INFRASTRUCTURE ASSESSMENT AUDIT FOR SUVA – NAUSORI URBAN SCHOOLS

KALABU PRIMARY SCHOOL (1812)

SUMMARY REPORT

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1) INSPECTION SUMMARY

School Inspection Summary	
School name:	KALABU PRIMARY SCHOOL
Overall condition state:	POOR

Key recommendations:

- Overcrowding – 9 new classrooms required based on FNBC standards
- Overcrowding – 6 new classrooms required based on recommended sizing (1.5m^2)
- Accessibility –All buildings require accessibility ramps, accessible doorways
- Disaster resilience – Windows to include cyclone shutters and roof cladding fastened with Cyclone roofing screws.

Comments:

Major defects were noted as follows:

- Damaged ceiling
- Cracks on walls
- Missing ramps (All buildings)
- Inadequate stairway width. (All buildings)
- Girls' toilet cubicles in poor condition.
- Dented and dislodged handrails.
- Roof cladding, gutter and roofing nails.

Aerial view of school

General view of school

School type:	**Primary**	✓	**Secondary**		**Year levels**	1,2,3,4,5,6,7,8
School address:	Kubukawa Road Makoi.					
School enrolment and staff figures	**No. of Students (Male)**	**No. of Students (Male /Female)**	**No. of Students with Disability**	**No. of Teachers (Male)**	**No. of Teachers (Female)**	
	655	335/320	0	16	8	
School building arrangement	TOTAL NUMBER OF BUILDINGS: 2 **B1** – 2 STOREYS / **B2** – 1 STORYS					
Local government area:	Kubukawa Road Makoi.					
Date of inspection:	20TH MAY, 2024					
Inspection team:	ANASEINI LEDUA (AL) SHANEEL PRASAD (SP) YASH VINEET MUDALIAR (YM) DURGESH PAL (DP)					
Data collection methods	Visual inspection	✓	Onsite measurement	✓		
	Interviews with school staff	✓	Drone / aerial imagery	✓		
	Survey form	✓	Desktop research	✓		
	Other:					
Assumptions:	NONE					
Limitations:	UNAVAILABILITY OF ALL SCHOOL DOCUMENTS SUCH AS BOUNDARY AREA.					

2) ASSESSMENT OF OVERCROWDING

An assessment for overcrowding was undertaken based on FNBC standards and 2024 enrolment data. The table below summarises the data collected through visual inspection and interrogation of enrolment data and compares this against the FNBC standard student to classroom size ratio of 2 m^2 per student.

The results of the assessment are based on the recommended sizing (1.5m^2), according to 2024 data, an additional 6 classrooms are required for KALABU FIJIAN PRIMARY SCHOOL.

Year	Stream	Number of students	Current number of classrooms	Number of extra classrooms required based on FNBC on 2024 data
1	101	40	1	0
	102	37		
2	201	37	1	0
	202	42		
3	301	35	1	1
	302	40		
4	401	41	1	1
	402	44		
5	501	45	1	1
	502	46		
6	601	50	1	1
	602	48		

7	701	38	1	1
	702	39		
8	801	44	1	1
	802	45		

3) EXISTING INFRASTRUCTURE CONDITIONS

Given the outlined procedure, the following observations were made:

Block Code	Length (m)	Width (m)	Height (m)	No. of Levels	Type	Room List
A	58.7	7.35	6.3	2	Double storey concrete structure cladding on timber framed roof structure	- **Ground Floor** – 8x classrooms 1x Boy Toilet 1 x Girls Toilet Top Floor – 6 x Classrooms 1 x Admin office 1 x Computer and Library room
B	15.9	9.5	2.6	1	Timber structure cladding on timber framed roof structure	**- Ground Floor** – 82x classrooms

NOTE: Toilets mentioned refers to a set of cubicles.

Summary Table for Classrooms
This table provides a quick overview of the assessment findings, helping to identify areas that need immediate attention and those that are in good condition. The following criteria was used:

- Good - No additional works / intervention required
- Fair - Remedial works required
- Poor - Demolition and replace with new

Assessment Area	Criteria	Conditions
Structural Integrity	Walls, ceiling, floor, foundation and roofs	Fair
General upkeep	Exterior, interior, furniture and fixtures	Fair
Safety compliance	Fire safety, electrical safety,	Fair
Disability	Accessibility	Poor
Ventilation and lighting	Ventilations, Natural Lighting, Artificial Lighting.	Fair

Observations on Structural Elements

- **Walls and Ceiling** –There were no signs of wear and tear on walls. The walls and ceiling were well painted.
- **Floors and Foundation** – the floor and foundation for the entire school is found to be stable. There were no visible or sign of cracks or uneven surface. However, the floor is mostly covered with titles.

- **Roofs** – the school reported that there are no leaks. It was found that roof materials are in good condition. However, some roof cladding and fastenings are partially rusted and requires upgrading works.
- **Windows** – some missing window louvre blades were recorded at various buildings
- **Cyclone** – minor roof upgrading works required to increase cyclone resilient capacity of the structures.

Existing Conditions of Building and Maintenance

- **Exterior –** the building is in fair condition as the wall, beam, column, window seal, doors, eaves, fascia boards and gutters are intact and coated with paint. The school executes periodical maintenance.
- **Interior –** the building is in fair condition as the walls, beams, columns windows, doors and ceiling are intact and coated with paint. The school executes periodical maintenance. The classrooms were found to be clean with proper waste disposal.
- **Furniture and Fixtures –** the classrooms and offices have adequate furniture and fixtures that do not impede on the function of the buildings.

Safety and compliance with standards

- **Fire Safety –** the school does not possess adequate fire safety mechanisms. Present fire Extinguishers need maintenance and commissioning. No fire hydrants and alarm systems were found. The school has Emergency exit plan and designated assembly area provisioned.
- **Electrical Safety –** The school is connected to EFL Grid. The school has surface wiring with no fault outlets. All electrical systems are measured to be safe.
- **Accessibility –** the school does not meet disability accessibility standards. The school does not have facilities such as ramps, handrails and accessible restrooms.

Lighting and Ventilation

- **Ventilation –** HVAC system (Heating, Ventilation, and Air Conditioning) is centrally located in the school, in particular, offices and Computer Labs.
- **Natural Lighting –** there are adequate number of windows installed in classrooms, that are regularly cleaned to allow natural light to enter into classrooms unobstructed.
- **Artificial Lighting –** it was found that all light fixtures are working and provides adequate illumination.

4) WATER SANITATION HYGIENE (WASH) FACILITIES

Condition of Toilets and Washrooms

The facilities have some minor defects such as:

- The cubicle doors were damaged.
- Some toilet seat pans were missing.
- Rust was found on the door hinges and steel connectors of the PVC pipe outlets in the toilet system.
- The floor and walls had damaged and missing tiles.

The WASH facilities were unclean and lacked maintenance.

TOILET CUBICLE(S)		No. of Cubicles		Toilet Ratio (1 cubicle: students)		Compliance of Student to Toilet Cubicle Ratio (FNBC).	
Building Index	Used by Years	Female	Male	Female	Male	Female Requirement (1:20) Extra Toilets?	Male Requirement (1:30) Extra Toilets?
B1	ALL year	5	8	27	42	0	0

HAND BASINS IN THE TOILET		No. of Hand Basins		Handbasin Ratio 1:		Compliance of Student to Hand Basin Ratio (FNBC).	
Building Index	Used by Years	Female	Male	Female	Male	Female Requirement (1:60) Extra Handbasins?	Male Requirement (1:60) Extra Handbasins?
B1,B2,B3, B4	All years	8	3	8	3	N/A	N/A

GENERAL OUTDOOR TAPS		No. of General Outdoor Taps	Outdoor Taps Ratio 1:	Compliance of Student to Outdoor Taps Ratio Requirement (1:60) (FNBC) Does it require additional hand basins?
Building Index	Used by Years			
B1,B2,B3,B4	All years	26	26	0

5) DISASTER RESILIENCE ASSESSMENT

This infrastructure condition assessment aims to evaluate the architectural, structural, and non-structural features of the school to ensure it is resilient to natural disasters and provides a safe learning environment for students. The assessment also identifies areas for improvement and highlights the measures already in place to enhance overall resilience. FNBC 1990 and basic loading, wind and seismic AS/NZS codes typical details were utilized during and after inspection.

Architectural

- Cyclonic Roof: The school has a cyclonic roof designed to withstand strong winds and seismic activity. However, replacement with new roof cladding and roofing screws is needed.
- Central Location: The school is centrally located, allowing easy access to main streets and relief services.

Structural

- Material Quality: The school buildings are constructed using reinforced concrete and follow acceptable engineering design principles.
- Structural Integrity: Buildings have demonstrated the capability to withstand and recover from natural disasters like earthquakes, category 3 cyclones, and floods.

Non-Structural

- Disaster Preparedness: Implementation of disaster evacuation plans, emergency exit routes, and safety protocols.
- Fire Safety: Equipped with a fire alarm system and strategically placed fire extinguishers to mitigate fire-related risks.

6) ACCESSIBILITY ASSESSMENT

1. **Compliance with Accessibility Standards:**
   - Educational facilities did not meet accessibility standards, such as the Fiji Disable People Federation Access Audit Tool 1.0. This toolkit covers aspects like ramps, door widths, signage, and accessible routes, also the noncompliance extends beyond physical structures to digital accessibility.

2. **Facilities for Students with Disabilities:**

   - Classrooms did not have adjustable seating arrangements, clear sightlines, and adequate space for mobility aids also including accessible desks and adjustable podiums.
   - Laboratories are not able to accommodate students with various disabilities with the absence of adjustable lab benches, accessible sinks, and clear pathways.
   - Libraries require accessible shelving, reading stations, and assistive technology (such as screen readers) to enhance library usability.
   - Restrooms (WASH facilities) we're not wheelchair-accessible or have grab bars and sinks at an appropriate height.
   - Common Areas: the cafeterias and outdoor spaces we're not designed inclusively. Benches, seating areas, and a few pathways are not able to accommodate everyone.

3. **Access to Classrooms, WASH Facilities, and Common Areas:**

   - Classrooms do not have wide doorways and ramps to ensure access to classrooms. Additionally, acoustics are not considered for students with hearing impairments.
   - WASH Facilities do not have accessible restrooms with proper signage and a clear pathway to the wash facilities.
   - Common Areas like corridors, courtyards, and gathering spaces are not barrier-free and are without proper lighting and contrasting floor materials to aid navigation.

7) SUMMARY OF FINDINGS

The following summarizes the individual characteristics assessed during the Suva-Nausori school audit for AOG Primary school:

Categories of Assessment	Existing Condition / State	Required as per Standards	Gaps Observed
Existing Infrastructure Condition	- Structural Integrity – Columns, slabs, beams, rafters, purlins of adequate size. - General upkeep – Minor irregular maintenance. - Safety compliance- handrails where necessary. - Disability- no consideration when constructed. - Ventilation and lighting – damaged and missing lights at some sections of buildings.	- Structural Integrity – Columns, slabs, beams, rafters, purlins sizes to follow FNBC 1990. - General upkeep –routine check-up as per MOE policies with major defects requiring immediate intervention. - Safety compliance- handrails, extra doors and signage where necessary. - Disability- to comply with FDPF Disability audit tool - Ventilation and lighting – adequate windows and doors required as per FNBC 1990.	- Structural Integrity – Columns, slabs, beams, rafters, purlins sizes to follow FNBC 1990. - General upkeep –requires immediate intervention to major defects. - Safety compliance- safety handrails were only present in suspended floors while ground floor rails beside drain had missing rails (not fully safety compliant). FDPF requires signage which was absent from the school. - Disability- not fully compliant with FDPF Disability audit tool - Ventilation and lighting – limitations in the count of windows and lightings compared to required FNBC.
Assessment of Overcrowding	- The classrooms are accommodating an average of 655 /16classrooms of 41 students.	- FNBC 1990 requires classroom occupancy to have $2m^2$ per person. Based on that, the required roll per classroom was calculated.	- 12/16 classrooms were accommodating more roll than required. - Given the recommended sizing ($1.5m^2$), about 6 extra classrooms are required to address overcrowding in school.
Water Sanitation Hygiene (WASH) facilities	Toilets (students: Cubicle) - Boys – 42:1 - Girls – 27:1 Taps (students: tap) - Students – 52:22 - Menstrual Hygiene was present in every female washroom block	Toilets Ratio (students: Cubicle) - Boys – 28:1 - Girls – 26:1 Taps Ratio (students: tap) - Students – 26:1 (26 taps) **Please note: Above number of cubicles and taps are respective of 2024 enrolment numbers. Due to variation of ratio with student population in FNBC, the initial ratio is referred ONLY for reporting.** - Menstrual Hygiene to be present in every female washroom block	- Boys toilet ratio was in par with the FNBC 1990 ratio. This may hinder later on with growing population. - The girls toilet ratio exceeded the FNBC requirement indicating not enough toilet cubicles are in the school. Given the roll of girls, a total of No extra cubicles is required - The tap ratio was below the FNBC requirement indicating extra taps are in the school. - school require maintenance of rusting pipes and algae build-up in WASH facilities.
Disaster Resilience Assessment	- columns, beams, slabs had hairline cracks. - All roof had truss roof frames. - The windows only have burglar shutters at some sections. - Roof cladding is rusted - roofing nails show rusting.	Fiji Building Code 1990. Requirement is that roof cladding be free of rust and fastened securely with type 17 cyclonic screws with neoprene washers. Additionally, cyclone brackets to be fixed on every window frame.	- Rusting of cladding contradicts to the cyclone certification requirement requiring replacement. - Absence of cyclone brackets are not acceptable as per the cyclone certification.
Accessibility Assessment	-Handrails partially damaged in corridors. - Classrooms and labs have typical door size of 0.8 – 0.9m width.	**The following are requirements from Fiji Disabled People's Federation Access Audit Tool** - Ramps – required wherever elevation with minimum 1:8 maximum 1:20 - Walkway clearance -	The following facilities are missing. - Ramps and elevators for vertical access - Wide doorways and clear pathways - Proper signage - Wheelchair-accessible restrooms - Grab bars

	- Stairway – average 0.9m width.	- Handrails to be 0.76m to 0.9m. - Doors and Door size – minimum 0.9m. - Clearance required of 1.2m and tread width of minimum 310mm. (National Building Code Table D2.1)	- Proper signage - Inclusive seating areas and pathways - Proper lighting - Contrasting floor materials

8) RECOMMENDATIONS

- In order to comply with the FNBC, the school will require the following:
  - Classrooms: An additional 13 new classrooms for students in years 1-8. This expansion aims to accommodate the growing number of students and provide them with an enhanced learning environment.
- WASH Facilities: No additional cubicles for girls is required, equipped with up-to-date WASH facilities (handbasins), catering particularly to the needs of female students. These new facilities are essential to ensure hygiene and comfort. Additionally, some consideration could also be given to the boys' toilet cubicles as the ratio is in par with the FNBC ratio. The exact number could be discussed upon further analysis.

Weekly routine maintenance work and daily clean-up directive from MOE is also a critical component of the plan which includes:

- Roof repairs due to rusting of cladding, roofing nails, gutter and gutter straps.
- Plumbing fixes due to algae build up.
- New paint application on rails and walls

These maintenance activities are designed to address existing wear and tear and to ensure that the school buildings remain in good condition. It is recommended that maintenance be carried out at regular intervals, ideally every 12 months, to prevent deterioration and to maintain a safe and functional environment.

- Accessibility: Prioritize building accessibility features, such as ramps and handrails, to ensure compliance with standards. These features are vital for providing all students, including those with disabilities, with equal access to the school's facilities.

9) COMPLIANCE

Upon inspecting AOG Primary School, the following conclusions were drawn:

- **MEHA Compliance:** Compliant
- **WASH Facilities:** The school has ample taps. Additional 4 girls toilet cubicles required to comply with FNBC 1990.
- **Land Availability:** There is sufficient land for additional blocks behind AT, B2 and B3B.
- **NFA Compliance:** Compliant with NFA basic guidelines but does not have NFA certification.
- **WAF Compliance:** Adequate water supply, but no backup system for water cuts.
- **FNBC Compliance:** The school is not fully compliant with the occupancy requirements as well as the category 5 cyclone standards based on the windows and roofing requirements.
- **NDMO Compliance**: Targeting NFA and NBC compliance for safety.
- **EFL Compliance:** Assumed to be compliant with EFL standards.
- **DISABILITY Accessibility:** non-compliant

10) APPENDIX

Appendix A – Kalabu Primary Site Inspection Report

Appendix B – Excel Scoring Sheet

Appendix C – Land Available for Expansion

Appendix A - Site Inspection Report

INFRASTRUCTURE ASSESSMENT AUDIT FOR SUVA – NAUSORI URBAN SCHOOLS

KALABU PRIMARY SCHOOL (1812)

SITE INSPECTION REPORT

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List of Abbreviations

NRWM	NRW Macallan (Fiji) Pte Ltd
MOE	Ministry of Education
TT	Tetra Tech International Development Pty Ltd
DFAT	Department of Foreign Affairs and Trade (Australia)
FEG	Free Education Grant
OHS	Occupational Health and Safety
NFA	National Fire Authority
WAF	Water Authority of Fiji
FNBC	Fiji's National Building Code 1990
NDMO	National Disaster Management Office
EFL	Energy Fiji Limited

1) SCHOOL BACKGROUND

Kalabu primary school is located in Suva Fiji. It is a government primary school from year 1-8. The school has a strong academic record and is known for its commitments to providing quality education to its students. In recent years, the school has undergone significant improvements, including the construction of new ablution block and a new kindergarten classroom. These new facilities have helped to enhance the learning environment for students and teachers alike. Kalabu Primary school is also actively involved in the community and participates in various community events and initiatives. The school has a strong focus on characters educations and aims to develop well rounded individuals who are not only academically successful but also good citizens.

Table 1: SCHOOL DETAILS

NAME OF SCHOOL	**KALABU PRIMARY SCHOOL**
SCHOOL REGISTRATION NUMBER	1812
SCHOOL LOCATION	Kikukawa Road Makoi.
SCHOOL TYPE	PRIMARY SCHOOL
FEEDER SCHOOL	NO
DATE OF INSPECTION	20 TH May, 2024
MILESTONE	58/86
INSPECTED BY (TEAM 1)	ANASEINI LEDUA (AL)
	SHANEEL PRASAD (SP)
	YASH VINEET MUDALIAR (YM)

Table 2: SCHOOL ENROLMENT FIGURES

Year of Enrolment	Number of Students			Students with Disability	Number of Teachers			Comments
	Male	Female	Total		Male	Female	Total	
2024	335	320	655	N/A	-	-	16	• 16 classrooms • Student to stream is 655 roll / 16 classrooms = 41:1 for 2024 school calendar • Total taps count = 26
2023	-	-	658	N/A	-	-	16	
2022	-	-	686	N/A	-	-	16	
2021	-	-	634	N/A	-	-	16	
2020	-	-	610	N/A	-	-	16	
2019	-	-	523	N/A	-	-	16	

Table 3: 2024 CLASSROOM ENROLLMENT DETAILS

GRADE	CLASS NUMBER	TOTAL STUDENT ROLL	NUMBER OF TEACHERS	DIMENSIONS (m)		ACCESS WAY COUNT		OVERCROWDING (FNBC)
				LENGTH	WIDTH	NO. OF DOORS	NO. OF WINDOWS	
1	1A	35	1	7.6	7.35	1	10	☒YES ☐NO
	1B	36	1	7.6	7.35	1	10	☒YES ☐NO
2	2A	36	1	7.6	8.3	1	11	☒YES ☐NO
	2B	40	1	7.6	8.3	1	11	☒YES ☐NO
3	3A	39	1	7.4	7.1	2	16	☒YES ☐NO
	3B	42	1	7.4	7.1	2	16	☒YES ☐NO
4	4A	39	1	7.4	7.1	2	16	☒YES ☐NO
	4B	40	1	7.4	7.1	2	16	☒YES ☐NO
5	5A	43	1	7.6	7.35	2	8	☒YES ☐NO
	5B	48	1	7.7	7.35	2	8	☒YES ☐NO
6	6A	41	1	7.6	7.35	2	8	☒YES ☐NO
	6B	43	1	7.6	7.35	2	8	☒YES ☐NO
7	7A	40	1	7.4	7.1	1	10	☒YES ☐NO
	7B	38	1	7.4	7.1	1	10	☒YES ☐NO
8	8A	46	1	7.4	7.1	1	10	☒YES ☐NO
	8B	49	1	7.4	7.1	1	10	☒YES ☐NO

2) SCHOOL SITE PLAN (DRONE IMAGERY OF SCHOOL)

AERIAL VIEW

LEGEND			
B#	BUILDINGS	DR#	PONDS/CREEKS/DRAINAGE
PG#	PLAYGROUND	H#	HOSTELS
WC#	TOILETS	ST#	STAFF QUARTERS
T#	TAP / WASH AREA	F#	DINING/FOOD AREA
WS#	WATER STORAGE FACILITY	EFL#	EFL POSTS/ JUNCTION BOX
SEP#	SEPTIC TANK	CP	CAR PARK
LA#	LAND AVAILABILITY	WW#	WALKWAY

3) VISUAL INSPECTION RESULTS

a) EXISTING BUILDING INFORMATION

Table 4: EXISTING BUILDING INFORMATION FOR BUILDING B1

Building Index	**B1 -BUILDING 1**					
Type:	**Double storey concrete building with gable roof. Consists of:** **Top Floor – 6 x Classrooms 101,102,701,702,801,802 Admin Office, Computer room.** ➢ **Ground Floor – 8x Classroom 501,502,601,602,401,402,301,302 1X Girls and boys' washrooms.**				**No. of Levels: 2**	
Dimensions	**Length (m): 58.7**		**Width (m): 7.35**		**Height (m): 6.3 (up to eaves)**	
Existing State of Building						
REF. No.	**Building Component**	**Good[1]**	**Fair[2]**	**Poor[3]**	**Structure Type [4]**	**Comments**
1	Roof Lining	✓			Corrugated Roofing iron	Newly painted and fully restrained with roofing nails.
2	Roof Structure		✓		Timber	Truss connection.
3	Walls		✓		Concrete / Timber	Concrete exterior walls with timber interior partitions.
4	Columns		✓		Steel	2" CHS posts.
5	Beams		✓		Timber / concrete	4 x 2 ceiling joists acting as beam. 1.8 width concrete cantilever beam at the rear wall.
6	Floor	✓			Concrete	Interior tiled. / Exterior exposed partially smooth concrete.
7	Handrails		✓		Steel	900mm high safety hand rails. Dented and rusted at some sections.
8	Walkway(s)	✓			Concrete	2m walkway width / Contained hairline cracks / 1.2m stairway width.
9	Services – water supply	✓				Adequate supply from WAF line / Backup water tank for toilet use.
10	Available taps for general use					# of taps = 0 / Student – tap ratio = 0: 1
11	Services – electricity		✓			Sufficient supply. Wires need covering from damage
12	Services – communication (internet)	✓				Sufficient internet for administrative office
13	Drainage		✓		Concrete	Damaged v drains with algae build up

Comments

Visual defects

- The paints on the walls were peeled off in some sections.
- The bottom rear wall had dirt and grime of about 2m height due to exposure to weather since the eaves were at a height.
- The rear wall of the building required aesthetic maintenance due plants creeping from nearby nursery (not utilized now)
- There is major denting in some sections of the rear gutter.
- Excessive building material wastes around the floor.
- Insufficient lighting at the technical department section (missing tube lights)

[1] Good - No additional works / intervention required
[2] Fair - Remedial works required – min CAT 3 standard
[3] Poor - Demolition and replace with new - min CAT 4 standard
[4] Type of structure - Timber/concrete/steel

- Nearest boys' toilet is three blocks away from classroom. Little consideration for boys' convenience.
- Exposed v-drain with cracks on some sections of administrative block.
- Excessive concrete damage on the open square drain channel under the technical department section. Concrete severely chipped causing water log at various places.
- Poorly designed drainage outlet from technical department drain channel to main roadside drainage.
- Truss was connected with just nail connection without any ties or nail plates. Not fully cyclone compliance.
- Ceiling in Classrooms shows water damage and sagging due to rain leakage.
- Rear wall contained visible cracks of about 600mm in length and 150mm maximum crack width on the window lintels.
- Crack beams visible.
- Absence of ceiling joist to wall tie downs. Not cyclone compliant.
- Window shutters are present in almost all windows in administration section used for safety purpose only. Not compliant to cyclone certification. Some sections showed corrosion.
- Shutters outside the classroom badly rusted and of large openings not compliant under cyclone standards

Table 5: EXISTING BUILDING INFORMATION FOR BUILDING B1A

Building Index	**Block B**					
Type:	**Single storey timber building with gable roof. Consists of:** ➢ **Ground Floor – 2 x classrooms 1x teacher's washroom.**					**No. of Levels:1**
Dimensions	**Length (m): 15.9**		**Width (m): 9.2**		**Height (m): 2.6m**	
Existing State of Building						
REF. No.	**Building Component**	**Good[5]**	**Fair[6]**	**Poor[7]**	**Structure Type [8]**	**Comments**
1	Roof Lining			✓	Corrugated Roofing iron	Rusted at some sections.
2	Roof Structure			✓	Timber	Structure was inaccessible due to absence of manhole
3	Walls			✓	Timber	Partially damaged on the exterior
4	Columns			✓	Timber	Damaged timber column
5	Beams			✓	Timber	Column to column beam deteriorating
6	Floor			✓	Timber	Deteriorating timber floor damaged at sections
7	Handrails			✓	Timber	Damaged and paint peeling off have wear and tear and warps.
8	Walkway(s)		✓		Timber	Bend when walking indicating damaged missing floor joist and bearers,
9	Services – water supply	✓			WAF	Adequate supply with backup tank for washroom
10	Available taps for general use	✓				# Of taps 6 — Student – tap ratio = #: 1
11	Services – electricity		✓		EFL	Adequate supply/wires exposed/damaged lights
12	Services – communication (internet)	✓				Adequate internet connections.
13	Drainage			✓		Damaged drains/missing drains

Comments

- **Visual defects**
- Roof corrugated iron rust at some sections.
- Guttering missing, dented and have algae build up.
- Downpipes have algae build up with only half length in dimensions
- Timber walkway panels have wear and tear, wraps/bends when walking indicating damaged/missing floor joist and bearer.
- Electrical light, fans and power switches are missing, damaged and exposed.
- No drainage was observed. Water from guttering flowing down to earth.
- The paints on the walls were peeled off in some sections.
- Window shutters are present in almost all windows in administration section used for safety purpose only. Not compliant to cyclone certification. Some sections showed corrosion.
- Fascia board shows water damage (rotting) at some sections.
- Walkway ceiling plyboard showed tear and water damage.
- Adequate ventilation is in all levels of the building.

[5] Good - No additional works / intervention required
[6] Fair - Remedial works required – min CAT 3 standard
[7] Poor - Demolition and replace with new - min CAT 4 standard
[8] Type of structure - Timber/concrete/steel

- Staff Toilets are nearly maintained with adequate soap, handbasin and bins.
- No drainage was observed. Water from guttering flowing down to earth.
- Window shutters are present in almost all windows in section used for safety purpose only. Not compliant to cyclone certification. Some sections showed corrosion.
- Fascia board shows water damage (rotting) at some sections.
- Electricity, internet and water is sufficient.
- 1x door entry on each side of the class
- The roof structure was a fink truss entirely made of timber (6 x 2 rafters, 3 x 2 purlins, 6 x 2 ceiling joists, 6 x 1 ridge board, 4 x 2 truss brace, 2 x 2 lateral bracing.
- Truss was connected with just nail connection without any ties or nail plates. Not fully cyclone compliance.
- Absence of ceiling joist to wall tie downs. Not cyclone compliant.
- Window shutters are present in almost all windows in section used for safety purpose only. Not compliant to cyclone certification. Some sections showed corrosion.
- Shutters outside the classroom badly rusted and of large openings not compliant under cyclone standards.

b) EXISTING BUILDING AND TOILET BLOCKS ACESS INFORMATION FOR DISABILITY AUDITS

Table 10: EXISTING BUILDING AND TOILET BLOCKS ACCESS INFORMATION FOR DISABILITY AUDITS FOR AT

Building Index	**Building 1 -B1**						
Type:	**Double storey concrete building with gable roof. Consists of:** **Top Floor – 6 x Classrooms 101,102,701,702,801,802 Admin Office, Computer room.** ➢ **Ground Floor – 8x Classroom 501,502,601,602,401,402,301,302**						**No. of Levels: 2**
Dimensions	**Length (m): 58.7**		**Width (m): 7.35**			**Height (m): 6.72 (up to eaves)**	
Existing State of Building							
REF. No.	**Building Component**	**Good[9]**	**Fair[10]**	**Poor[11]**	**Structure Type [12]**	**Dimensions (m)**	**Comments**
1	Ramps			✓	N/A	N/A	No ramps on site
2	Walkway clearance space	✓			Concrete floor tiled	1.1 – 2	Accessible for wheelchair user
3	Handrails		✓		Steel	0.9	Paint peel and minor rusting.
4	Doors and Door Size (typical)		✓		Timber	0.8 0.6 – 0.9	Interior Door Exterior Door
5	Stairway		✓		Concrete	0.9	Not accessible for wheelchair users

Comments

Ramps

- Absence of ramps throughout the building.

Handrails

- Partially damaged/denting requiring intervention.

Doors and Door Size (typical)

- Not accommodating to wheelchair users who require a minimum of 1m clearance.

Stairway

- No accessible to disable students. Clearance required of 1.2m and tread width of minimum 310mm. (National Building Code Table D2.1)

[9] Good - No additional works / intervention required
[10] Fair - Remedial works required – min CAT 3 standard
[11] Poor - Demolition and replace with new - min CAT 4 standard
[12] Type of structure - Timber/concrete/steel

Table 11: EXISTING BUILDING AND TOILET BLOCKS ACCESS INFORMATION FOR DISABILITY AUDITS FOR B1A

Building Index	B2 – Building 2		
Type:	Single storey timber building with gable roof. Consists of: ➢ Ground Floor – 3x classrooms 1x Special Room and 1x teacher's washroom.		No. of Levels: 1
Dimensions	Length (m): 15.55	Width (m): 8.7	Height (m): 5.72 (up to eaves)

Existing State of Building

REF. No.	Building Component	Good [13]	Fair[14]	Poor[15]	Structure Type [16]	Dimensions (m)	Comments
1	Ramps			✓	N/A	N/A	No ramps on site
2	Walkway clearance space	✓			Concrete floor tiled	1.2 - 1.5	Accessible for wheelchair user
3	Handrails		✓		Steel	0.9	major denting at left end.
4	Doors and Door Size (typical)		✓		Timber	0.8	All doors same size.
5	Stairway		✓		Concrete	0.9	Not accessible for wheelchair users

Comments

Ramps

- Absence of ramps throughout the building.

Handrails

- Major damaged/denting and rusting requiring intervention.

Doors and Door Size (typical)

- Not accommodating to wheelchair users who require a minimum of 1m clearance.

Stairway

- No accessible to disable students. Clearance required of 1.2m and tread width of minimum 310mm. (National Building Code Table D2.1)

[13] Good - No additional works / intervention required
[14] Fair - Remedial works required – min CAT 3 standard
[15] Poor - Demolition and replace with new - min CAT 4 standard
[16] Type of structure - Timber/concrete/steel

4) PHOTOGRAPHIC REPORT

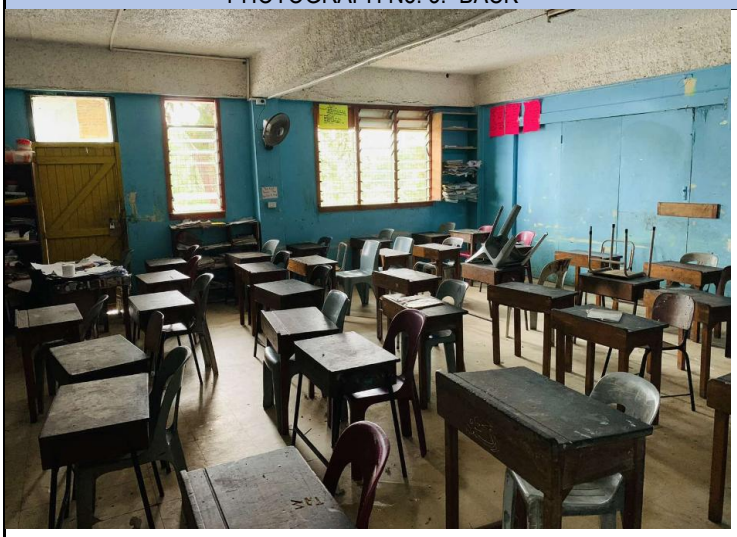
Client:	**TETRA TECH INTERNATIONAL DEVELOPMENT (PTY) LTD**	**School Name:**	**KALABU PRIAMRY SCHOOL.**
Project:	**INFRASTRUCTURE PLAN FOR SUVA – NAUSORI URBAN SCHOOL.**	**Building Index:**	**B1**

PHOTOGRAPH No. 1: FRONT

PHOTOGRAPH No. 2: LEFT SIDE

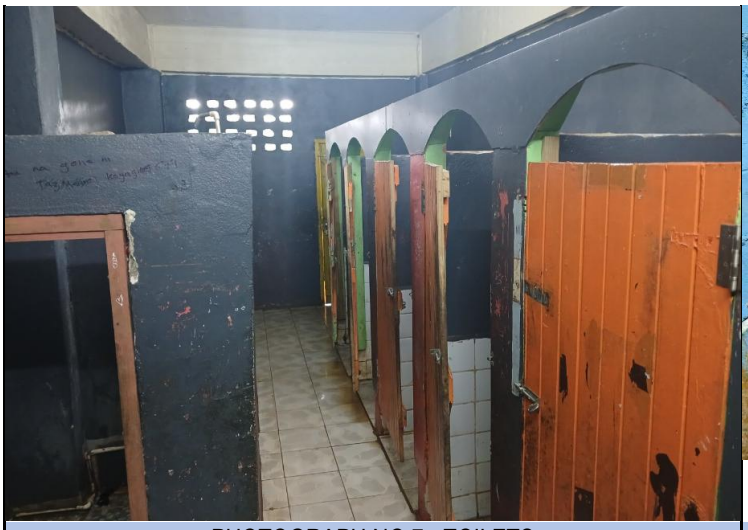
PHOTOGRAPH No. 3: BACK

PHOTOGRAPH No. 4: RIGHT SIDE



PHOTOGRAPH No. 5: INTERIOR

PHOTOGRAPH No. 6: Water tank



PHOTOGRAPH NO 7 - TOILETS

PHOTOGRAPH NO 8 - TAPS

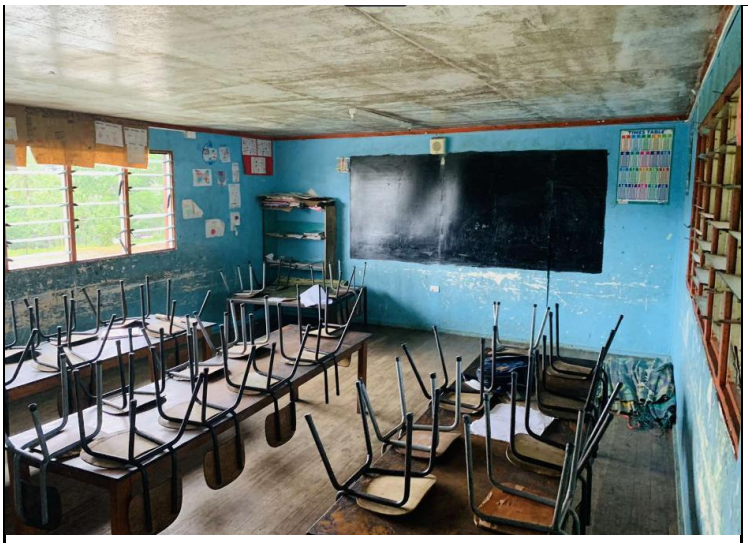
Client:	**TETRA TECH INTERNATIONAL DEVELOPMENT (PTY) LTD**	**School Name:**	**KALABU PRIAMRY SCHOOL**
Project:	**INFRASTRUCTURE PLAN FOR SUVA – NAUSORI URBAN SCHOOL.**	**Building Index:**	**B2**

PHOTOGRAPH No. 1: FRONT

PHOTOGRAPH No. 2: LEFT SIDE

PHOTOGRAPH No. 3: BACK

PHOTOGRAPH No. 4: RIGHT SIDE



PHOTOGRAPH No. 5: INTERIOR

DUE to roof space inaccessibility, the roof space photograph cannot be provided.

PHOTOGRAPH No. 6: ROOF SPACE

PHOTOGRAPH NO 7 – Timber Floor

PHOTOGRAPH NO 8 - TAPS

Appendix B – Excel Scoring Sheet

	WEIGHTED CRITERIA		
1	**PART A - CLASSROOM OVERCROWDING (40%)** **Classrooms facilitating students beyond room capacity, determined through number of students per classroom and classroom size**		
	Poor - most to all classrooms are accommodating students above capacity.	32 to 40	**40**
	Criteria Item Score		**40.0**
2	**PART B - WASH FACILITIES (20%)** **WASH- Student ratio based on the Fiji National Building Code (FNBC) Infrastructure Standards (10%)**		
	Fair - WASH-Student ratio for school toilet blocks slightly falls below the ratio in the standard specified by FNBC.	6 to 7.9	**6**
2.1	**Quality of facilities and current condition such as funtionality and maintenance (10%)**		
	Fair - school toilet facilities are not maintained well and the physical infrastructure may need repairs or remedial work due to causing moderate distrubances to the end users.	6 to 7.9	**6**
	Criteria Item Score		**12.0**
3	**PART C - CONDITION OF INFRASTRUCTURE (20%)** **Building structure and condition of walls, floors, ceilings, overall structural integrity (10%)**		
	Fair - some building structures require more intervention to improve structural integrity and condition.	6 to 7.9	**7**
3.1	**Maintenance and assessment of the upkeep of facilities including painting and repairs (10%)**		
	Fair - school facilities are not maintained well and the physical infrastructure may need repairs or remedial work due to causing moderate distrubances to the end users.	6 to 7.9	**7**
	Criteria Item Score		**14.0**
4	**PART D - DISABILITY ACCESSIBILITY (10%)** **Accessibility features such as the presence of existing ramps, handrails, accessible toilets etc**		
	Poor - School buildings and facilities do not have accessibility features.	8 to 10	**10**
	Criteria Item Score		**10.0**
5	**PART E - DISASTER RESILIENCE (10%)** **Presence and quality of measures for disaster resilience of buildings including structural measures, cyclone shutters and fire safety systems**		
	Fair - some school building structures are not resilient to natural disasters and do not have safety systems in place.	6 to 7.9	**6**
	Criteria Item Score		**6.0**
	TOTAL CRITERIA SCORE		**82.0**

Appendix C – Land Available for Expansion

Australian Government
Department of
Foreign Affairs and Trade

TETRA TECH

Disasters DO Happen
Are YOU Prepared?

NRW MACALLAN (FIJI) LTD
CONSULTING ENGINEERS

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CIVIL, STRUCTURAL, ELECTRICAL, MECHANICAL & PROJECT MANAGEMENT
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EMAIL: info@nrwmacallan.com.fj

SCHOOL NAME:

KALABU PRIMARY SCHOOL