

Client: **COOK ISLAND GOVERNMENT (MOIP / NZAP)**

Project: **NORTHERN GROUP WATER HARVESTING PROJECT**

Date: 10<sup>th</sup> – 28<sup>th</sup> October 2011

To:			
Principal	Donye Numa	(DN)	Secretary / MOIP
NZ Aid Programme	Maureen Hilyard	(MH)	Development Programme Coordinator
CIG Aid Management	Jim Armistead	(JA)	Secretary/MFEM Aid Management AMD
Principal Rep	Ngateina Rani	(NR)	Infrastructure TA MOIP
CIG Health Services	Tata Vaeau	(TV)	Health Officer
CIG Internal Affairs	Bredina Drollet	(BD)	Secretary / MIA
Contractor	Keta Williams	(KW)	RVK Contractors (RVK) / Director
From:			
Project Manager	Romani Katoa	(RK)	ROMANISDESIGN (RD) / Director

**1 Project Schedule**

**Contract Stage – Construction Works:**

Start Date – 10<sup>th</sup> October 2011

Contract Duration – 6 months

Practical Completion – 10<sup>th</sup> April 2012

**2 Project Matters & Update**

**Milestone**

- a) **Mobilisation** – the barge “SV Kusima” departs Rarotonga and leaves for Pukapuka / Nassau on 30<sup>th</sup> Sep 2011. Barge arrives at Nassau on Wed 4<sup>th</sup> October. 2 days to unload all material and equipment. RVK contractors supervised the unloading with RD onsite supervisor. Project works started on the 10<sup>th</sup> October starting first with the 13 ‘Lean-to’ roof structures for traditional thatched houses.
- b) Barge arrives at Pukapuka on the 6<sup>th</sup> Oct 2011. 3 days to unload all cargo and, equipment and materials.
- c) **Construction Works** - Works commenced on the 10<sup>th</sup> October for Pukapuka and Nassau.
- d) An unfortunate incident occurred on the “SV Kusima”, Sunday 23<sup>rd</sup> October. There is a delay in departure for the 2<sup>nd</sup> voyage to the Northern Group by over a week and a half. We anticipate that the barge will leave later this week and will advise of departure date.

**3 Contract Processes**

- a) **Contractor Third Advance Payment** – 3<sup>rd</sup> payment of \$400,000 of the Contract Price upon presentation of the Bill of Lading for roofing from Contractors suppliers – in process
- b) **Extensions of time:** no extension of time has been requested at this stage.
- c) **Onsite Work Assessment** forms and Rotaform Warranty Forms have been filled out accordingly with serial numbers for each tank corresponding to Ref No. of household.
- d) **Variations:** all variations shall be confirmed by the site supervisor and submitted as per Contract Instruction No.1 by NR to the PMC for final approval.
- e) **Progress Claims:** – all payments to be made upon invoice / claim against works completed. Further delays in processing claims/payments to RK has continued. NR paid only 75% of Claim 3 for RD yet all works have been completed.

#### 4 Construction Matters

- a) **Quality Assurance:** all re-roofing works have been completed. There has been steady rainfall over the last 2 weeks and there have been no reports of any leaks.
- b) **Provision of materials, equipment and services by Contractor:** Contractor to undertake all works and materials inclusive. RK has full support of Island Council and Island Secretary. Requests for sand, kirikiri and machinery and labour from all 3 villages have been honoured as per the MOU. RVK has employed 18 labourers in total: 6 selected from each village on Pukapuka and 10 labourers on Nassau.
- c) **Liaison with local authorities:** no issues to report
- d) **Community Water tanks:** Final measurements of community tanks have been completed and estimates provided. Awaiting final endorsement from Cabinet through MOIP.
- e) **Construction Programme:** Households identified during the re-roofing and water tank surveys allowed the Project Manager and Contractor to prioritize household families that had children, the elderly, and mainly women (some households had no male members). Special consideration was also given to households that have a disabled family member. This allowed the contractor to commit its full resources to expedite construction to these households which were mainly high density areas, i.e., central Roto Village.

#### 5 Site Supervision / Contract Administration

**Project Manager arrives at Pukapuka 18<sup>th</sup> October:**

**Project Northern Group Supervisor arrives at Rakahanga 26<sup>th</sup> October**

- a) **Inspections:** RK has carried out inspections on each household on Pukapuka. RK will then follow barge to Nassau to carry out final inspection there.
- b) **Materials:** all materials as specified in contract has been confirmed. Contractor shall not deviate from specified materials unless prior written approval.
- c) **Sub-Contractors:** All sub-contractors must be approved by the supervisor. Raro Plumbing is the approved sub-contractor to RVK Contractors.
- d) **Conduct and problems onsite:** No issues to report on Pukapuka and Nassau
- e) **Water Safety Workshop:** A Water Safety Workshop will be conducted with the Health Dept and RD this week with individual households. This workshop will cover basic health and sanitary issues, workings of the new first flush diverters, maintenance of materials and water tanks.
- e) **Practical Completion:** RVK Contractors verified Practical Completion on the 24<sup>th</sup> October 2011 for Nassau Island. **Milestone**

#### 6 Contractors comments

- a) **Shipping constraints:** Due to the lack of available ships to transport all equipment and materials for the project, RVK Contractor has queried whether community water tanks will be approved in order to schedule barge for next voyage to the North.

#### 7 Other Matters

- a) The timing of the project and the installation of the new roofing and water tanks coupled with steady rainfall over the last 2 weeks in Pukapuka and Nassau, has lifted the morale of the people. Those that have had their tanks installed are very happy that they now have water tanks "FULL OF CLEAN WATER". The robustly designed and heavier grade water tanks and the first flush diverters has received positive comments and island-wide approval for its simplicity and practicality. Although the project is 70% complete on Pukapuka and 100% complete on Nassau, the Island Council, and Mayor, Island

Secretary and people of Pukapuka and Nassau have expressed their appreciation and “Atawai Wolos” to NZAid, MOIP, RVK Contactors and the PM team.

## **8 Summary of Works**

### **Pukapuka: re-roofing**

A total of 29 houses were fixed with new roofing. 15 were complete re-roofs, 9 houses had one side only fixed, 5 houses replaced roofing iron sheets only.

- Yato village – 9 houses have been fixed with new roofing iron: 3 houses complete re-roof, 3 x half re-roof, 3 houses replaced roofing iron sheet
- Roto village – 13 houses have been fixed with new roofing iron: 7 houses complete re-roof, 4 x half re-roof, 2 houses replaced roofing iron sheet
- Ngake village – 7 houses have been fixed with new roofing iron: 5 houses complete re-roof, 2 x half re-roof.

### **Pukapuka: water tank, spouting, fascia board and first flush**

A total of 16 houses to date have water tanks installed complete with spouting, fascia board and first flush diverter.

### **Nassau: re-roofing**

A total of 15 houses were fixed with new roofing. 13 were 6m x 5m wide “lean-to” structures which allowed for 6kL water tank to sit underneath and collect water and 2 houses with complete re-roofs.

### **Nassau: water tank, spouting, fascia board and first flush**

A total of 24 houses to date have water tanks installed complete with spouting, fascia board and first flush diverter.

PUKAPUKA

BEFORE



AFTER



**PUKAPUKA**

**BEFORE**



**AFTER**



BEFORE



AFTER



## PUKAPUKA

### Pukapuka: fascia board, spouting & water tanks

A total of 13 houses have been completed with new fascia board, spouting (where required), a water-tank and downpipe diverting water from spouting and first flush system into the tank.

A large hole approximately 2.4m in diameter and 300mm provides the base course for the water tank. The base is then filled with 100-150mm of well-compacted sand (free of debris & stones). The tank is then placed into the hole and back-filled with remaining sand. Water outlet is positioned to the preference of the homeowner. Final fit-out of piping for tap is then complete with galvanized steel stand approximately 400mm from ground level. *Note that all ground surfaces vary and the location and placement of each tanks is considered specifically for each household.*



SERIAL NUMBERS FOR EACH TANK & SHOWING DATE OF MANUFACTURE

*Complete Water Collection System installed:*

*New roofing iron, fascia board and spouting (to one side only) with dropper into diverter;*

*1. first flush system straight down into empty drums*

*2. downpipe to water tank inlet at top.*

*Note: heights of water tanks are relative to the height of eaves of each house*



*Water tank on well-compacted sand  
(perimeter blocks are households own)  
with water outlet and tap fixed to  
galvanized steel bracket.*



## DETAIL OF WORKS COMPLETED

### PUKAPUKA

#### 1. Approved households for re-roofing

Monday 10<sup>th</sup> October through to Thursday 20<sup>th</sup> October

Ref No.	Name	Works
	<b>Yato Village</b>	
PUK 35	Joe Angaino	complete re-roof
PUK 36	Boaza Boaza	complete re-roof
PUK 38	Rautana Robati	complete re-roof
PUK 37	Rangiuiira Walemaki	one-side re-roof
PUK 40	Tinokura Utarenga	one-side re-roof
PUK 39	Tamangaro Timoti	6 x sheets
PUK 41	Vave Arie	6 x sheets
PUK 42	Yeutu Katia	2 x sheets
	<b>Roto Village</b>	
PUK 84	Vai Peua	complete re-roof
PUK 85	John Hagai	complete re-roof
PUK 80	Wuatai Wuatai	complete re-roof
PUK 86	Taki te ngutu	complete re-roof
PUK 83	Tai Ravarua	complete re-roof
PUK 82	Tupea Mataora	complete re-roof
PUK 81	Don Obeta	complete re-roof
PUK 76	Tuiva Karowia	one-side re-roof
PUK 79	Jnr PengaTautani Tinirau	one-side re-roof
PUK 74	Rakera Aumatangi	one-side re-roof
PUK 75	Moake Purotu	one-side re-roof
PUK 77	Tawaia	2 x sheets
PUK 87	Vao Tiare	6 x sheets
	<b>Ngake Village</b>	
PUK 121	Nooroto Teapa	complete re-roof
PUK 123	lotama Ravarua	complete re-roof
PUK 124	Rupena Rupena	complete re-roof
PUK 125	Vairoa Vairoa (Areta)	complete re-roof
PUK 126	Kautoki Katoa	complete re-roof
PUK 120	Timata Amosa (Amosa Amosa)	one-side re-roof
PUK 122	Kililua Tapa (Katipale)	one-side re-roof

**2. Installed water tank, fascia board, spouting, first flush system and outlet tap**

Friday 21 October through to Friday 28<sup>th</sup> October

<b>Ref No.</b>	<b>Name</b>	<b>Tanks 6kL or 2x3kL</b>	<b>Fascia 6m lgth</b>	<b>Spouting 3m lgth</b>
PUK 42	Apitai Teinaki	2 x 3kL	2.5	4.5
PUK 45	Aruia Lolani Ataera Ataera	1 x 6kL	2.5	4.5
PUK 46	(Mukomuko)	1 x 6kL	2.5	5.5
PUK 47	Meseke Atiau Tutai	1x 6kL	NR	4.5
PUK 49	Ieremia Pori	1 x 6kL	3.5	5.5
PUK 52	Maia Rangi	1 x 6kL	NR	4.5
PUK 58	Mose Manutai	1 x 6kL	3.5	5.5
PUK 66	Tere William Jnr PengaTautani	1 x 6kL	NR	4.5
PUK 79	Tinirau	1 x 6kL	2.5	5.5
PUK 73	William William	1 x 6kL	NR	4.5
PUK 74	Rakera Aumatangi	2 x 6kL	1.5	2.5
PUK 76	Tuiva Karowia	1 x 6kL	3.5	5.5
PUK 77	Tawaia	1 x 6kL	NR	4
PUK 75	Moake Purotu	2 x 3kL	2.5	4.5
PUK 87	Vao Tiare	1 x 6kL	2	4
PUK 83	Tai Ravarua	1x 6kL	2	4

NR – not required. Existing fascia boards are ok.

## DETAIL OF WORKS COMPLETED

### NASSAU

#### 1. New Lean-to Roof Structure: 6m x 5m wide & water tank, fascia board, spouting & first flush system

Monday 17 October through to Friday 21<sup>st</sup> October

Ref No.	Name	Roofing Works	Tanks	Fascia	Spouting
			6kL	6m lgth	3m lgth
NAS 14	Karangi Piripo	complete	1	1	2
NAS 15	Ngaulu Topetai	complete	1	1	2
NAS 16	Mati Wuatai	complete	1	1	2
NAS 17	Lameka Tewola	complete	1	1	2
NAS 18	Tanetoa William	complete	1	1	2
NAS 19	Leleau Ruarau	complete	1	1	2
NAS 20	Tumoe Rabana	complete	1	1	2
NAS 21	Avavete Vila	complete	1	1	2
NAS 22	Mexico Jack	complete	1	1	2
NAS 23	Yvonne Neiao	complete	1	1	2
NAS 24	Terepai	complete	1	1	2
NAS 25	Veveia Ayoka	complete	1	1	2
NAS 26	Tiruano Angoika	complete	1	1	2

#### 2. Houses complete Re-roof with water tank, fascia board, spouting & first flush system

Ref No.	Name	Roofing Works	Tanks	Fascia	Spouting
			6kL	6m lgth	3m lgth
NAS 12	Kumara Papitai	complete	1	2.5	4
NAS 13	Tuaine Tuatai	complete	1	2.5	4

#### 3. New Lean-to Roof Structure: 6m x 5m wide

Ref No.	Name	Roofing Works	Tanks	Fascia	Spouting
			6kL	6m lgth	3m lgth
NAS 1	Poila Poila	NR	1	*	
NAS 2	Topetai Neiao	NR	1	*	
NAS 3	Tuakatau wuatai	NR	1	*	
NAS 4	Course Topetai	NR	1	*	
NAS 5	Mark Jack	NR	1	*	
NAS 6	Tuaine William	NR	1	*	
NAS 7	Tewola Jack	NR	1	*	
NAS 8	Repeta George	NR	1	*	
NAS 9	Roaiti Vailoa	NR	1	*	
NAS 10	Arona Nio	NR	1	*	
NAS 11	Mama Litia	NR	1	*	

### NASSAU:

Project Milestone

Practical Completion achieved on Monday 24<sup>th</sup> October 2011

## NASSAU

### Arrival of barge SV Kusima landing at Nassau Harbour





Kia Manuia,

Romani Katoa  
Project Manager  
**ROMANISDESIGN LTD**