WASH in Heltkea Fasiliti Toolkit

Insaed long toolkit ia bae yu faenem:

Usum hemia taem we yu go long sos blong wota blong mekem Asesmen long Seksen 3A.

- *Usum hemia blong mekem test long wota blong faenenaot hemi sef or no sef.*

- *Usum hemia blong faenemaot hamas wota yu save kolektem long ruf I go long tank.*

- *Usum hemia blong faenemaot flo-ret blong wota long sos blong wota.*

Usum hemia taem we yu go long ol toilet blong mekem Asesmen long Sanitasen long Seksen 3B.

- *Usum hemia blong mekem wan lis blong ol materiel blong impruvmen plan*

Usum hemia blong mekem lis blong ol materiel i nidim blong mekem impruvmen

1 – SURFES WOTA SOS
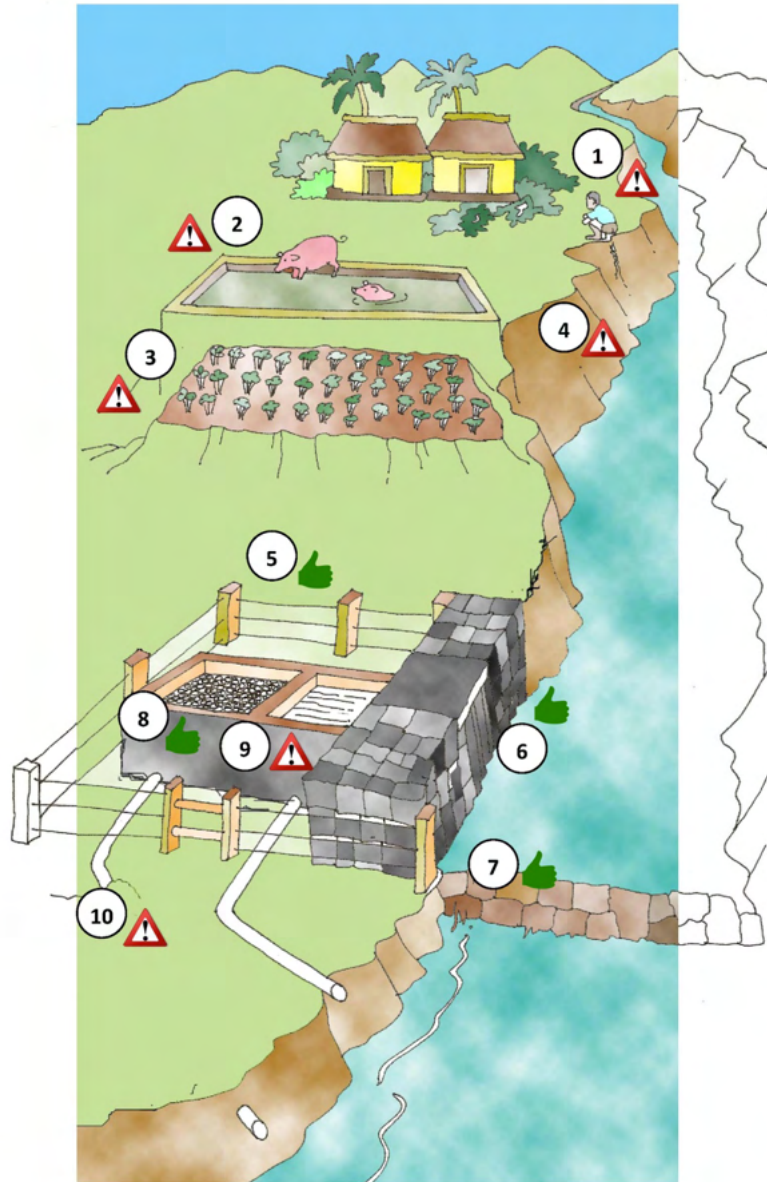
Risk Asesmen Kwestin – Tikem bokis sapos kwestin I tru   **Tru?**

1. SITSIT BLO MAN – I gat sam haos mo toilet I stap bihaen long sos blong wota we i save spoilem wota bong sos?   ☐

2. SITSIT BLO ANIMOL – I gat sam animol i stap wokboat bihaen long sos?   ☐

3. WES BLO FAM MO FAKTRI – I gat sam fam o faktri bihaen long sos we oli stap mekem wes mo toti i go insaed long wota?   ☐

4. SOPMAT – I gat janis blong ol graon antap long sos blong folfoldaon i kam insaed long wota sos?   ☐

5. FANIS – I nogat wan fanis we i stap blokem ol animol mo man i kam klosap tumas long wota intake strakja?   ☐

6. INLET SKRIN – I nogat wan skrin o waea blong blokem toti i go insaed?   ☐

7. DAM – I nogat wan dam we oli mekem blong leftemap level blong wota?   ☐

8. SEVEM WOTA – I nogat Tritmen long sos mo man I no stap sevem wota long haos usum meresin o poilem wota?   ☐

9. DAM I BROKBROK – Bokis we I stap holem wota hemi stap lik? or bokis i nogat nomo.   ☐

10. WOTA I NO RON GUD – Nogat tumas wota I stap go insaed long inlet paep   ☐

Fulmak blong ol Tick =   **/ 10**

Risk Sko: 9 – 10 = Hae tumas   6 – 8 = Hae   3 – 5 = Mediom   0 – 2 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

2 – SPRING WOTA SOS
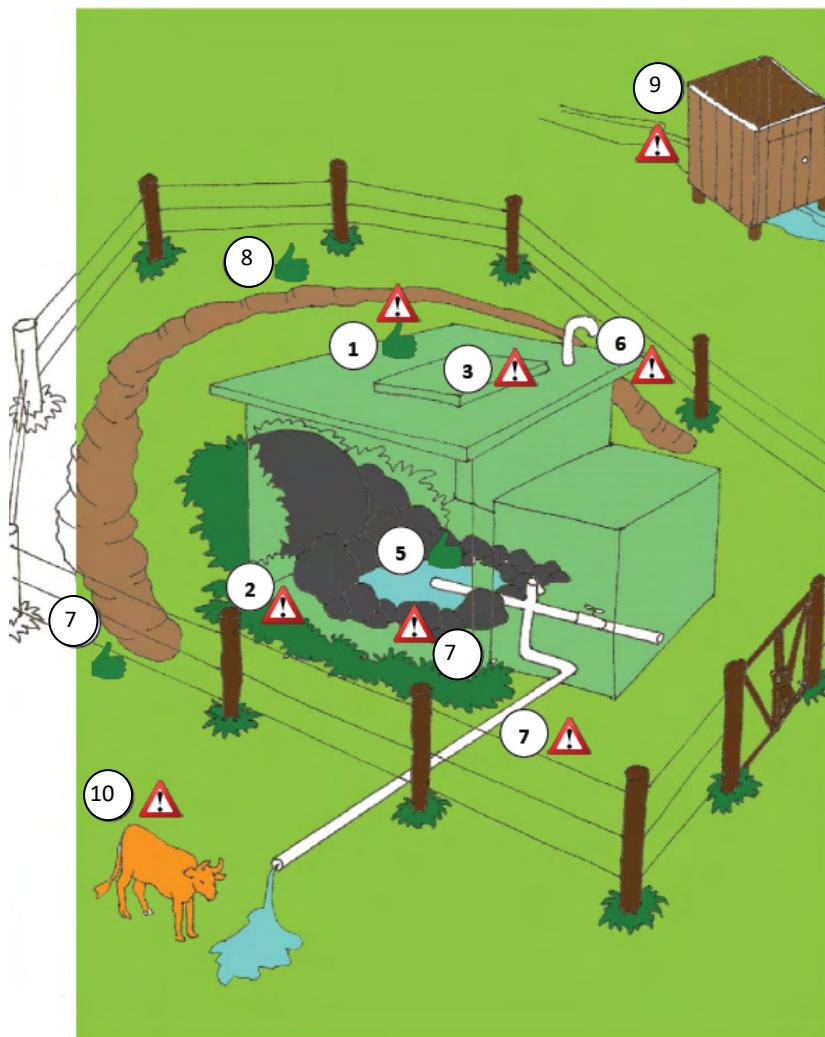
Risk Asesmen Kwestin – *Tikem bokis sapos kwestin I tru.*

Tru?

Q1. BOKIS BLONG KAVREMAP SOS – I nogat wan bokis or strakja blong kaveramp sos mo blokem ol toti i no go long wota. ❑

Q2. LIKS – Wol blong holem wota I brok mo stap lik? or nogat wol nomo? ❑

Q3. TOTI – Lid mo ruf blong bokis i toti? or nogat ruf nomo? ❑

Q4. TOTI – I gat ol Lif mo sopmat I stap insaed long wota? ❑

Q5. INLET SKRIN – I nogat wan skrin o waea blong blokem toti i go insaed long paep? ❑

Q6. TOTI – Ol paep blong win mo overflow oli no kiln? or nogat paep nomo? ❑

Q7. FANIS – I nogat wan fanis we i stap blokem ol animol mo man i kam klosap tumas sos blong wota. ❑

Q8. DIVESEN DITCH – I nogat wan ditch we oli digemaot blong stopem wota i ron kam go insaed long sos? ❑

Q9. SITSIT BLO MAN – I gat sam toilet we i stap bihaen long sos blong wota? ❑

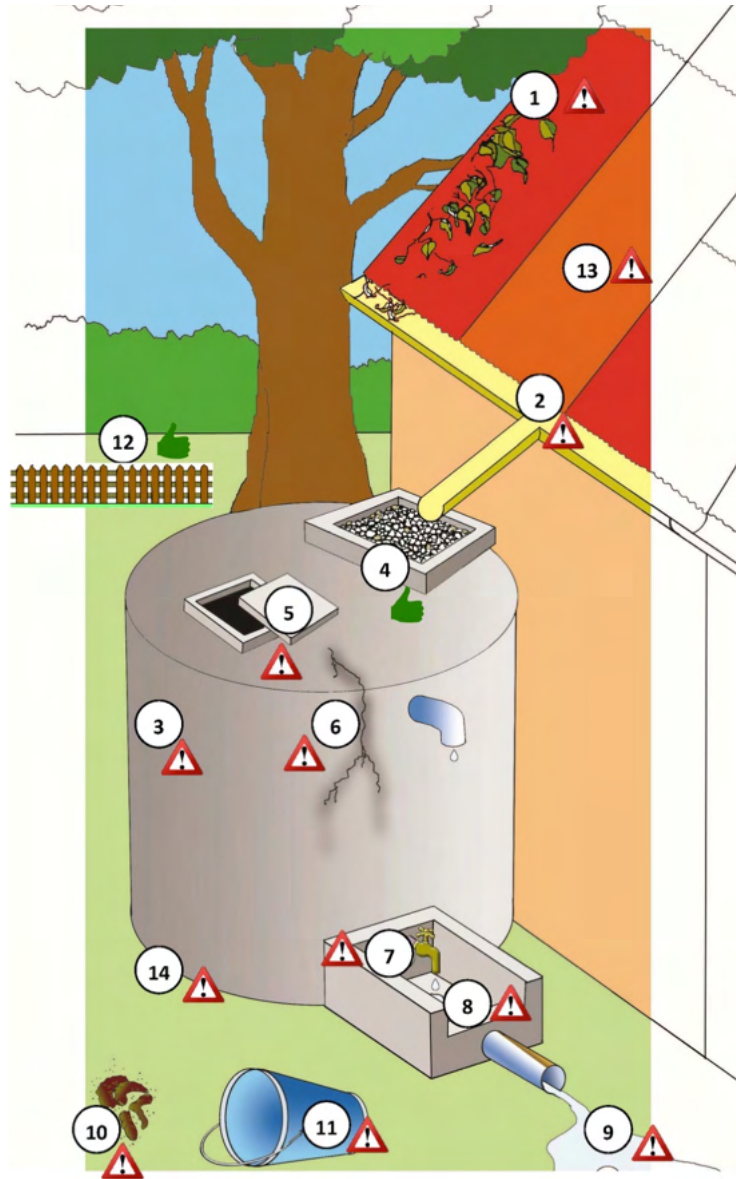Q10. SITSIT BLO ANIMOL – I gat sam animol oli stap wokboat bihaen long sos? ❑

Fulmak blong ol Tick = _____ **/ 10**

Risk Sko: 9 – 10 = Hae tumas   6 – 8 = Hae   3 – 5 = Mediom   0 – 2 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

3 – RENWOTA KLEKSEN MO STOREJ TANK

Risk Asesmen Kwestin – *Tikem bokis sapos kwestin I tru.*   **Tru?**

Q1.   TOTI – I gat eni kaen toti blong tri, pidjin long ruf we I kajem wota?   ❏

Q2.   TOTI – I gat eni kaen toti long gata we wota ron long hem?   ❏

Q3.   TOTI – I gat eni kaen toti insaed long tank we i holem wota?   ❏

Q4.   INLET SKRIN – I nogat wan fes flash or filta long inlet blong blokem toti?   ❏

Q5.   TOTI – I gat sam ples we hemi open nomo antap long tank?   ❏

Q6.   KRAKS – I gat sam krak long tank we wota i save kamaot?   ❏

Q7.   WOTA TAP – Tap blong kolektem wota i stap lik?   ❏

Q8.   TOTI – I nogat wan gudfala kiln ples blong stanemap baket blong wota?   ❏

Q9.   SOPMAT – I nogat dren paep mo wota i stap mekem sopmat klosap long tap.   ❏

Q10.   TOTI – I gat sam toti mo rabis long graon klosap long tap?   ❏

Q11.   TOTI – Bakat blong wota hemi no kiln mo stap albaot nomo?   ❏

Q12.   FANIS - I nogat wan fanis roan long tank blong wota?   ❏

Q13.   RUF MO GATA – ruf mo gata i stap lik or i no kasem gud ol wota we I faldaon long ruf?   ❏

Q14.   FANDASEN – Tank i stanap long graon nomo mo nogat angka blong holem tank long taem blong cyclone?   ❏

                                        Fulmak blong ol Tick = _____   **/ 14**

Risk Sko: 10 – 13 = Hae tumas   8 – 9 = Hae   4 – 7 = Mediom   0 – 3 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

4 – OPEN DUG WELL

OPEN DUG WELL

MSD - Minimum Safe Distance

Risk Asesmen Kwestin – *Tikem bokis sapos kwestin I tru.*

Tru?

Q1.   SITSIT BLONG MAN – I gat eni toilet we hemi klosap long 10m long Well?   ❑

Q2.   SITSIT BLONG MAN – I gat eni toilet we hemi stap long hae graon bitim Wel?   ❑

Q3.   TOTI – I gat eni nara kaen toti we hemi stap klosap long 10m long Well?   ❑

Q4.   SOPMAT – I gat sopmat I stap klosap long 2m long Wel?   ❑

Q5.   SOPMAT – I nogat dren paep or hemi no wok mo wota i stap mekem sopmat?   ❑

Q6.   APRON – I nogat wan Apron strakja blong blokem wota i ron kam insaed long Well. *(long taem long flad tu?)*   ❑

Q7.   APRON – Apron strakja hemi smol bitim 1m wide raon long Well?   ❑

Q8.   WOL – Wol insaed long Well hemi gat krak long hem long firs 3m daon?   ❑

Q9.   APRON – I gat krack long Apron strakja we wota i save go insaed?   ❑

Q10.   BAKET – Ol baket mo kontena oli no klin mo oli no sef?   ❑

Q11.   FANIS - I nogat wan fanis roan long Well blong blokem animol?   ❑

Q12.   DRAETAEM – Well i stap long wan ples we level blong wota hemi stap daon tumas?   ❑

Fulmak blong ol Tick = _____   **/ 12**

Risk Sko: 10 – 12 = Hae tumas   8 – 9 = Hae   4 – 7 = Mediom   0 – 3 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

5 – WEL WETEM KAVA MO HANPAM
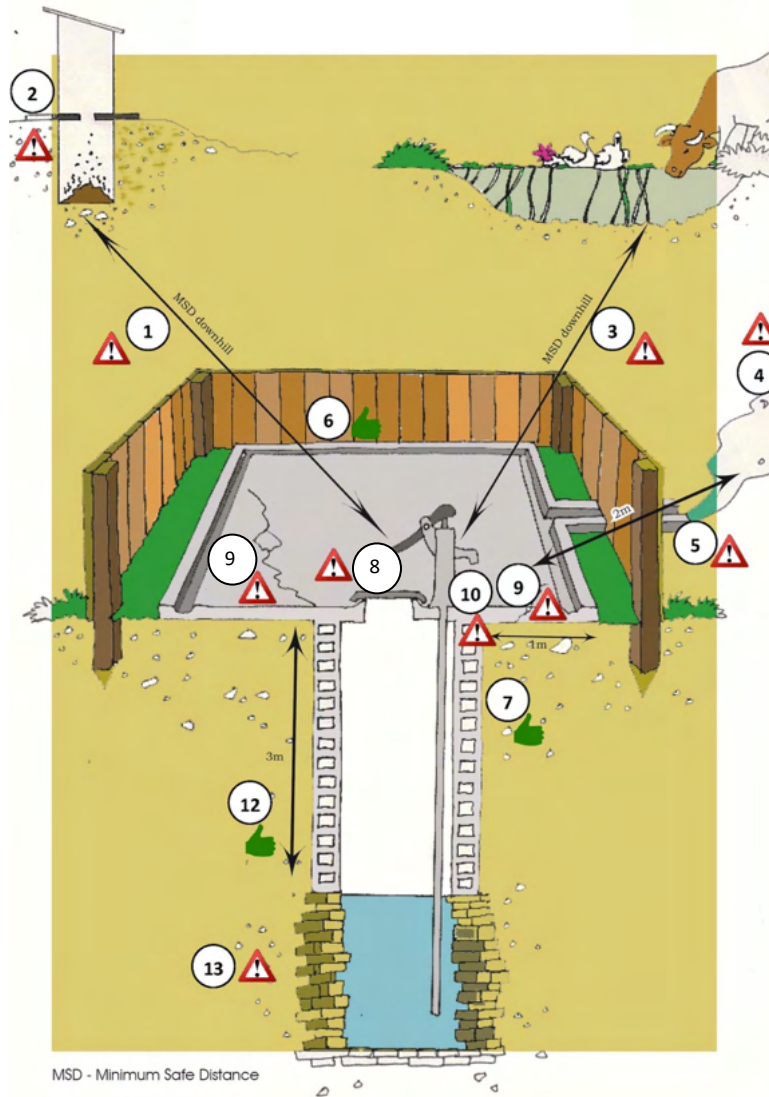
MSD - Minimum Safe Distance

Risk Asesmen Kwestin – *Tikem bokis sapos kwestin I tru.*

Tru?

Q1. SITSIT BLONG MAN – I gat eni toilet we hemi klosap long 10m long Well? ❏

Q2. SITSIT BLONG MAN – I gat eni toilet we hemi stap long hae graon bitim Wel? ❏

Q3. TOTI – I gat eni nara kaen toti we hemi stap klosap long 10m long Well? ❏

Q4. SOPMAT – I gat sopmat I stap klosap long 2m long Wel? ❏

Q5. SOPMAT – I nogat dren paep or hemi no wok gud mo wota i stap mekem sopmat? ❏

Q6. APRON – I nogat wan Apron strakja blong blokem wota i ron kam insaed long Well. *(long taem long flad tu?)* ❏

Q7. APRON – Apron strakja hemi smol bitim 1m wide raon long Well? ❏

Q8. TOTI – Kava blong top long Well hemi toti? or nogat kava nomo? ❏
❏

Q9. APRON – I gat krack long Apron strakja we wota i save go insaed?

Q10. PAM – Pam i no fas gud long graon mo wota i save go insaed long hol? ❏

Q11. FANIS - I nogat wan fanis roan long Well blong blokem animol? ❏

Q12. WOL – Wol insaed long Well hemi gat krak long hem long firs 3m daon? ❏

Q13. DRAETAEM – Well i stap long wan ples we level blong wota hemi stap daon tumas? ❏
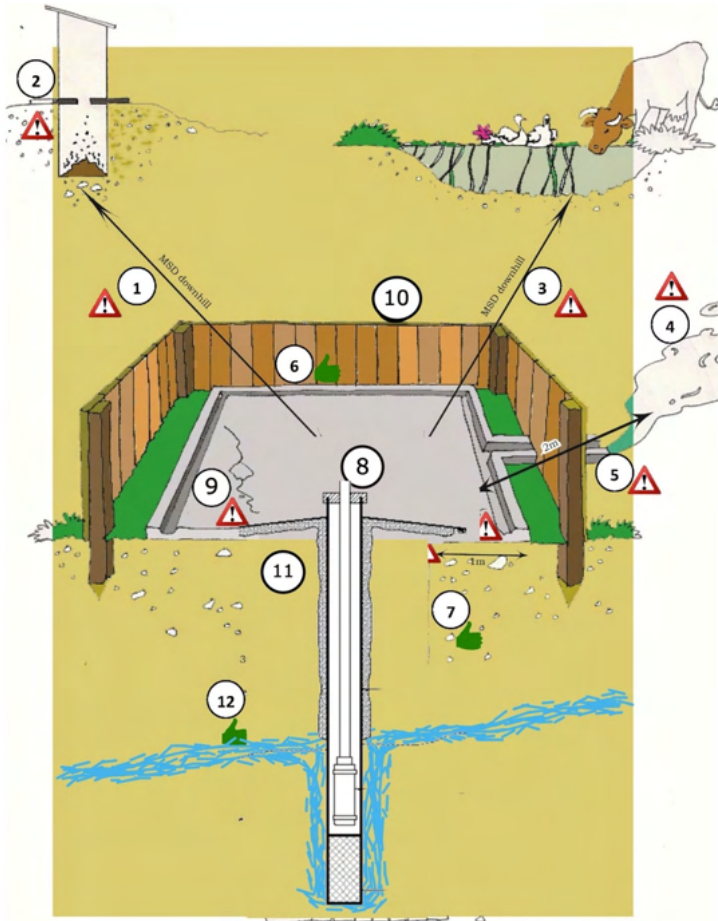
Fulmak blong ol Tick = _____ **/ 13**

Risk Sko: 10 – 13 = Hae tumas   8 – 9 = Hae   4 – 7 = Mediom   0 – 3 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

6 – BORHOL WETEM MOTO PAM

Risk Asesmen Kwestin – *Tikem bokis sapos kwestin I tru.*   **Tru?**

Q1.   SITSIT BLONG MAN – I gat eni toilet we hemi klosap long 15m long Borhol?   ❏

Q2.   SITSIT BLONG MAN – I gat eni toilet we hemi stap long hae graon bitim Wel?   ❏

Q3.   TOTI – I gat eni nara kaen toti we hemi stap klosap long 10m long Borhol?   ❏

Q4.   SOPMAT – I gat sopmat I stap klosap long 2m long Borhol?   ❏

Q5.   WOTA – I gat wan narafala Well we hemi open klosap long Borhol?   ❏

Q6.   APRON – I nogat wan Apron strakja blong blokem wota i ron kam insaed long Well. *(long taem long flad tu?)*   ❏

Q7.   APRON – Apron strakja hemi smol bitim 1m wide raon long Well?   ❏

Q8.   TOTI – Kava blong top long Borhol hemi toti? or nogat kava nomo?   ❏

Q9.   APRON – I gat krack long Apron strakja we wota i save go insaed? or nogat apron nomo?   ❏

Q10.   FANIS - I nogat wan fanis roan long Well blong blokem animol?   ❏

Q11.   PAEP – Paep blong Borhol hemi gat krak long hem?   ❏

Q12.   DRAETAEM – Borhol i stap long wan ples we level blong wota hemi stap daon tumas?   ❏

Fulmak blong ol Tick = _____ **/ 12**

Risk Sko: 10 – 12 = Hae tumas   8 – 9 = Hae   4 – 7 = Mediom   0 – 3 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

7 – WOTA SUPPLAE USUM PAEP

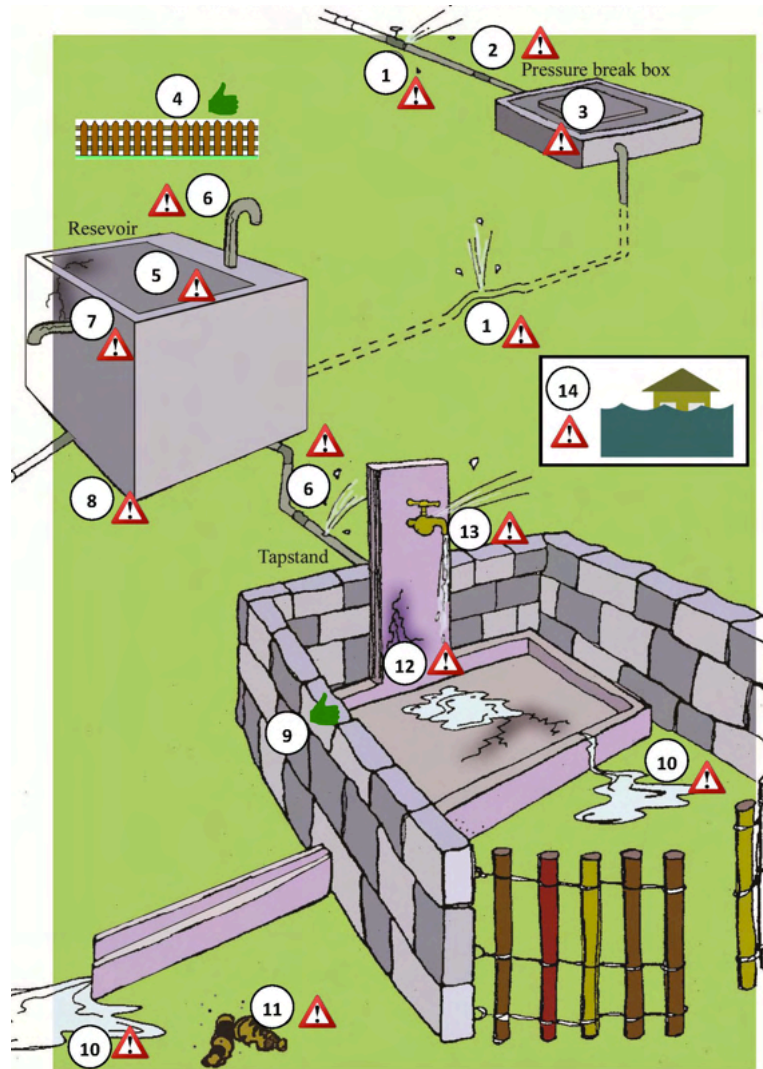**Risk Asesmen Kwestin** – *Tikem bokis sapos kwestin I tru.*

Tru?

Q1.   LIKS – I gat eni ples we wota i stap lik long sos kasem tank blong wota?   ❏

Q2.   PAEP – Ol paep blong wota oli stap antap long graon nomo? (no berem?)   ❏

Q3.   PRESA – Presa insaed long ol paep is bigwan tumas?   ❏

..kwestin blong storej tank blong wota:

Q4.   FANIS - I nogat wan fanis roan long storej tank blong wota?   ❏

Q5.   TOTI – Kava mo ruf blong tank blong wota hemi no klin?   ❏

Q6.   TOTI – Ol paep we oli gokamaot long storej tank hemi toti?   ❏

Q7.   KRAK – I gat sam krak long storej tank we wota is save kamaot?   ❏

Q8.   FANDASEN – Tank i stanap long graon nomo mo nogat angka blong holem taet tank long taem blong cyclone?   ❏

..kwestin blong ol tapstand:

Q9.   FANIS - I nogat wan fanis roan long ol tapstan blong blokem animol?   ❏

Q10.   SOPMAT – I nogat dren paep or hemi no wok gud mo wota i stap mekem sopmat roan long ol tapstan?   ❏

Q11.   TOTI – I gat kaen toti long graon klosap long 10m long tapstan?   ❏

Q12.   TAPSTAN – Tapstan i no stanap strong or hemi brokbrok?   ❏

Q13.   LIK - Tap hemi stap lik mo wota i wes?   ❏

Fulmak blong ol Tick = _____ **/ 13**

Risk Sko: 10 – 13 = Hae tumas   8 – 9 = Hae   4 – 7 = Mediom   0 – 3 = Lo

Impruvmen Plan: Ol Risk we yu faenemaot, karem i kambak long impruvmen plan.

Aquagenx
Sef wota blong eniwan, eniples, enitaem

Kompatmen Bag Test (CBT): Hao blong usum

Kompatmen Bag Test (CBT) hemi wan test blong faenem mesamen blong *E. Koli* bakteria insaed long wan 100 mL sample, hemia nao hemi stret wei mo stret volum we Wol Helt Okenaesaesen mo U.S. Enviromen Proteksen Ajensi i kivim blong usum.

CPT test ia yu save karem go long eni ples we yu wantem mo evri samting we yu nidim blong mekem test i stap insaed long hem redi i stap. Test ia hemi save letem eniman long eniples i save se wota blong hem i helti o hemi no helti.

CBT Kit ia hemi kat enaf saplae blong 10 difren test;

10 CBT bag
10 100 mL sampol botel
10 *E. koli* kromojenik kuja medium test buds
30 Klorin tablets
1 sil klib we yu save usum bakeken

Wan video long hao blong usum CBT test ia i stap long website blong mifala: http://www.aquagenx.com/how-to-use-the-cbt/

Wanem i stap insaed long kit ia

Kompatmen Bag

Sampol botel

E. Koli Medium

Klorin Tablets
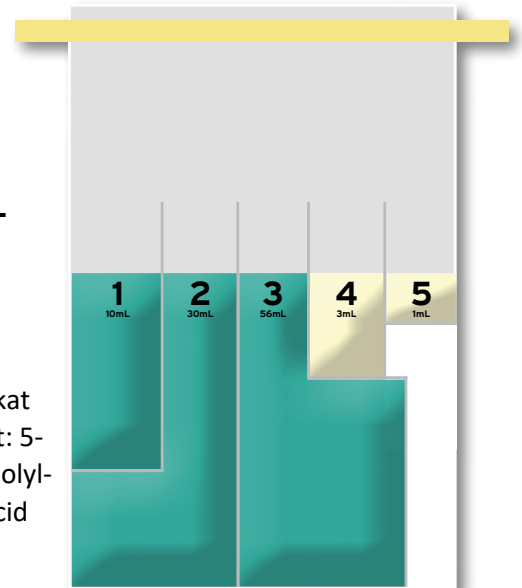
Sil Klip

Ol Volum blong Kompatmen Bag

Plastik bag ia hemi kat 5 difren ples wetem 5 difren volum we enaf long 5 difren test tubes:

1 = 10 mL
2 = 30 mL
3 = 56 mL
4 = 3 mL
5 = 1 mL

Total = 100 mL

E koil medium hemi kat kromojenik substraet: 5-bromo-4chloro-3-indolyl-beta-D-glucuromic acid (X-gluc)

Hao blong usum

1. Mekem redi area blong mekem test

- Sanitizem area we bae yu wok long hem wetem wan disinfekted klining solusen wetem plastik kloves.

2. Karem 100mL sampol blong wota

- Fulumap sampol botel blong yu kasem 100mL mak.
- No mas tajem insaed long botel o insaed long lid blong botel.
- Rekodem ol detail blong sampol blong yu.

3. Mixim wota sampol wetem growth medium

- Openem growth medium pouj mo addem medium bud i go lo sampol blong wota.
- No mas tajem medium ia wetem finga o han blong yu.
- Putum bak lid long botel mo disolvem medium ia mo wait 15 minit afta yu seksekem botel i go raon folem shape blong wan sekol.
- Medium bae hemi disolv long karia. Taem medium bae hemi disolv fulwan bae hemi jenisim kala go long waet o bae kolosap bae hemi waet.
- Karia bae hemi no disolv.

4. Kapsaetem sample i go long kompatmen bag

- Terem openem top blong bag
- Bifo yu fulumap bag ia, raetem stret nem long hem afta yu raprapem plastic bag wetem ol finga blong yu blong mekem se i isi blong openem mo fulumap sampol wota i go long bag ia.
- Usum ol waet tab long top blong bag blong holem i open taem yu stap kapsaetem
- Kapsaetem sampol blong yu sloslo nomo i go lo bag
- Leko test buds long botel taem yu stap kapsaetem
- Muvmuvum bag blong mekem se wota volum hemi kasem mak blong hem.
- Ol horizontal laen long bag ia nao hemi ol fill mak blong wota hemi stop long hem .
- Evri ples bae wota i mas kasem sekam fill mak mo wota level i mas semak long evri ples.

5. Sarem bag

- Rolem bag kam daon kasem fill mak afta klosem bag wetem yelo klip blong silim
- Putum waet plastik tu-pis klip . U-Saep pat blong klip bae hemi go krosem width blong bag antap long wota level folem fill mak be antanit long ol opening blong ol 5 difren volum ia.
- Pusum gud rod-saep pat blong klip ia long foret blong bag i go long bak blong klip ia long nara-saed blong bag ia blong lokem/silim gud bag ia.

Tip #1 No mas leko sampol blong wota blong yu i stap ova long 6 haoa.Yu save kipim sampol blong yu over long 4 dei nomo sapos yu putum long wan tempereja blong 10 ^{o}C o wan tempereja we i go daon mo (be no mekem sampol i aes).

Tip #2 Medium ia nomo bae hemi disolv (lus), be i no karia blong hem. Kari bae hemi jenisim kala i go waet o kolosap bae hemi waet.

Taem medium hemi disolv bae karia bae hemi jenisim kala go long waet.

Tip #3 Bifo yu fulumap bag ia, raetem stret nem long hem afta yu raprapem plastic bag wetem ol finga blong yu blong mekem se yu save openem bag ia mo fulumap ol kompatment ia long semak level evriwan.

Ol horizontal laen lo bag ia nao hemi ol fill mak blong wota hemi stop long hem

Tip #4 Usum waet tu-pis klip ia blong klipim fulap bag tuketa long wan taem. No mas sakem klip ia afta we yu usum, kipim i stap blong usum bakeken.

6. Inkubaet

- Inkubaetem kompatmen bag ia blong mekem bakteria hemi gro
- Inkubaetem bak blong yu long wan temperaja we hemi 25 ^{0}C o ova. Sapos tempereja hemi no kasm 25 ^{0}C putum insaed long wan kontena o usum wan potepol inkubaeta.

Ol stret tempereja mo taem blong Inkubaet:

35-44.5°C: inkubaet 20-24 haoa
30-35°C: inkubaet 24-30 haoa
25-30°C: inkubaet 40-48 haoa

7. Skorem mo rekotem test risal

- Yelo/yelo-braon i minim se hemi nekat/negetiv (absence) *E. coli,* Blu/blu-grin i minim se hemi kat/positiv (presence) *E. coli.*
- Konsentraesen blong ol bakteria long sampol hemi estimaet blong positiv mo negetiv kompatmen, we hemi kivim one Most Probabel Namba (MPN) estimaet blong *E. coli* per 100 mL
- Usum MPN Tabol olong neks paeg blong faeben *E. coli* koncentraesen
- Rekodem MPN resal

8. Dikontaminaet

- Openem bag mo putum 3 klorin tablet i go insaed. Seksekem bag kasem klorin tablet ia hemi disolv. Leko bag i stap blong 45 minit.
- Afta long 45 minit kapsaetem aot wota long bag i go lo sink, toelet o hol blong graon afta yu sakem bag ia long wan sef ples.
- Putum gud waet plastik klip blong yu save usum bakeken.

Tip #5 Taem yu storem CBT ia i stap blong i redi bae hemi save smel. Yu mas putum CBT ia i go insaed long wan narafala plastik bag blong mekem i no smel taem yu stap wet long hem blong hemi redi.
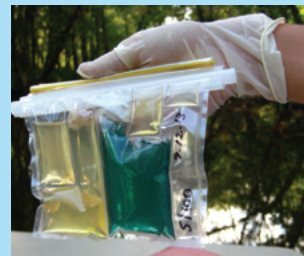
Yelo/Yelo-Braon = Nokat *E. Coli*
Blu/Blu-Grin = Hemi kat *E. coli*

Helt Risk kaedlaen long qualiti blong wota blong drink we wol helt okenisaesen i putum (WHO) , 2011

Helt Risk Katekori	*E. coli* CFU* per 100 mL
Sef	<1
Intamidiat Risk/Sef smol	1-10
Kat hae Risk/Hemi no sef	>10-100
Very Hae Risk/No sef	>100

*MPN and CFU (colony forming units) tufala i semak nomo, be MPN oli karem long ol quantal test olsm CBT mo CFU oli karem tru long koloni baes test olsem membrane filtraesen.

Most Probabel Namba Tabol

MPN Tabol hemi reprisentem Wol Helt Okenisaesen "Kaedlaen long qualiti blong wota blong drink," 4th Edisen. Table 5.4 ilong kaedlaen hemi kat ol difren risk katekori long wota blong drink bais long *E. koli* level we oli stat long: 0/100 mL = Sef; 1-10/100 mL = Intamidiat Risk; 11-100/100 mL = Hae Risk; mo >100/100 ml = Very Hae Risk.

General agrimen hemi se wota blong drink hemi no mas kat *E.Coil* long hem be sam kaontri *E.Coil* = 10/100mL oli look se hemi kat Intamidiat Risk.

Majem Volum blong kompatment bag blong yu wetem wan long ol 32 aotkam ia.

Compartment #					MPN/100mL	Upper 95% Confidence Interval/100mL	Health Risk Category Based on MPN and Confidence Interval
1 10mL	2 30mL	3 56mL	4 3mL	5 1mL			
					0.0	2.87	Low Risk/Safe
					1.0	5.14	Intermediate Risk/ Probably Safe
					1.0	4.74	
					1.1	5.16	
					1.2	5.64	
					1.5	7.81	
					2.0	6.32	
					2.1	6.85	
					2.1	6.64	
					2.4	7.81	
					2.4	8.12	
					2.6	8.51	
					3.2	8.38	
					3.7	9.70	
					3.1	11.36	Intermediate Risk/ Possibly Safe
					3.2	11.82	
					3.4	12.53	
					3.9	10.43	
					4.0	10.94	
					4.7	22.75	
					5.2	14.73	
					5.4	12.93	
					5.6	17.14	
					5.8	16.87	
					8.4	21.19	
					9.1	37.04	
					9.6	37.68	
					13.6	83.06	High Risk/Possibly Unsafe
					17.1	56.35	
					32.6	145.55	High Risk/Probably Unsafe
					48.3	351.91	
					>100	9435.10	Unsafe

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<u>RENWOTA KAPJA</u>: OSLEM WANEM BLONG MESAREM?

Yumi save faendemaot hao mas wota bae i ko insaed lo wan renwota tank taem we yumi save:

1. **KAPJA ERIA** blong ruf, we ren i foldaon lo hem, afta bae i go insaed lo wan gata kasem tank.

2. Hao mas **RENFOL** i gat lo wan yia. Renfol hemi diferen lo ol provins lo Vanuatu.

1. <u>KAPJA ERIA</u>

RUF

KAPJA ERIA

SOPMAT

RENWOTA GATA

TANK

*kaontem 1 mita long evri gudfala step

1 mita

KAPJA ERIA

L = Length blo ruf we I gat gata (m)

W = Width blong ruf (m)

KAPJA ERIA (m^2) = L (m) x W (m)

= _____ x _____

=_____ m^2
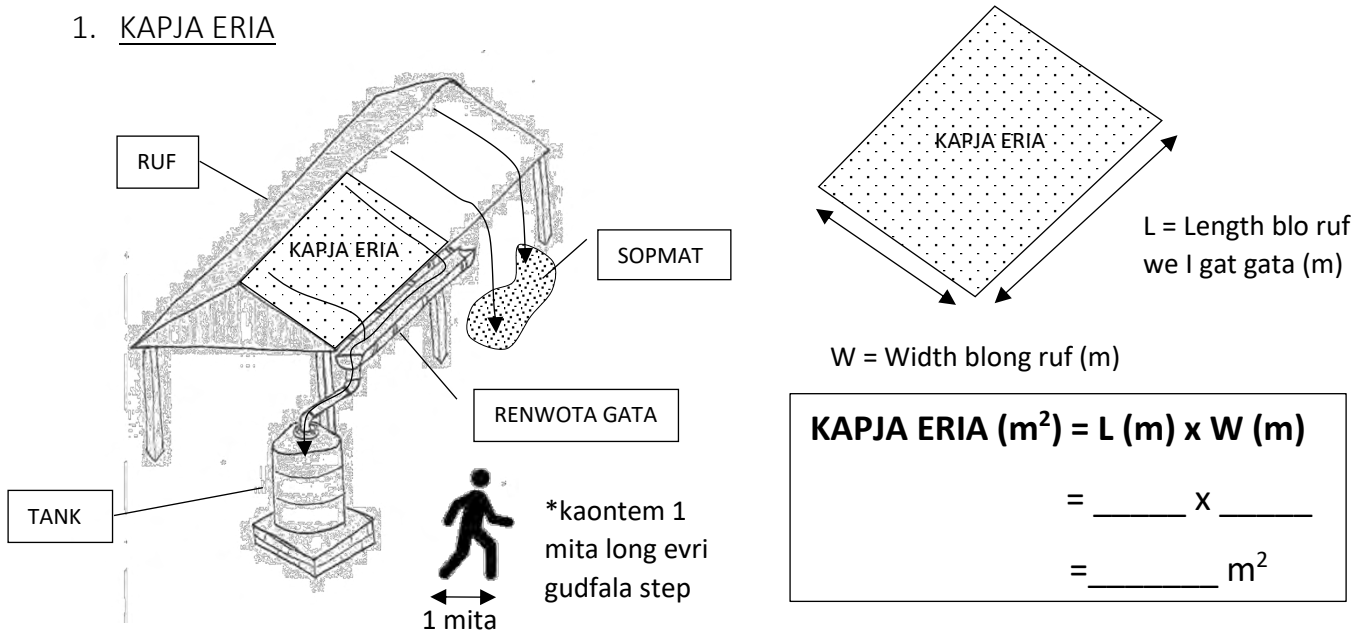
2. <u>HAO MAS RENFOL?</u>

Tebol ia hemi givem raf tingting long hamas **RENFOL** bae faldaon lo wan yia lo evri provins long Vanuatu. Bae yu jas jusum namba long **RENFOL** blong provins we yu stap.

PROVINS	RENFOL lo yia (mm)	PROVINS	RENFOL lo yia (mm)
TORBA	4000	MALAMPA	2200
SANMA	2800	SHEFA	2200
PENAMA	2600	TAFEA	1800

3. <u>RENWOTA KAPJA</u>

Noia yumi save faendemaot hao mas RENFOL yumi save KAPJA lo wan yia. Blong faenemaot, yumi moltiplae **KAPJA ERIA** in mita skwea wetem **RENFOL** in milamita. Afta moltiplae wetem 0.7 from sam ren we i foldaon bae i lus mo i go ko insaed lo tank.

RENFOL KAPJA (Lita) = KAPJA ERIA (m^2) **x RENFOL** (mm) **x 0.7** (%)

RENWOTA KAPJA long ruf blong yu hemi

= KAPJA ERIA: _____ (m^2) x RENFOL: _____ (mm)   x 0.7

= _____ (Lita per yia)

Sapos yu wantem faendemaot hao mas wota bae yu save kapja insaed lo wan komuniti, fulumap all namba long tebol belo:

#	NEM BLO HAOS	L = Length blo ruf we i gat gata (m)	W = Width blong ruf	ERIA = L x W (m^2)	SAES blo Tank (Lita)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
TOTAL (addemap ol ERIA mo SAES blong tank):				m^2	Lita

FLO-RET BLO WOTA: OLSEM WANEM BLONG MESAREM?

Flo-ret hemi talem yumi hamas wota i ron. Yumi save mesarem flo-ret blo faendemaot hamas wota:

- i kam aot lo wan sos, or
- i ko insaed lo wan tank, or
- i kam aot lo wan tap

$$FLORET \ (lita \ per \ seken) = \frac{Volume \ (Lita)}{Time \ (Seken)}$$

STEPS:

1. FAENDEM WAN KONTENA

Faendem wan kontena we yu save hao mas Lita i save ko insaed lo hem.

Sapos yu no save stret hao mas Lita i save ko insaed lo Kontena blo yu, bae yu save usem narafala plastic blo mesarem **Volume** blong Kontena.

For eksampol, sapos yu mas fulumap mo kapsaetemaot wan 1.5 Lita plastik insaed lo wan baket 10 taem… bucket ya hemi save holem 15 Lita wota.

e.g. 1.5 L x 10 taem kapsaetemaot = 15 L

2. KAONTEM HAO MAS SEKEN I GAT BLO FULUMAP KONTENA YA

- Tekem wan stopwaj or fon we i save kaontem seken.
- Wan man i save holem Kontena, wan narafala save prestem "START".
- Kaon daon lo 3.. olsem 3..2..1… afta prestem "START" lo semac taem we wota i stap fulumap Kontena.
- Taem we Kontena I fulap, prestem "STOP"
- Tekem tri mesamen, rekodem evriwan, afta faendemaot average lo ol tri.

3. KALKULETEM FLO-RET

- Fulumap al bokis belo blo kalkuletem flo-ret blo wota.

LOCATION NEM:					DET:		
1. VOLUME BLONG KONTENA (Lita)		#	2. TAEM BLO FULUMAP KONENTA (Seken)		3. KALKULETEM AVERAGE TAEM	4. FAENDEMAOT FLO-RET	
V =		T_1 =		seken	PLASEM ol $T_1 + T_2 + T_3$ = …	FLO-RET = $\frac{V}{T}$	
	Lita	T_2 =		seken	AFTA DIVIDE BY 3 = …	DIVIDE VOLUME BY TIME	
		T_3 =		seken	**T =**	seken	**FLO - RET =**	Lita / seken
* Lita per seken x 60 seken = Lita per minute… etc.							

LOCATION NEM:				DET:		

1. VOLUME BLONG KONTENA (Lita)		#	2. TAEM BLO FULUMAP KONENTA (Seken)		3. KALKULETEM AVERAGE TAEM	4. FAENDEMAOT FLO-RET
V =		$T_1 =$		seken	PLASEM ol $T_1 + T_2 + T_3 = \ldots$	FLO-RET = $\dfrac{V}{T}$
	Lita	$T_2 =$		seken	AFTA DIVIDE BY 3 = …	DIVIDE VOLUME BY TIME
		$T_3 =$		seken	**T =** ___ seken	**FLO - RET =** ___ Lita / seken
* Lita per seken x 60 seken = Lita per minute… etc.						

LOCATION NEM:				DET:		

1. VOLUME BLONG KONTENA (Lita)		#	2. TAEM BLO FULUMAP KONENTA (Seken)		3. KALKULETEM AVERAGE TAEM	4. FAENDEMAOT FLO-RET
V =		$T_1 =$		seken	PLASEM ol $T_1 + T_2 + T_3 = \ldots$	FLO-RET = $\dfrac{V}{T}$
	Lita	$T_2 =$		seken	AFTA DIVIDE BY 3 = …	DIVIDE VOLUME BY TIME
		$T_3 =$		seken	**T =** ___ seken	**FLO - RET =** ___ Lita / seken
* Lita per seken x 60 seken = Lita per minute… etc.						

LOCATION NEM:				DET:		

1. VOLUME BLONG KONTENA (Lita)		#	2. TAEM BLO FULUMAP KONENTA (Seken)		3. KALKULETEM AVERAGE TAEM	4. FAENDEMAOT FLO-RET
V =		$T_1 =$		seken	PLASEM ol $T_1 + T_2 + T_3 = \ldots$	FLO-RET = $\dfrac{V}{T}$
	Lita	$T_2 =$		seken	AFTA DIVIDE BY 3 = …	DIVIDE VOLUME BY TIME
		$T_3 =$		seken	**T =** ___ seken	**FLO - RET =** ___ Lita / seken
* Lita per seken x 60 seken = Lita per minute… etc.						

2) Teknikol kwaliti (Jusum stret kaen toilet mo ansarem olgeta kwestin we oli stap daon ia) – AFTA LONG KONSTRAKSEN

Ventilated Improved Pit Latrine
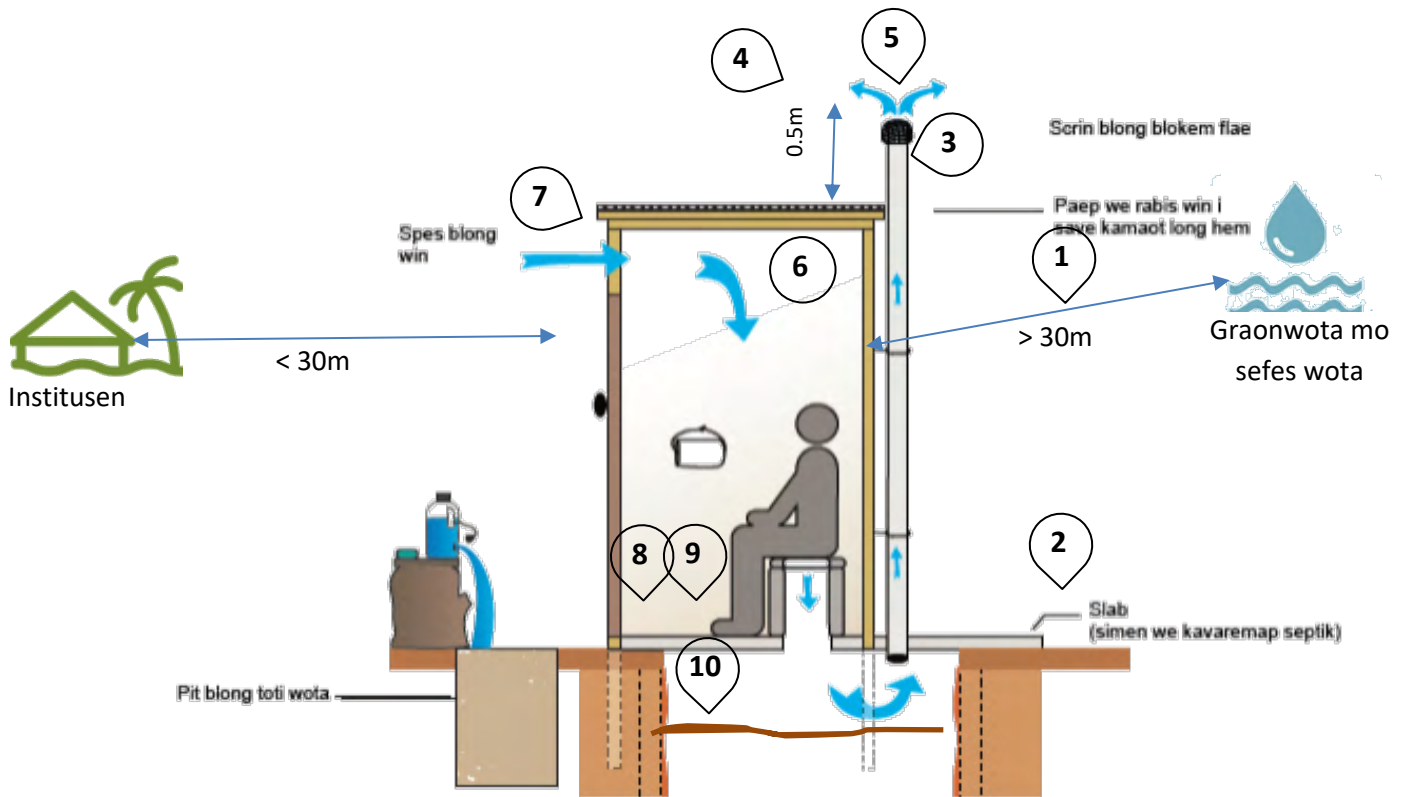
#	INSPEKSEN JEK	SEKOLEM WAN	
1.	Toilet i stap daon gradient drinking wota sos (wel, riva, spring) mo long wan minimal horizontal distens blong 15m (sipos we yu no sua gud long daereksen blong flo, min. hemi 30m)	Y	N
2.	I gat wan hil o wan rod long graon we oli digim hemia long stopem wota blong no go insaed long pit	Y	N
3.	Paep we rabis win i save kamaot long hem i mas gat wan diamita we minimam blong hem hemi 100mm.	Y	N
4.	Paep we rabis win i save kamaot i mas 50cm long mo i mas stanap strong antap long ruf	Y	N
5.	Paep we rabis win i save kamaot long hem i mas gat wan skrin blong blokem flae we oli mas mekem sua se hemi taet gud mo hemi kavremap en blong blong paep.	Y	N
6.	Toilet hemi no gat tumas laet be hemi mas sef blong man i save yusum	Y	N
7.	Win i mas pas gud insaed long toilet (20cm spes antap long ruf mo lid blong toilet i mas open/ o oli karemaot lid blong toilet o lid blong toilet oli mekem wetem skrin blong blokem flae)	Y	N
8.	Top blong slab blong toilet i no krak mo oli silim gud i go long faondesen blong slab	Y	N
9.	Floa blong toilet i klin mo i nogat eni strong smel long hem	Y	N
10.	Nara saed blong simen we i stap antap long ples we toti i stap go hem, hemi mas ova long 0.5m	Y	N

Afta long inspeksen, toilet bambae oli : ☐ NO JENSEM   ☐ APGRED   ☐ PUTUM NIU WAN (sipos ansa blong # 1, 3, mo 10 hemi'no')

Flash Toilet we i gat wan pit/hol

HANDWASHING STATION TO BE PROVIDED

LOCKABLE DOOR

40MM VENT PIPE

GAP FOR VENTILATION AND LIGHT

WATER SEALED TOILET

LOCAL MATERIAL CLADDING

MOUNDED EARTH

FRONT PERSPECTIVE

BACK PERSPECTIVE

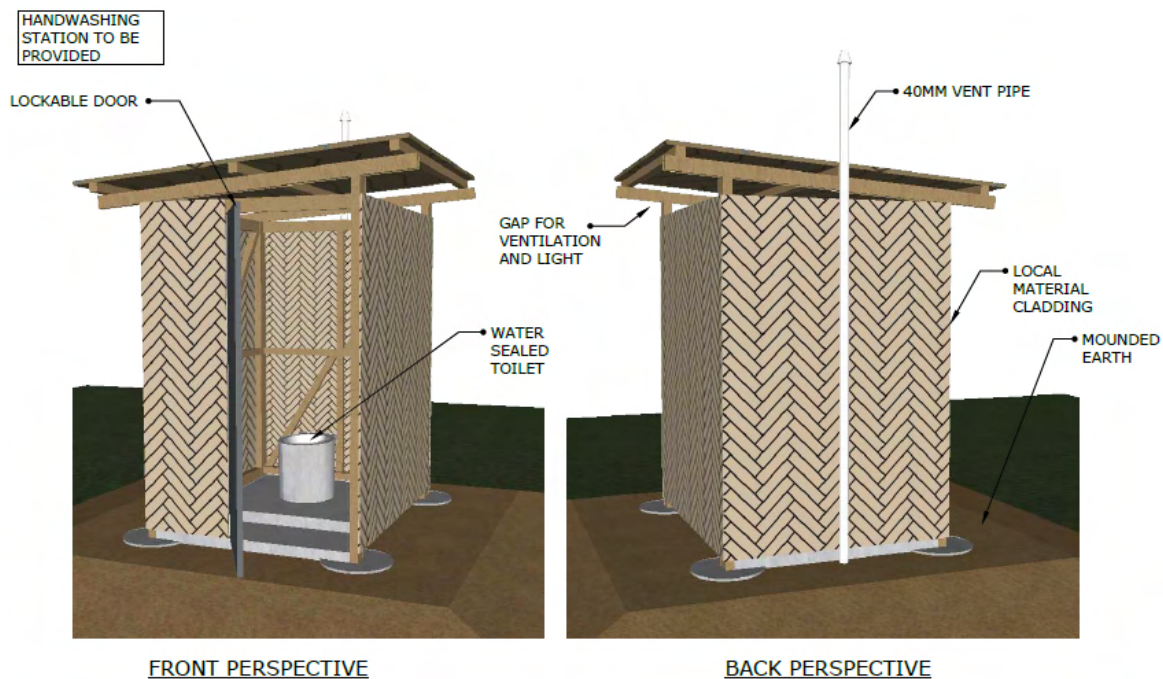| #	INSPEKSEN JEK	SEKOLEM WAN	
MINIMAM (IMPOTEN) KRAETERIA – SANITEISEN SEVIS WE OLI IMPRUVUM			
1.	Toilet i stap daon gradient drinking wota sos (wel, riva, spring) mo long wan minimal horizontal distens blong 15m (sipos we yu no sua gud long daereksen blong flo, min. hemi 30m)	Y	N
2.	Sipos we pit i stap daon stret – slab blong toilet i hae o gat slop blong protektem from wota run-off	Y	N
3.	Hol blong toilet i stap 3 mita long we long eni haus o hemi stap 3 mita aotsaed long eni graon we man i save yusum blong planem kakae	Y	N
4.	I gat wan paep we rabis win i save kamaot long hem mo en blong paep ia i oli mas blokem	Y	N
5.	Diamita blong paep we rabis win i save kamaot long hem i mas gat wan minimam blong 32mm	Y	N
6.	Sipos we pit i stap stret daon- toilet riser oli silim antap long slab mo hemi stap long faondesen slab blong mekem se olgeta insek oli no save go insaed long pit	Y	N
7.	So pit i stap stret daon- Toilet slab i strong mo i no krak	Y	N
8.	Floa blong toilet i klin mo i nogat eni strong smel long hem	Y	N
9.	Sipos hemi wan offset pit nomo- I mas gat wan hol/o lid we i akses long pit	Y	N
10.	a) Sipos pit i stap daon stret: I gat moa long 50cm bitwin anda long slab mo toti anda long hem b) Sipos hemi wan offset pit: Lid i mas gat akses long hem blong mekem se i isi blong seves blong pam blong karem aot toti	Y	N

Afta long inspeksen, toilet bambae oli : ☐ **NO JENISIM** ☐ **APGRED**

☐ **PUTUM WAN NIU WAN**
(Sipos ansa blong # 1, 3 mo 10 hemi 'no')

Flash toilet wetem wan Septik Tank

FRONT PERSPECTIVE   BACK PERSPECTIVE

#	INSPEKSEN JEK	SEKOLEM WAN	
	MINIMAM (IMPOTEN) KRAETERIA – SEVIS BLONG SANITESEN WE OLI IMPRUVUM		
1.	Toilet i stap daon gradient drinking wota sos (wel, riva, spring) mo long wan minimal horizontal distens blong 15m (sipos we yu no sua gud long daereksen blong flo, min. hemi 30m)	Y	N
2.	I gat wan smol hil o wan hol we oli digim blong mekem rod blong wota i ron folem hemia blong stopem wota blong i no ron i go insaed long septik tank	Y	N
3.	Septik tank oli mas silim gud blong stopem olgeta insek blong oli no go insaed long pit	Y	N
4.	Septik tank hemi stap 3 mita long we long eni haus o hemi stap 3 mita aotsaed long eni graon we man i save yusum blong planem kakae	Y	N
5.	Saes blong septik tank hemi 3 mita	Y	N
6.	Paep blong karemaot rabis win i stap long paep we i stap go long pit mo en blong hem i mas gat skrin blong blokem olgeta insek blong no go insaed	Y	N
7.	Diamita blong paep blong karemaot rabis win hemi 32mm	Y	N
8.	Septik tank i gat wan hol blong septik/wan lid anta long hem	Y	N
9.	Hol blong septik ia oli putum long wan fasin we i mekem se man i save karemaot toti aot long septik	Y	N
10.	Blong klinim septik, trak blong septik i mas kam blong karemaot toti long evri 2 yia	Y	N
11.	I nogat eni pul blong toti wota (hemia toti wota we i kamaot long ples blong wasem han mo long septik tank)	Y	N
12.	Floa blong toilet i klin mo i nogat eni strong smel	Y	N

Afta long inspeksen, toilet bambae oli: ☐ **NO JENSEM**   ☐ **APGRED**

☐ **PUTUM WAN NIU WAN**(Sipos ansa blong kwestin #1, 4,5 mo 9 hemi 'no')

Bill of Quantities (BoQ)

Project Name: _____   **email:** _____

BoQ prepared by: _____   **phone:** _____

                                                                              date: _____

PIPE									
Poly (mm)	**20**	**25**	**32**	**40**	**50**	**63**	**75**		**UNIT**
Poly Pipe PN10									m
Poly Pipe PN12.5									m
Galv. Iron (inches)	**¾"**	**1"**	**1- ¼"**	**1-½"**	**2"**	**2-½"**	**3"**		**UNIT**
G.I. Pipe (5.8m length)									each
PVC (mm)	**50**	**65**	**80**	**90**	**100**	**150**	**175**		
PVC Drain (3m length)									each
PVC Drain (6m length)									each
FITTINGS									
Poly (mm)	**20**	**25**	**32**	**40**	**50**	**63**	**75**		**UNIT**
Coupling									each
Elbow 90°									each
Tee									each
Nipple									each
Tank Flange									each
Poly (mm)	**25 x 20**	**32 x 25**	**40 x 32**	**50 x 40**	**63 x 50**	**75 x 63**	**90 x 75**		**UNIT**
Reducing Coupling									each
Poly (mm)	**25x25x20**	**32x32x25**	**40x40x25**	**50x50x25**	**50x50x32**	**50x50x40**	**63x63x32**		**UNIT**
Reducing Tee									each
Poly (mm x inches")	**20 x ¾**	**25 x¾**	**32 x 1-¼**	**40 x 1-½**	**50 x 1-½**	**63 x 1½**	**75 x 3**		**UNIT**
Male Adaptor									each
Female Adaptor									each
Male Elbow Adaptor									each
Female Elbow Adaptor									each
Galv. Iron (inches)	**¾"**	**1"**	**1- ¼"**	**1-1/2"**	**2"**	**2-½"**	**3"**		**UNIT**
Elbow 90°									each
Socket									each
Tee									each
Nipple									each
Reducing Nipple									each
Union									each
Cap									
Flange Male									each
PVC (mm)	**50**	**65**	**80**	**90**	**100**	**150**	**175**		**UNIT**
Elbow 45°									each
Elbow 90°									each
Socket									each
Tee									each
End Cap									each
Floor Drain Grate									each

Brass/Steel (inches")	¾"	1"	1- ¼"	1-½"	2"	2-½"	3"		UNIT
Ball Valve									each
Gate Valve									each
Globe Valve									each
Non-return Valve									each
Float Valve									each
Tap (Hose cock)									each
Tank Flange									each
Strainer									each
Floor Drain Grate									each
RAINWATER COLLECTION									
Guttering	130mm WHITE		190mm GREY						UNIT
___ m Length									each
Bracket									each
Joiner									each
Outlet Fitting									each
Stopend set (LH&RH)									each
First flush kit (____ mm)									each
Concrete (mm)	390 x 190 x 190		390 x 190 x 140						UNIT
Block Concrete									each
MATERIALS									
Cement (kg)	20 kg		40 kg						UNIT
Bag Cement									each
Concrete (mm)	390 x 190 x 190		390 x 190 x 140						UNIT
Block Concrete									each
Timber (mm)	25x50	50x50	50x100	30x150					UNIT
Timber (6m length)									each
Mesh Wire 6mm (4.6x2.2m)									each
Tie Wire 1.6mm									kg
Black Plastic 4m wide									m
Builders String Line									m
Nails/Screws (mat/mm)	G.I. 2"	G.I. 3"	G.I. 4"	2" Screw	3" Screw	4" Screw			UNIT
G.I. Nails or Zinc Screws									kg

MATERIAL LIST FOR ONE VIP TOILET - LOCAL MATERIAL

DESCRIPTION	QTY	UNIT	UNIT COST	Total Cost	Notes - costing for Efate Province
Slab, Vent Pipe, Seat riser and Foundation					
Cement 40kg bags	3	Bags	1,000	3000	
Masonite for foundation slab frame	4	Pcs	1000	4,000	
N0. 6 Rod Wire for slab reinforcement	3	pcs	762	2,286	Rod wire and tie wire can be replacement by
Tie wire for slab reinforcement	1	kg	300	300	Mesh Reinforcing Weir F62 6mm x 5800 x 2300
Timber for slab mould - 50 x 50 x 1.5m	1.5	4.8 m length	1,290	1935	
Chicken wire - 10mm	0.5	1800x 500mm	300	150	Purchase is often made for 1 full roll
Plastic toilet seat (remove lid)	1	Pcs.	1,140	1140	
PVC Pipe - 100mm x 2.9m	0.5	5.8 m length	5,000	2500	Cost is for full PVC pipe 5.8m
Fly screen pieces - 40cm x 40cm square only	1	Pcs.	305	305	
Sub-total A: Slab, Vent Pipe, Seat riser and Foundation				15616	
Local House Structure					
Door hinges Butt FP Brass 75mm (For right-hand outswing)	2	Pcs.	873	1746	
Door locking system (inside and outside the toilet)	2	Pcs.		0	
Nails - 4"	1	kg	380	380	
Local Materials (small wood: 50mm diameter)	35	m		0	
Local Materials (medium wood: 75mm diameter)	20	m		0	
Local Materials (big wood: 100mm diameter)	10	m		0	Exact sizes: Posts 2@ 2350mm and 2@ 2458mm
Roof	Appropriate roofing: natangura. If using, iron roof, refer to full house structure				
Walling	Appropriate walling: bamboo or natangura. If using corrugated iron, flat iron sheets or masonite, refer to full house structure				
Sub-total B: Timber structure and local walling and roofing				2126	
Hand-washing facility					
Handwashing station: tippy tap or equivalent	1	Unit		0	
Materials for Construction					
Mould for seat riser: Request one to Provincial Officer	1	Unit		0	
Black plastic 4mx4m	1	roll	450	450	
Spades, tape measure, hammer, hand saw, snip cutter, levels					
Optional items					
Black paint	0.25	1 Litre	2000	500	
Sand	0.216	m3	4200	907.2	
Coral	0.108	m3	4500	486	
Delivery of Sand and Coral					
Total: A + B				17,742	

Steel Flat Pack Toilet

MATERIAL LIST FOR INCLUSIVE SCHOOL TOILET - WET AND DRY SYSTEM
## INCL. ONE SEPTIC TANK @ 2.5M X 1.3M & FULL TOILET STRUCTURE @ 1.6M X 2M

Item	Specification	Quantity	Unit Cost (VT)	Total Cost (VT)	Notes:
Concrete					- This list of material can be reduced to
Blocks	150mm x 400mm	305	130	39650	match the standard drawing presented in
Flower Blocks	300mm x 300mm	4	400	1600	the guidelines, illustrating the VIP toilet
Cement	40kg	23	1000	23000	using a local house structure
Sand	m3	4.216	4200	17707.2	- Costing from Efate Province
Coral	m3	1.108	4500	4986	- It is recommended to add a 5 to 20%
Delivery	sand/coral	2	1000	2000	contingency factor and review the BoQ to
Steel rod N6	6mm x 5.8m	8	270	2160	take into account variation in supply
Steel rod n N10	10mm x 5.8m	5	610	3050	situation, location, brands used...
Steel rod N12	12mm x 5.8m	12	830	9960	
Floor mesh	5mm x 2.3 x 5.8m	1	3200	3200	
Tie wire	1.6mm	2	300	600	
Masonite	For VIP foundation slab frame	4	1000	4000	
Chicken wire	10mm @1800x 500mm	0.5	300	150	
Plastic toilet seat	Remove the lid	1	1140	1140	
Fly screen pieces	40cm x 40cm (square only)	0.216	305	65.88	
			Sub-total	**113269.08**	
Timber					
Rafter	150mm x 50mm x 4.2m	2	3400	6800	
Purling	75mm x 50mm x 5.4m	2	1710	3420	
Door frame	100mm x 50mm x 5.4mm	1	2230	2230	
Visaboard & Door	200mm x 25mm x 6m	6	2760	16560	
Timber purlins /door frame	50mm x 50mm x 4.8m	7	1290	9030	
Timber stud /house struct.	50mm x 100mm x 6m	2	2500	5000	
Timber for the rafter	50mm x 75mm x 4.8m	4	1980	7920	
Timber frames / Formwork	50mm x 50mm x 1.5m	1.5	1290	1935	
			Sub-total	**52895**	
Nails /bolts/Screws					
Galv nails	75mm	1	410	410	
	100mm	1	410	410	
	150mm	1	410	410	
	2.5mm	1	630	630	
Concrete nail	75mm	1	510	510	
Roofing nails	75mm	1	470	470	
Cyclone straps	300mm	6	150	900	
Entrence set bala	SCP CD1	1	2120	2120	
Door hinge	100mm	1	1420	1420	
Door hinge Butt FP Brass VIP	75mm (For right-hand outswing)	2	873	1746	
Timber screws	15 x 25mm	2	680	1360	
Sliding latch door lock	Units (inside/outside VIP toilet)	2	594	1188	
Nails 4"	Kg	1	380	380	
Roof nails	Kg	1	550	550	
Door - door skin	Pcs.	4	1606	6424	
Corrugated iron for walling	Pcs. (2.4m)	7	1776	12432	
			Sub-total	**31360**	
Roofing					
Corrugated Iron	3m	2	2550	5100	
Flushing	3m	2	2550	5100	
	1.5m	1	1250	1250	
Galvanised Iron roof VIP	2.4m	2	2705	5410	
			Sub-total	**16860**	
Plumbing and Accessories					
PVC Pipe	100mm x 5.8m	1.5	5000	7500	
	50mm x 5.8m	1	1500	1500	
Junction	100mm	5	520	2600	
	50mm	1	130	130	
Bend Plain	100mm x 88*	2	380	760	
	50mm x 88*	3	80	240	
Toilet set	ceramic	1	20000	20000	
Toilet roll holder	150mm	1	1780	1780	
Pan colar	100mm	1	490	490	
Reducer	100mm x 50mm	1	100	100	
Vent Cap	50mm	1	50	50	
Pvc glue	250ml	1	490	490	
Flowpex	16mm	5	150	750	
Junction /Tee	16mm	2	340	680	

Material List for Two Inclusive Unit Toilet Block @3.2mx2m/ With a septic tank

Item	Specification	Quantity	Unit Cost	Total Cost	Notes
Concrete					- Costing for Efate Province
Blocks	150mm x 400mm	430	145	62350	- It is recommended to add a 5 to 20%
Flower Blocks	300mm x 300mm	6	200	1200	contingency factor and review the BoQ
Cement		35	783	27405	to take into account variation in supply
Sand		7	3900	27300	situation, location, brands used…
Coral		2	4300	8600	
Delivery	sand/coral	2	5000	10000	
Steel Rod	6mm	6	200	1200	
	10mm	10	495	4950	
	12mm	20	660	13200	
Black plastic	2m x3m	5	180	900	
Floor mesh	5mm	2	3740	7480	
Tie wire	1.6mm	1	190	190	
			Sub-total	**164775**	
Timber					
Rafter	150 x 50mm x 6m	2	3260	6520	
	150 x 50mm x 4.2	1	3,020	3020	
Purling	75 x 50mm x 4.2m	8	1236.67	9893.36	
Visa board	200 x 25mm x4.2	6	1,712	10272	
Door Frame	100 x 50mm 5.4m	5	2,084	10420	
Plywood pacific Extr	4mmx1200x2400 BD face	4	1700	6800	
Pine Nogging	50mmx50mmx6m	2	0	0	
PVA Aquadhere Exterior	250ml	1	0	0	
			Sub-total	**46925.36**	
Nails/Bolts/Screws					
Nails	75mm	1	390	390	
	100mm	1	390	390	
	150mm	1	390	390	
	50mm	1	390	390	
Concrete nail	75mm	2	90	180	
Roofing Screws	10x85 zinc	2	0	0	
Z Nail	100mm	30	0	0	
Entrance set bala	SCP CD1	2	2120	4240	
Door Hinge	Lift off left ZP120mm	3	1895	5685	
DYNA BOLT	10mmx75mm zinc	24	90	2160	
DYNA BOLT	10mmx 100mm z	5	140	700	
Bolt/N	10mm x 100mm B50	4	70	280	
Veranda Post	100mm x100mmx 4.2m	1	0	0	
			Sub-total	**14805**	
Roofing					
Corrugated sheets	2.8m @739 per mt	6	0	0	
	1.7m	6	0	0	
BARGE Flushing	600MM X 45MM X 6m	6	900	5400	
	600MM X 45MM X 4M	2	3600	7200	
			Sub-total	**12600**	
Tiles					
Tile	300mm x 300mm	14	0	0	
Tile Glue/fix	20kg	6	1220	7320	
Tile cross/Spacer	3mm	1	200	200	
Tile groud	20KG	1	1300	1300	
			Sub-total	**8820**	
PAINTING					
Primer	4L oil based Pink	1	3,750	3750	
Dulux Undercoat	10L Acrylic White	1	11,125	11125	
Dulux Gloss	1L	2	1,225	2450	
Shade & Deep Water	4L	2	0	0	
Selley	interior	1	875	875	
sand paper	115mmx25m 80G	3	115	345	
				18545	

Basic Tool Kit of Construction of Wooden structure or cement boxing.

Description – Basic Tool Kit	Unit	Toolset
Builders' String Line 50m	each	1
Bucket w/ Handle Heavy Duty 14 - 20L	each	1
Handsaw 500mm	each	1
Steel Claw Hammer 20oz	each	1
Spirit Level 600mm	each	1
Tape Measure 10m	each	1
Wooden Float Trowel 300mm	each	1
Carpenters' Square 300mm	each	1
Tin Snips 250mm	each	1
Long Handle Shovel	each	1
Short Handle Shovel	each	1
Crow Bar 1.8m x 25mm Chisel End	each	1
Construction Gloves Pack of 10 Pairs	pack	1
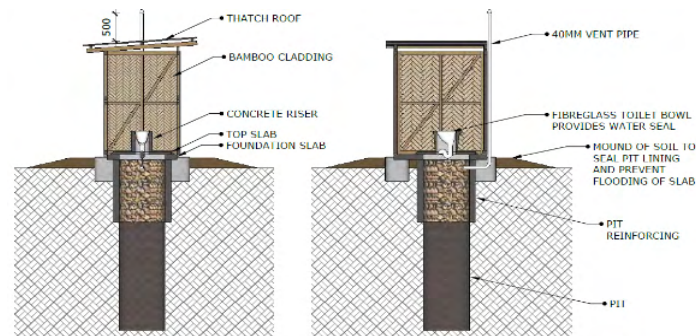
Description – Wet Pit Toilet	Unit	Wet pit - pour flush
Cement Bag 40kg bag	each	4
Fibreglass Fly Screen ~1m wide	m	1
Chicken Wire Netting 90cm x 1/2" x 5m	5m roll	0.25
Nail Framing 4"	kg	1
Nail Framing 5"	kg	1
Nail Roofing ~2-1/2"	kg	1
Roofing Iron Corrugated ≤26G 2.4m	sheet	11
GI Punched Tie Down (Cyclone) Strap - 10m roll	roll	1
Builders' Black Plastic 2m Wide	m	4
Plastic Bucket w/ Lid and Tap Heavy Duty 14 - 20L	each	1
Toilet Seat Plastic Standard	each	1
Water Seal Pan Inner Skin	pc	1
PVC DWV Elbow 90° 50mm	each	1
PVC DWV Pipe 50mm	6m length	1
Deformed Steel Bar 6mm	6m length	3
Hinge Butt 75mm	pair	1
Barrel or Pad Bolt 50 - 75mm	each	1
Tie wire >1.2mm	kg	1
Timber 2" x 2"	6m length	6
Timber 3" x 2"	6m length	3
Timber 4" x 2"	6m length	2
Plywood 6mm 1.2m x 2.4m	sheet	1
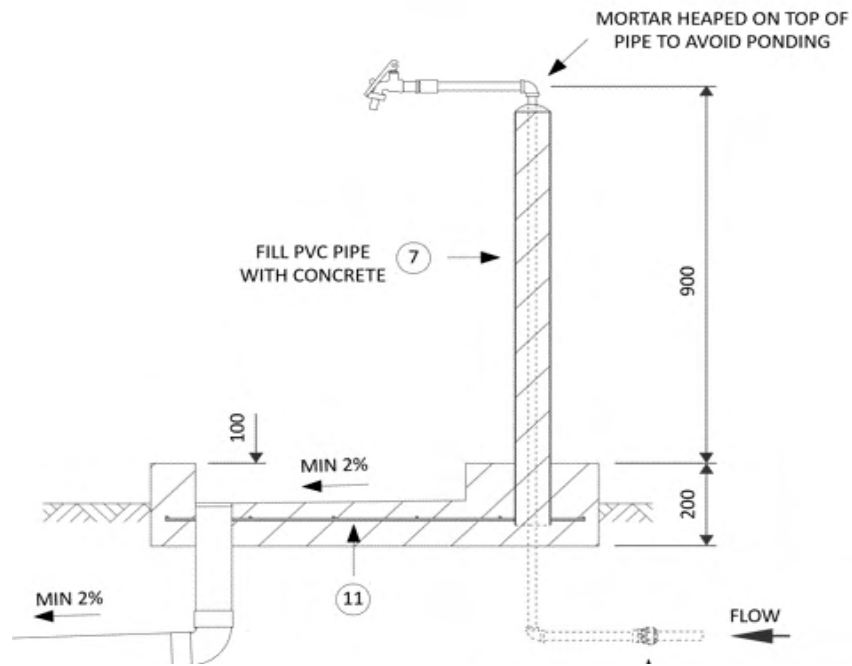
Materials needed for 100m extension of 25mm polyethylene pipe and tap-stand

Description – 100m pipe extension	Unit	Tap Extension
Brass Bib (Globe) Tap 3/4" M	each	1
Cement Bag 40kg bag	each	2
Nail Jolt Head 3"	kg	1
GI Tapstand 3/4" Assembly - Standard *2 x 150mm pipe; 1 x 1200mm pipe; 2 x elbow 90°; 1 x socket; 1 x brass bib tap*	set	1
Builders' Black Plastic 2m Wide	m	2
PE Female Adapter 25mm x 1''	each	1
PE Coupling 25 mm	each	1
PE Pipe PN10 25 mm	m	100
PE Compression Tee 25mm	each	1
PVC DWV Elbow 90° 40mm	each	1
PVC DWV Pipe 40mm	6m length	1
PVC DWV Pipe 100mm	6m length	0.2
Deformed Steel Bar 6mm	6m length	2
Tie wire >1.2mm	kg	0.5
Thread Tape 12mm x 10m White	each	1
Timber 3" x 2"	6m length	1
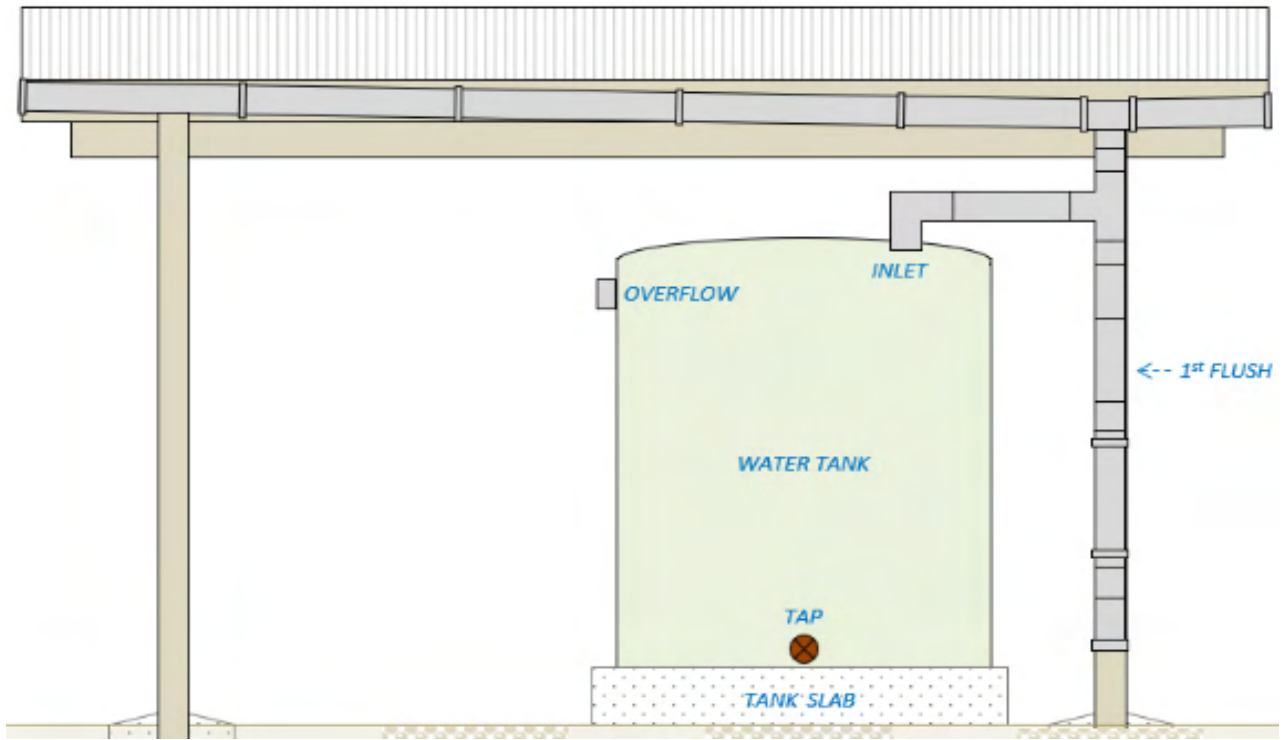
Material List for 12m gutter extenstion and tank base. (Does not Include Roof Strucuture)

Description – rainwater capture guttering	Unit	RWC
Cement Bag 40kg bag	each	10
Nail Clout 1"	kg	1
Nail Framing 4"	kg	1
Nail Roofing ~2-1/2"	kg	1
Builders' Black Plastic 2m Wide	m	4
Poly Tank 6,000L w/ tap	each	1
PVC DWV Cap Threaded F 100mm	each	1
PVC DWV Elbow 45° 100mm	each	2
PVC DWV Elbow 90° 100mm	each	1
PVC Gutter 150 - 170mm	4m length	3
PVC Gutter Bracket 150 - 170mm	each	18
PVC Gutter Joiner 150 - 170mm	each	2
PVC Gutter End Stop L/R 150 - 170mm	each	2
PVC Gutter Rainhead 150 - 170mm x 90 - 100mm	each	1
PVC DWV Pipe 100mm	6m length	1
PVC Cement 250mL	each	1
PVC Primer 250mL	each	1
PVC DWV Valve Socket Male 100mm	each	1
PVC DWV Tee 100mm	each	1
Deformed Steel Bar 6mm	6m length	4
Tie wire >1.2mm	kg	1
Timber 8" x 1"	6m length	3