: Existing holding tank for the old aqua privy ready for desludging



Plate 4: Foundation works for 20 seater WC toilet.



Plate 5: Holding tank of demolished aqua privy being desludged.



Plate 6: Sub structure of 20 seater WC toilet being constructed.



Plate 7: Construction of section of fence wall



Plate 8: Vandalised section of fence



Plate 9: Works on 20 seater WC toilet facility at roof gable level.



Plate 10: Superstructure roofed and rendered, ready for painting.



Plate 11: Foundation and blockwork for sides of refuse holding completed to receive hard core filling.



Plate 12: Floor slab of solid waste holding bay completed.



Plate 15: Toll booth at roofing stage.



Plate 16: Plate 18: Front view of the completed 20 seater WC Toilet with toll booth



Plate 17: Completed Holding bay with a 24m³ refuse container



Plate 18: Completed 20 seater WC Toilet



Plate 19: Cubicle for the physically challenged with metal bars fixed to provide support.



Plate 18: Inside view of 20 seater WC toilet

LOT 2



Plate 1: Handing over of site for construction of school toilets and urinal facilities.



Plate 2: Excavation works for foundation of 1 No. 8-Seater WC Toilet for Laterbiokohie 2&3 Primary School



Plate 3: Superstructure for Laterbiokoshie 2&3 Primary School completed. Ready for tiling and terrazzo floor finish. Roof slab provided to accommodate overhead water tank. Urinal facility designed to be opened to the elements of the weather



Plate 4: Superstructure for Da-Awatul Islamic Primary School completed. Ready for tiling and terrazzo floor finish. Roof slab provided to accommodate overhead water tank. Urinal facility designed to be opened to the elements of the weather



Plate 5: Roof slab of septic tank constructed



Plate 6: Soakaway for Holding tank under construction



Plate 7: Completed WC Toilet facility for Laterbiokoshie 2&3 Primary School



Plate 8: Inside view of School Toilet Facility



Plate 9: Completed WC Toilet for DA Awutal Primary School



Plate 10: Inside view of School Toilet Facility

LOT 3



Plate 1: Demolish of structure on way-leaves, Hide Link



Plate 2: Excavation of trench for construction of drains.
High water table posing as a challenge, Hide Link-Eastern.



Plate 3: Excavation of trench for construction of drains,
Hide Link-Western.



Plate 4: Formwork in place for pouring of concrete
(foreground) and constructed concrete drain (background)



Plate 5: Constructed 450mm Ø on Eastern side of Hide link



Plate 6: Constructed 750mm Ø drain which discharges into
the roadside drain on the Oblogo street



Plate 7: Completed Eastern Side of Hide Link



Plate 8: Completed Western Side of Hide link



Plate 9: Drain cast on section of Western Side of Alhaji Street. Lamprey Mills Academy in the Background across Oblogo Street



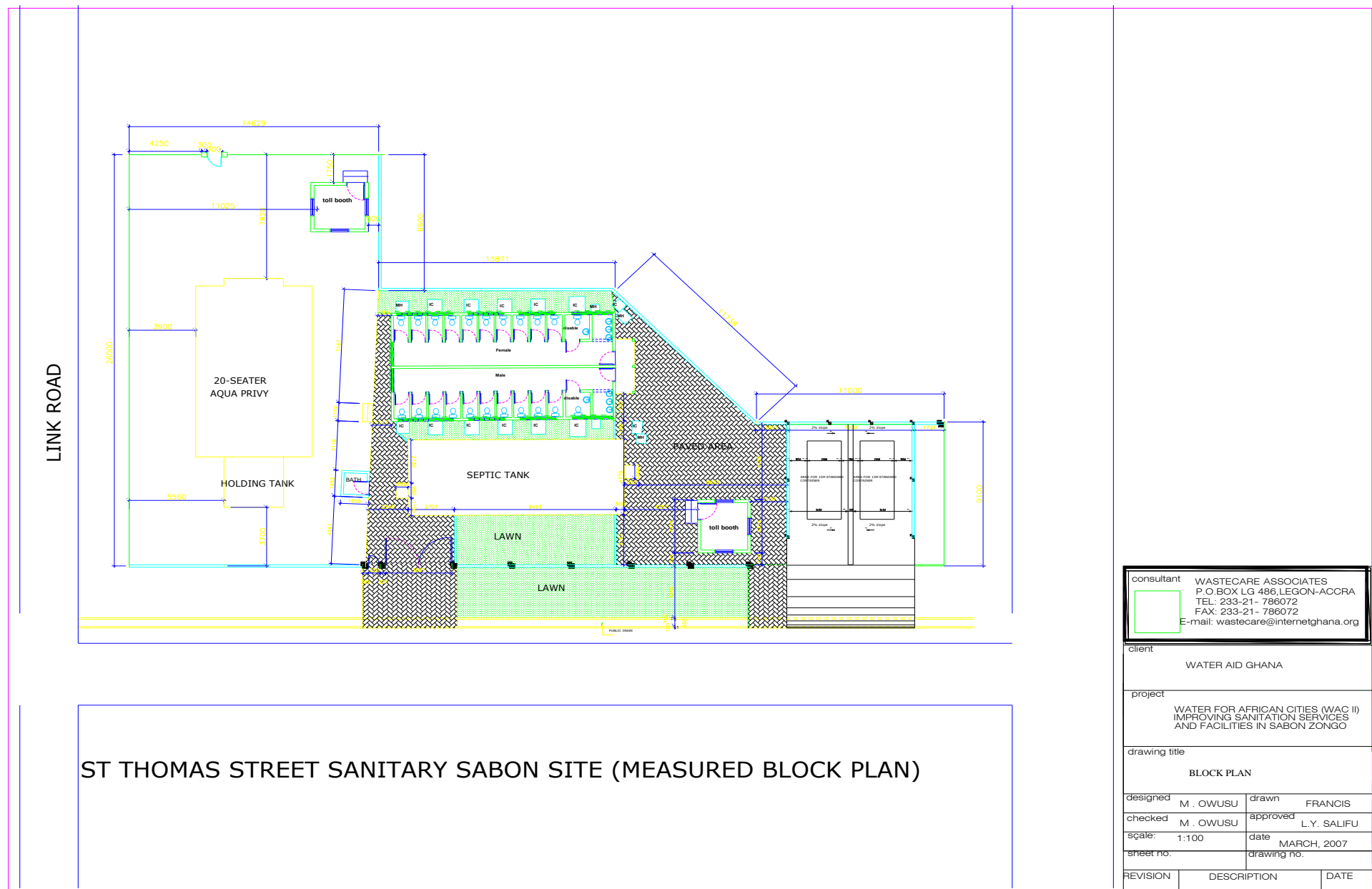
Plate 10: Excavation works on section of Western Side of Alhaji Street.

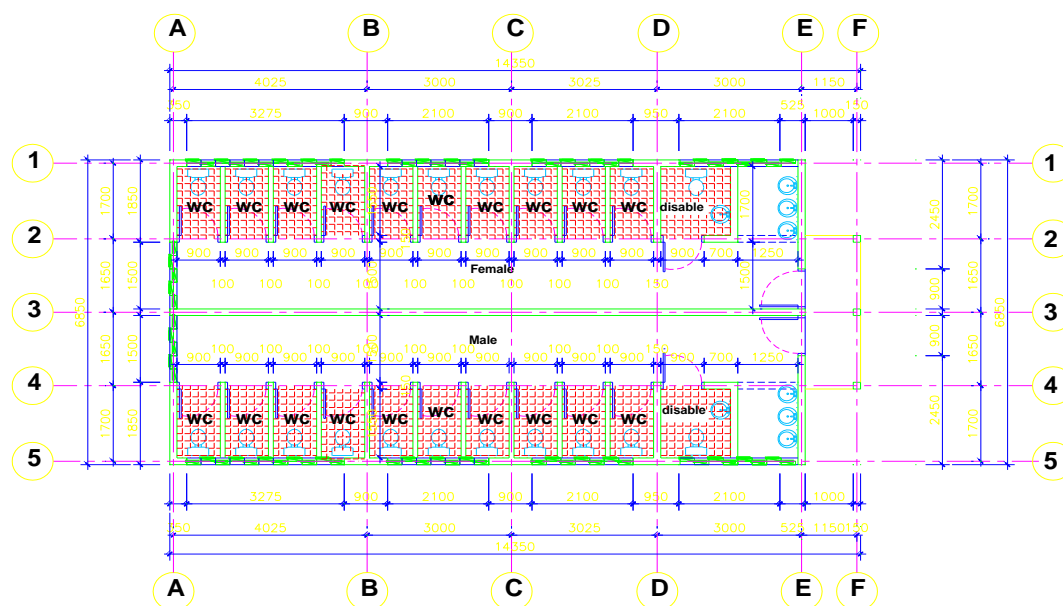


Plate 11: Completed Section of Western Side of Alhaji Street



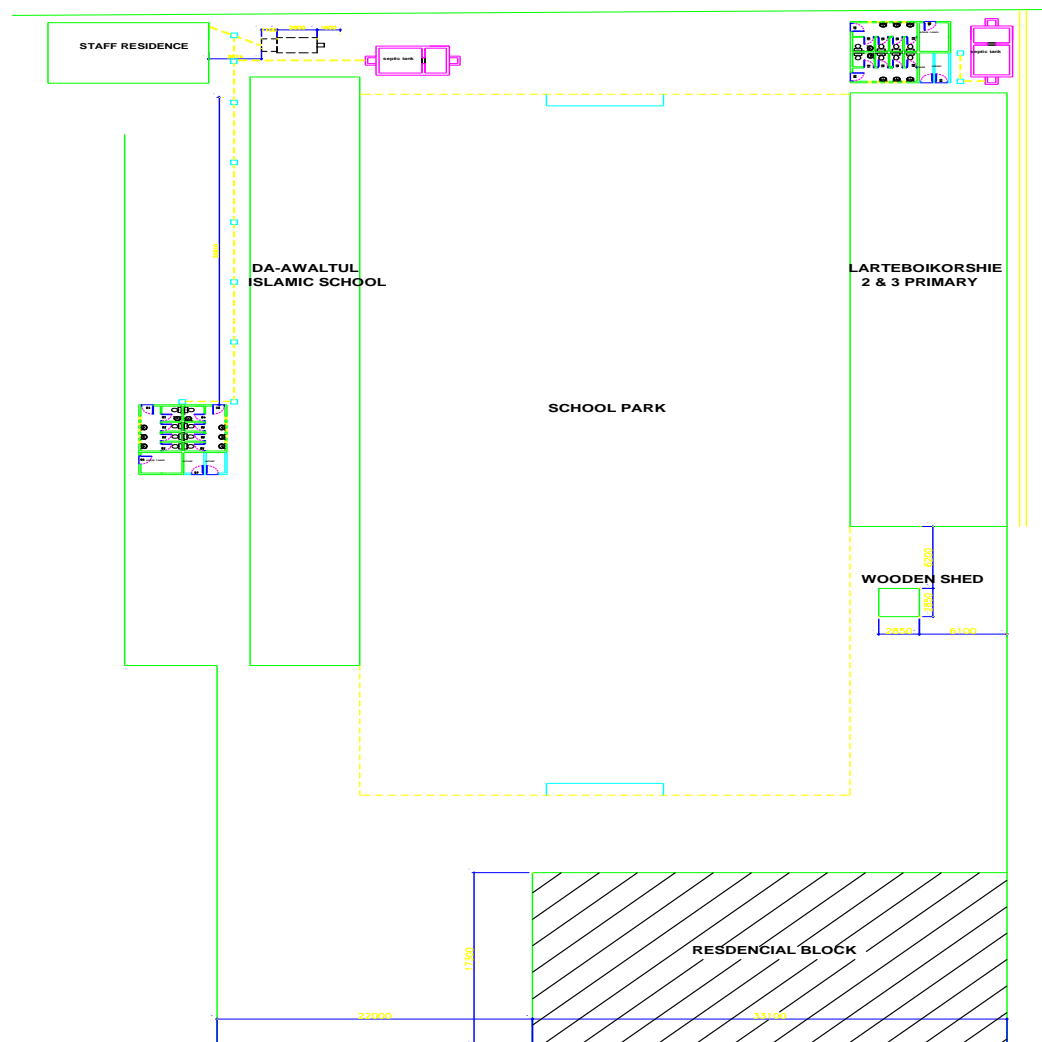
Plate 12: Demolished containers, Eastern Side of Alhaji Street – Not Covered under Phase 1.





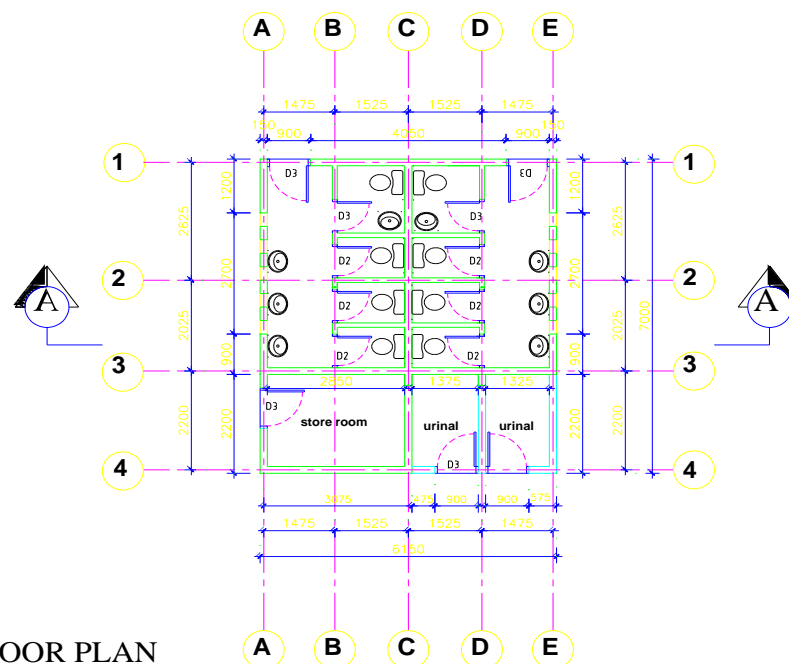
GROUND FLOOR PLAN
20-SEATER WC TIOLET

consultant		WASTECARE ASSOCIATES P.O. BOX LG 486, LEGON-ACCRA TEL: 233-21- 786072 FAX: 233-21- 786072 E-mail: wastecare@internetghana.org	
client		WATER AID GHANA	
project		WATER FOR AFRICAN CITIES (WAC II) IMPROVING SANITATION SERVICES AND FACILITIES IN SABON ZONGO	
drawing title			
designed	M. OWUSU	drawn	FRANCIS
checked	M. OWUSU	approved	L.Y. SALIFU
scale:	1:100	date	MARCH, 2007
sheet no.		drawing no.	
REVISION	DESCRIPTION	DATE	

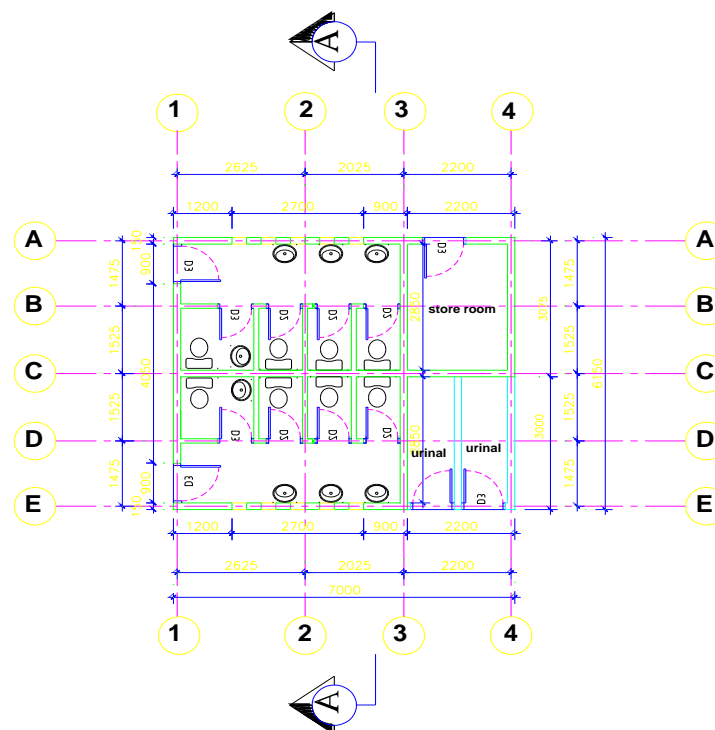


**PROPOSED BLOCK PLAN OF LARTEBOIKORSHIE 2 & 3
AND DA-AWATUL ISLAMIC PRIMARY SCHOOL**

GROUND FLOOR PLAN
8-SEATER WC TOILET



consultant	WASTECARE ASSOCIATES P.O. BOX LG 486, LEGON-ACCRA TEL: 233-21- 786072 FAX: 233-21- 786072 E-mail: wastecare@internetghana.org		
client	WATER AID GHANA		
project	WATER FOR AFRICAN CITIES (WAC II) IMPROVING SANITATION SERVICES AND FACILITIES IN SABON ZONGO		
drawing title	20-SEATER WC TOILET (GROUND FLOOR PLAN)		
designed	M . OWUSU	drawn	FRANCIS
checked	M . OWUSU	approved	L.Y. SALIFU
scale:	1:100	date	MARCH, 2007
sheet no.		drawing no.	
REVISION	DESCRIPTION	DATE	



GROUND FLOOR PLAN
8-SEATER WC TOILET

consultant	WASTECARE ASSOCIATES P.O. BOX LG 486, LEGON-ACCRA TEL: 233-21- 786072 FAX: 233-21- 786072 E-mail: wastecare@internetghana.org	
client	WATER AID GHANA	
project	WATER FOR AFRICAN CITIES (WAC II) IMPROVING SANITATION SERVICES AND FACILITIES IN SABON ZONGO	
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REVISION	DESCRIPTION	DATE