

Travail/ Project

SOIL Compost Structure

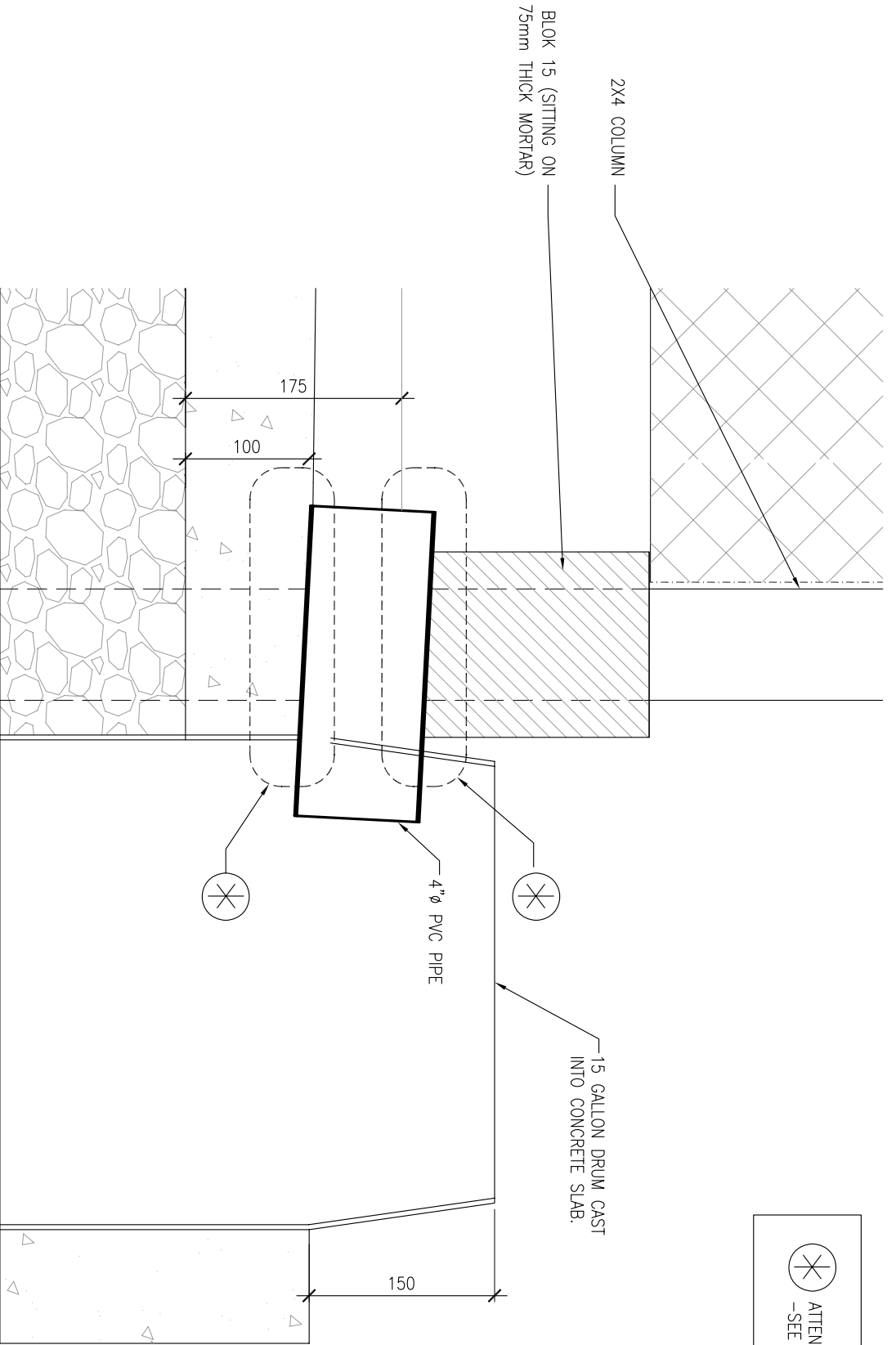
Zoom on Long Section

Revisions / Revisions		Date	no.	Drawing Creation date	Project #	Drawing #
				30th Jan. 2011		K-6
				Echelle/ scale		
				1.20		
				Ingenieur de conception/ Design Engineer		
				Anthony Kilbride, SOIL		
				Etabri/ Drawn		
				Hill Pierce, Noreen Shinohara, Architecture for Humanity		





ATTENTION LEAKAGE!
-SEE TECHNICAL SPEC



Travail/ Project

SOIL Compost Structure

Leachate Drain Detail

Revisions / Revisions

Date

no.

Drawing Creation date
30th Jan. 2011

Project #

Drawing #
K-7

Echelle/ scale

1:5

Ingenieur de conception/ Design Engineer
Anthony Kilbride, SOIL

Etabli/ Drawn

Hill Pierce, Noreen Shinohara, Architecture for Humanity





Compost Bill of Quantities

Activity schedule and Bill of Quantities for SOIL Compost Structure Mk.X									
Notes:									
Activity schedule for labour costs									
1, Labour costs per activity are not provided and should be negotiated with a competent contractor									
Item (en KREYOL)	Item (en Anglais :)	Length	Width	Height/Depth	Total	Unit	Unit cost (H\$)	Total cost (H\$)	
Remblai	Granular foundation material	16.2	6	0.2	19.44	m³		0	
Beton	Concreting	16.2	6	0.13	12.636	m³		0	
Cirage	Floating concrete	16.2	6	1	97.2	m²		0	
Coffrage, longueur	Formwork, length	16.2	2	1	32.4	m		0	
Coffrage, largeur	Formwork, width	6	2	1	12	m		0	
Blok 15	Setting 15cm cinder blocks	162.5	1	1	162.5	Unit		0	
Crepis Blok	Rendering blocks	65	0.55	1	35.75	m²		0	
Monter poteau	Installing columns	21	1	1	21	Unit		0	
Placement Panno interieur (latte + twil)	Constructing Walls: Interior	90	1	1	90	m		0	
Placement Palet Panno exterieur (Palett + latte + twil)	Constructing walls: Exterior	40	1	1	40	m		0	
Toiture	Roof construction	17	6	1	102	m2		0	
Placer Tiyo 4"	Placing leachate drains	6	1	1	6	Unit		0	
Plasmen doum 15 gallon	Placing juskaka drum	3	1	1	3	Unit		0	
							Total H\$	-	
							5%	-	
							Total H\$	-	
							Total HTG	-	
							Total US\$	-	
Bill Of Quantities									
1, Unit costs are based on 2010 Port-au-Prince costs.									
Item (en KREYOL)	Item (en Anglais :)				Total	Unit	Unit cost (H\$)	Total cost (H\$)	
Remblai	Granular foundation material				3	6 m³ camion	450	1350	
Gravier	Gravel				2	6 m³ camion	800	1600	
Sable	Sand				2	6 m³ camion	800	1600	
Ciment	Ciment				55	Unit	60	3300	
Blok 15	15cm cinder blocks				170	Unit	5	850	
Planches (for coffrage)	Wood, 1*8, 12', for formwork				10	Unit	120	1200	
2*4, 16' (poteau)	Wood, 2*4, 16', for columns				21	Unit	135	2835	
2*4, 16' (toiture)	Wood, 2*4, 16', for roof				21	Unit	135	2835	
Lattes (panno)	Wood, 1*4, 14', for walls				65	Unit	80	5161.5	
Lattes (toiture)	Wood, 1*4, 14', for roof				22	Unit	80	1760	
Twil (100' * 3')	Chicken wire, 1/4", 100' * 3'				9	Unit	450	4050	
Pallets	Palett				32	Unit	50	1600	
Feuilles toles	Zinc sheet				80	Unit	65	5200	
Clous, Toles	Nails, zinc sheet				20	Llbs	40	800	
Clous, 4"	Nails, 4"				10	Llbs	40	400	
Clous, 2.5"	Nails, 2.5"				10	Llbs	40	400	
Tiyo 4", 10'	PVC drainpipe, 4", 10'long				1	Unit	50	50	
Doum 15 Gallon	15Gallon drum jikaka				3	Unit	200	600	
Mixer + Operateur	Rental of Concrete mixer				1	Lump Sum	500	500	
peiture	Paint				2	gallon	100	200	
							Total H\$	36,292	
							Total HTG	181,458	
							Total US\$	4,536	
							TOTALS LABOUR + MATERIALS:	Total H\$	
								Total HTG	
								Total US\$	

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Photo K1:

Mk.I Compost Structure: Simple wooden structure immediately behind toilet, no floor, no roof.

Location: Cap-Haitien



Photo K2:

Mk.II Compost Structure: Angled wood/toles roof and walls, no floor.

Location: Cap-Haitien

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Photo K3 a,b,c:

Mk.III Compost Structure: Block walls, concrete floor with drainage, removable wood/toles roof and walls.

Location: Cap-Haitien

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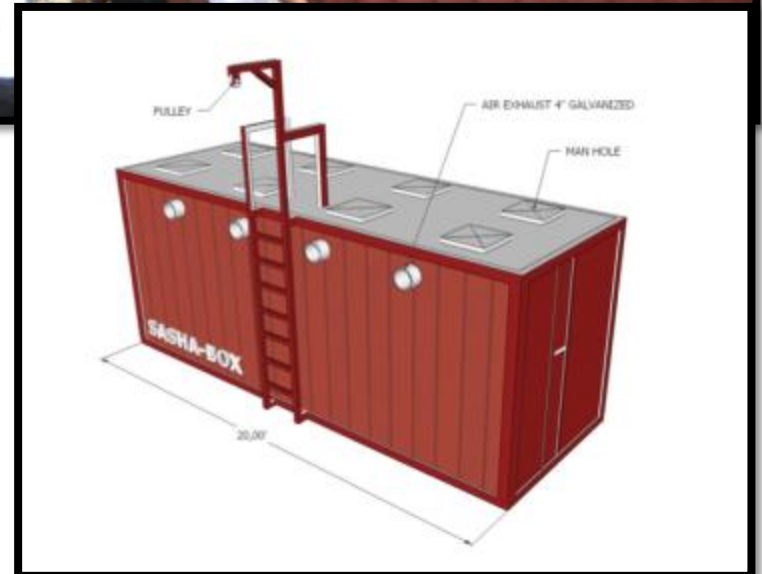
Photo K4:

Mk.IV Compost Structure: Pallet walls, long structure, earth floor.



Photo K5 a,b:

Mk.V Compost Structure: Steel shipping container modified with air ducts, manholes in roof, ladder access, and pulley.



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Photo K6 a,b,c:

Mk.VI Compost Structure: Pallet walls with hessian sack lining, earth floor, plastic sheeting cover.

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Photo K7:

Mk.VII Compost Structure: Pallet walls with hessian sack lining, square structure, sloped concrete floor with drain, perimeter wall constructed with blocks.



Photo K8 a,b:

Mk.VIII Compost Structure: External walls with hessian sack lining, internal space compartmentalized by wooden internal walls, sloping concrete floor with drain, removable toles roof.



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Photo K9:

Mk.VIX Compost Structure: Pallet walls with bagas lining, internal bagas walls, concrete floor sloping to drain, permanent roof.



Photo K10:

Mk.X Compost Structure: Pallet walls with bagas lining, internal bagas walls, concrete floor sloping to MANIFOLD drain, permanent roof.

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Photo K101:

Concrete base with wooden columns.



Photo K102:

Finishing the concrete base; 'cirage'.

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Photo K103:

Setting the columns before concreting the base.



Photo K104:

Low level block walls creating the 6 compost compartments

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Photo K105:

Jikaka leaking through block walls on inside of compost structure



Photo K107:

Rendering the block walls to prevent jikaka leaching through



Photo K106:
Jikaka leaking through block walls on outside of compost structure

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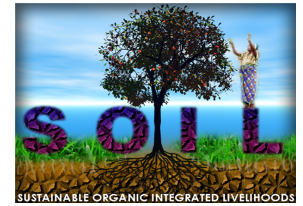


Photo K108:
Leachate drain from 2 compost compartments
collected in a single 15 gallon drum



Photo K110:

Jikaka leaking through space
beneath leachate drain



Photo K109:

Leachate drain from 2
compost compartments
collected in a single 15
gallon drum

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Photo K111:
Exterior walls
construction.



Photo K112:
Interior walls
construction.



Photo K113:
Filling bagas walls BEFORE drum
dumping begins

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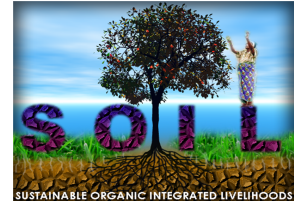


Photo K114:

The Mk.X wooden roof structure



Photo K115:

The Mk. X roof from the inside

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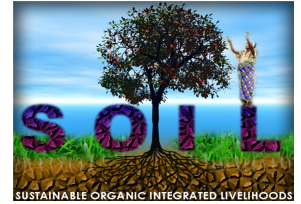


Photo K116:

The finished structure from the outside, showing concrete walkway around structure.



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Photo K117:

Jikaka leaking through walls and beneath leachate drains on the Mk.VIII compost structure.



Photo K118:

Juskaka leaking through the rendered walls of the Mk. IX compost structure.



Photo K119:

Repairs to exterior walls required to stop jikaka leakage.

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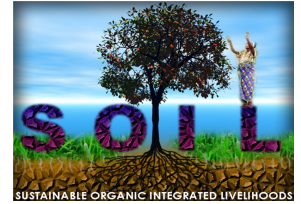


Photo K201:

Lining the sides of the compost structure with bagas



Photo K202:

Building the compost pile:
Emptying the poop drums



Photo K203:

Building the compost pile:
Adding bagas

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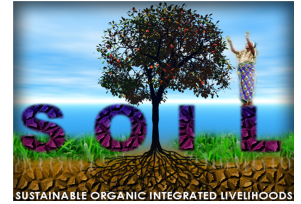


Photo K204a:

Unwelcome pests on the compost pile



Photo K204b:

Compost pile covered with chicken wire

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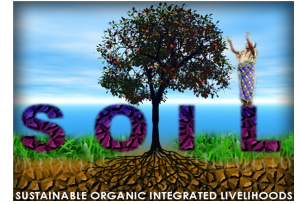


Photo K204c:

Returning the jikaka onto the compost pile



Photo K204d:

Measuring the temperature of the compost pile

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Photo K205a:

Stocking the poop drums



Photo K205b:

Positioning the poop drums inside the compost structure

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Photo K206a,b:

The drum cleaning zone or 'carwash', with and without roof structure

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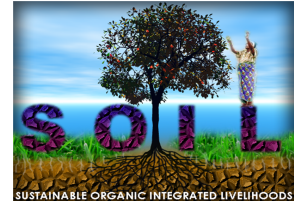


Photo K207a,b,c:
Cleaning the poop drums



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Photo K208:

Solids trap on drum cleaning zone



Photo K209:

Breaking the '20 drum rule' creates unsanitary conditions for cleaning the drums

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Photo K210:

Dirty drums next to drum cleaning zone, ready for cleaning



Photo K211:

A clearly delineated clean drum depot in the shade of a mango tree

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Photo K212:

Compacted compost pile
at end of phase 1
composting



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Photo K213 a, b, c:

Moving a compost pile manually is very slow, labour intensive and expensive.



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Photo K214a,b,c:

Forming the phase 2
windrows using machinery