



CHAND ENGINEERING CONSULTANTS LTD.

CONSULTING ENGINEERS & PROJECT MANAGERS

**CYCLONE WINSTON PRELIMINARY ASSESSMENT
SCHOOLS, HEALTH FACILITIES AND PUBLIC BUILDINGS
FOR
FIJI INSTITUTION OF ENGINEERS &
DEPARTMENT OF NATIONAL PLANNING
(MINISTRY OF FINANCE)**



NAME OF FACILITY: Vunikavikaloa Arya School
TYPE: College
LOCATION: Rakiraki
DATE OF ASSESSMENT: 21 March 2016

JOB NO: 16-118
GOVERNMENT FACILITY NUMBER: GFN-122

DISCLAIMER: THIS REPORT HAS BEEN PREPARED FOR THE BENEFIT OF FIJI INSTITUTION OF ENGINEERS & MINISTRY OF FINANCE TO ESTABLISH THE EXTENT OF DAMAGES BASED ON A HIGH LEVEL PRELIMINARY ASSESSMENT. IN NO CIRCUMSTANCES IS THE REPORT TO BE USED FOR SCOPING OR ESTABLISHMENT OF DETAILED COSTS FOR DAMAGES. NO RESPONSIBILITY SHALL BE TAKEN FOR ANY INCORRECT OR INCOMPLETE INFORMATION DUE TO THE SHORT TIME IN CARRYING OUT THE INITIAL ASSESSMENT AS PART OF VOLUNTARY PRO-BONO SERVICE OFFERED BY CHAND ENGINEERING CONSULTANT LTD. DETAILED ASSESSMENT SHOULD BE CARRIED OUT FOR DETAILED COST AND SCOPE FOR REPAIR AND REINSTATEMENT WORKS

**RAPID ASSESSMENT TEMPLATE: CYCLONE WINSTON DAMAGED BUILDINGS
SCHOOLS, PUBLIC BUILDINGS & HEALTH FACILITIES**

INSPECTOR: AAC/ AAD/ RK
FIRM/COMPANY: CHAND ENGINEERING CONSULTANTS LIMITED

GENERAL INFORMATION

Building Name: Vunivakaloa Arya School
Type: School Block
Location: Rakiraki
No. of Buildings: 1
Ariel Plan Available: YES/ NO

Extent of Damage Rating Description

1	Minor/Cosmetic/Water
2	Some Damage
3	Extensive but Repairable
4	Irreparable

Types of Buildings

- School Block
- Staff Quarters
- Toilet Block
- Utility Building (FEA, Services, etc)
- Divisional Hospital
- Sub-Divisional Hospital
- Health Centre
- Nursing Station
- Public Building or Facility

REPORT

Page No. : 1
Building No. : 1
Building Approx Age: _____
No. of Storeys: 1 with part basement

EVALUATION

Type of Construction	Description	Build Quality	Damage	Extent of Damage Rating	Photo No.
Floor	reinforced concrete slab on ground with timber floor supported in RC frame for basement.	1 Good 2 Average 3 Poor	No Visible damage	0	1,2
Foundations	Not visible	1 Good 2 Average 3 Poor	No visible damage-concealed	0	N/A
Walls	150mm blockwall for 1 building and the other is 100% damaged.	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has no visible damage.	4	1
Rafters	150 x 50mm timber rafters	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has water damage	4	N/A
Purlins	75 x 50mm timber purlins	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has water damage	4	N/A
Roof	corrugated roof cladding with 25% of the cladding blown out of 1 building and the other is 100% damaged.	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has 25% CGI cladding blown out	4	1
Electrical	typical standard switches, GPO's and fluorescent tubelights and bulbs.	1 Good 2 Average 3 Poor	1 building is 100% damaged and not known for the other	4	N/A
Hydraulics	None	1 Good 2 Average 3 Poor	N/A	N/A	N/A
Windows/Doors	louver windows on standard carriers typically for all windows and timber doors.	1 Good 2 Average 3 Poor	1 building is 100% damaged and has no damage.	4	1
Shutters	50 x 50 mesh shutters observed in 1 block and the other is 100% blown out.	1 Good 2 Average 3 Poor	1 building is 100% damaged and no damage for the other.	0	1
Ceilings	Ply board ceiling typically throughout- 25% is blown out and the rest is is water damaged. For 1 building and the other is 100% damaged.	1 Good 2 Average 3 Poor	1 building is 100% damaged and has 25% blown out and water Damage	4	N/A
Terraces/Verandah	concrete floor with 50mm diameter steel post.	1 Good 2 Average 3 Poor	1 building is 100% damaged and has 25% roof blown out.	4	1
Tiles/Floor Covering	combination of concrete plaster and with ceramic tiles	1 Good 2 Average 3 Poor	1 building is 100% damaged and has no visible damage	4	1
Gutters	Standard PVC gutters with proprietary PVC straps fixed to the outside of the gutter with 60% blown out	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has 60% damage.	4	1
Downpipes	100mm PVC downpipes with PVC straps fixed to the wall with 60% blown out.	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has 60% blown out.	4	1
Fascia Boards	250x30mm timber fascia board.	1 Good 2 Average 3 Poor	1 building is 100% damaged and the other has 25% damage	4	1
Furniture/Desks etc.		1 Good 2 Average 3 Poor			
Possible Intermediate Solution	Put new roof cladding on 1 building with fascia, gutters, downpipes, flashings. Re-construct the wall and the roof in accordance to the NBCF with new roof trusses, purlins, flashing, gutters, downpipes, flashings for the 100% damaged buildings.				
Possible Long Term Solution	Detailed investigation for roof framing recommended along with checks on wall capacity for uplift/lateral loads for more tolerance towards Cat.4. Much dependent upon detailed investigation by an Engineer. Considering the building age and with the 25% of roof blown out and 1 building and 100% damage on the other, possibly demolish and re-build the whole of the roof and the structure and to comply with NBCF. Estimated cost currently around \$100,000.00 for the new roof and structure with retrofit for a long term solution.				

Damage Assessment (\$) \$80,000.00 Intermediate
Basis of Calculation Engineers Estimate-TBC (note can be QS assisted)

FEES ESTIMATE:

Design/Documentation: TBC
Tender/Approval: TBC
Inspection/End Construction: TBC

**GENERAL DAMAGE
SCHOOLS, PUBLIC BUILDINGS & HEALTH FACILITIES**

INSPECTOR: AAC/AAD/RK
 FIRM/COMPANY: Chand Engineering Consultants Limited

GENERAL INFORMATION

Building Name: Saint Francis College
 Location: _____
 No. of Buildings: 8
 Ariel Plan Available: **YES / NO**

1 FENCING / GATES / DRIVEWAY / RETAINING WALLS ETC (INCLUDE TYPE / LENGTH ETC)

N/A

2 WATER TANKS/METERS/PLUMBING

N/A

3 POWER LINES / METERS / WIRING

N/A

4 OTHER ITEMS

Currently, all the classes are being run in the classrooms and a tarpaline has been used to temporarily block out water from leaking with classes going in them. Long term solution would require decent time of 4-6 months of staged construction depending on material availability for a complete long term solution subject to additional cost consideration. Depending on immediate need and capacity, minimum 3 months to construct the whole new roof for the school blocks for full use again and 1 month to construct the new blown out classroom and 3 weeks to construct the teachers quarters and 3 weeks to repair all the fallen gutters and downpipes.

TOTAL COST ESTIMATE:

DESCRIPTION	FEE
School Building	\$50,000.00
Staff Quarters	\$10,000.00
General	\$20,000.00
_____	_____
_____	_____
_____	_____
TOTAL:	\$80,000.00

TOTAL FEE ESTIMATE:

DESCRIPTION	FEE
TBC	TBC
TBC	TBC
TBC	TBC
_____	_____
_____	_____
_____	_____
TOTAL:	_____

PHOTOS- BUILDING 1



Photo 1: Verandah Portion has been blown away



Photo 2: View of the Damaged Building



Photo 3: View of the Teachers Quarters



Photo 4: View of the Toilet