

Structural Inspection Report

Client: **Surf Coast Shire Council**

Site Address: **Anglesea and Aireys Inlet
Senior Citizens Club,
1 McMillan Street, Anglesea**



Inspection By: **Niall Logue**
Report Date: **28th November 2022**
Inspection Date: **15th November 2022**
ACA Project Ref No. **22-185**
Report No: **Rep-02**

NOTES

This is a Visual Inspection only and in Accordance with AS4349.1 Appendix A unless specifically noted otherwise.

This visual inspection is limited to those areas and sections of the property fully accessible and visible to the Inspector at the time and on the date of Inspection. Unless specifically noted otherwise, the inspection DID NOT include breaking apart, dismantling, removing or moving objects including, but not limited to, foliage, mouldings, roof insulation/sarking membrane, floor or wall coverings, sidings, ceilings, floors, furnishings, appliances or personal possessions unless specifically described in the report. The Inspector CANNOT see inside walls, between floors, inside skillion roofing, inside the eaves, behind stored goods in cupboards, or other areas that are concealed or obstructed. The inspector DID NOT dig, gouge, force or perform any invasive procedures unless specifically noted otherwise. In an occupied property it must be understood that furnishings or household items may conceal defects which may only be revealed when the items are removed. No detailed inspection is inferred to external areas over 3.6 metres above the natural ground level.

1.0 CLIENTS SCOPE

ACNL Engineers Pty Ltd was engaged by Surf Coast Shire Council (SCSC) to inspect the Anglesea and Aireys Inlet Senior Citizens Club building at 1 McMillan Street, Anglesea, to assess the condition of the building generally in relation to its structural integrity and future operation of the building with specific attention paid to investigating the extent of termite damage to the building beyond the billiards room.

The scope also included a general condition assessment of the building identifying any areas of concern that may require future monitoring or rectification. The condition assessment was to follow the SCSC's rating system.

ACNL had previously been appointed by SCSC to investigate termite damage to the billiards room. A report of the findings and recommendation from this inspection was issued on the 6th June 2022 reference 22-185 Rep01.

Generally, and unless specified otherwise, this report will not specify the extent of repair or rectification work relating to non-structural elements.

2.0 GENERAL LIMITATIONS

The inspection will review potential building defects and compare to the Building Code of Australia, relevant Australian Standards and where applicable to the Building Commission 'Guide to Standards & Tolerances 2007'.

Refer Appendix C for further limitations and disclaimers.

3.0 INSPECTION AND DOCUMENTATION

Niall Logue undertook the site inspection on the 15th of November 2022. The weather on the day of the inspection was "fine and dry".

A builder had been requested to expose areas of the structural sub-floor and wall frame to allow visual inspection of the structural elements. The builder could not attend on the day of the inspection. The SCSC had arranged for one area of the sub-floor in the main hall near the library to be exposed. SCSC representatives gave permission to ACNL to carry out additional destructive works as were deemed necessary to expose structural elements in remaining areas of the building.

The isolated areas exposed by ACNL during the inspection were:

- 1.0 Increasing the area of sub-floor exposed by the SCSC in the main hall near the library.
- 2.0 A small area of sub-floor in the main hall adjacent to the sick bay.
- 3.0 The bottom plate and stud framing of the south internal wall of the sick bay.
- 4.0 The bottom plate and stud framing of the east wall of the sick bay.
- 5.0 The bottom plate and stud framing to the north wall of the billiards room.
- 6.0 The bottom plate and stud framing to the east wall of the billiards room.
- 7.0 The bottom plate and stud framing to the office adjacent to the entry.
- 8.0 The bottom plate and stud framing to the west wall of the ladies toilets.
- 9.0 The bottom plate and stud framing to the west store wall at the doorway to the corridor leading to the toilet area.
- 10.0 The east wall of the hall.

Refer to Figure 1.0 below for building plan with areas inspected noted.

No access was provided to inspect areas that were above ground level including the roof space, ceiling spaces or above ground plant areas.

The documents received in relation to the inspection are as follows:

- Surf Coast Shire Structural Engineering Assessment titled – Anglesea Senior Citizens Club, McMillan Street Precinct, Anglesea dated 1st September 2022.

The SCSC report included the following reports in appendices to their report:

- Cetec Asbestos Audit Report reference CV120826 dated December 2012
- Academic Pest Controls Termite Inspection Report dated 20th June 2022
- Geelong Pest Control Timber pest Inspection Report dated 02nd August 2022

The asbestos report identified asbestos containing materials to the:

- external awnings and eaves linings
- fascia boards above all windows
- electrical box lining to entry foyer

Not all areas were accessible during the asbestos survey.

The Academic Pest Control report considered the overall property to be at extremely high risk of subterranean termite infestation.

The Geelong Pest Control inspection was carried out using a Termatrac detection device. The report considered the overall property to be at extremely high risk of subterranean termite infestation. The termite damage extent was noted as being extensive to severe in the billiards room along the south east wall and roof beams. Moisture damage was noted in the hall, hallway and billiards room.

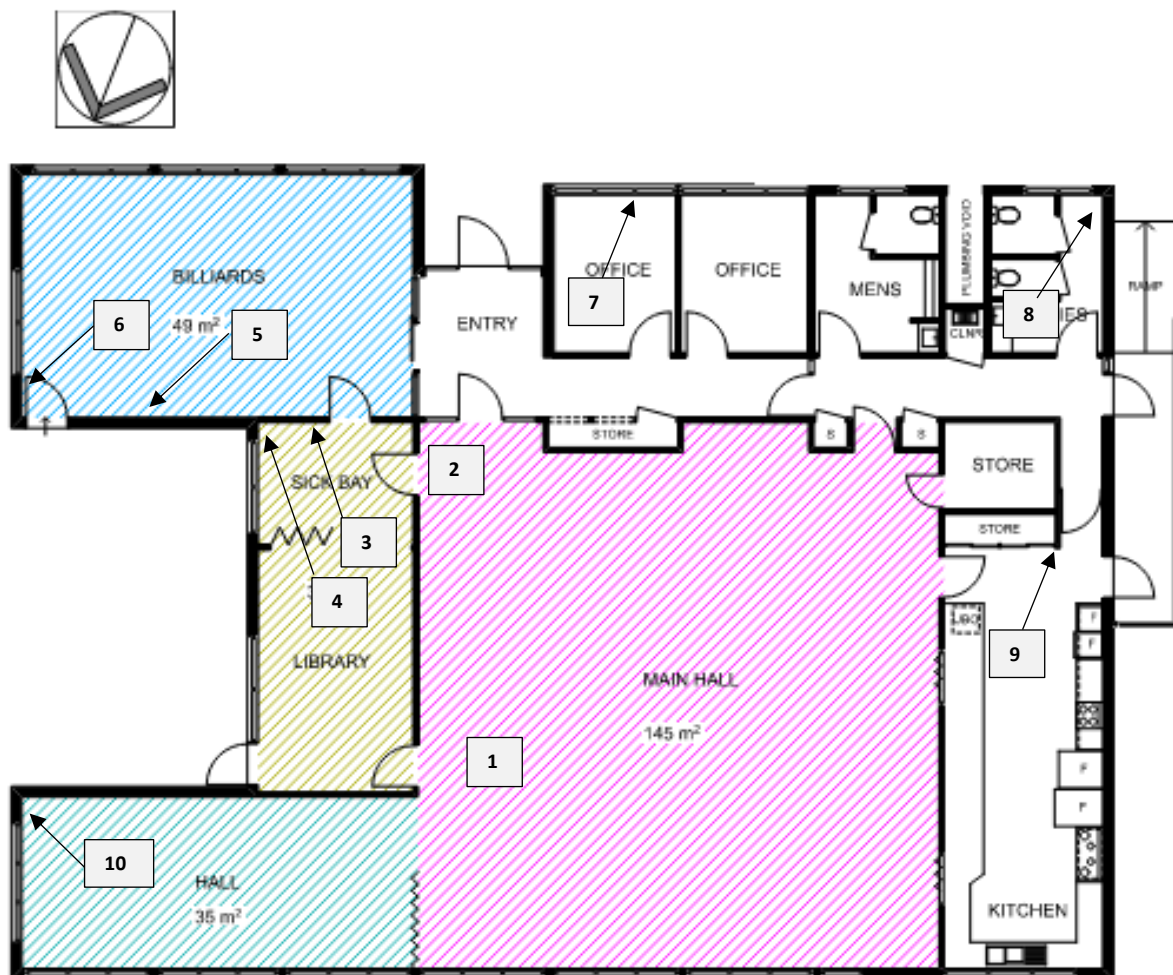


Figure 1.0 Building plan showing areas of structural framing exposed

Other than the specific areas noted above, the inspection was a non-destructive visual inspection. Refer Appendix C for general information on limits on locations accessed.

4.0 SITE CONDITIONS

The building faces south onto McMillan Road and is located in the middle of a community hub of buildings. The site falls from north to south. A masonry retaining wall is located to the north and west of the building. Large gum trees are located to the northeast, east and south of the building. The drainage around the building is poor with insufficient fall away from footings noted, insufficient drainage pits and lack of maintenance of existing drainage pits.

The landscaping along the south east wall was noted to have been banked up against the wall. A review of Nearmaps shows a large gum tree was removed from the south of the games room sometime between September 2019 and April 2020.

The single storey building consists of timber rafters onto timber purlins onto timber roof beams with brick veneer external walls, timber framed internal walls and what appears to be a timber sub-floor onto stumps to the middle of the building consisting of the library and sick bay, main hall and majority of the kitchen; and what is assumed to be raft slab footings to the north and south of this central strip. Refer to Figure 2.0 below for footings assumptions.

The age of the building is unknown but was likely constructed sometime in or around the 1960s.



Figure 2.0 Assumed building footing arrangement

5.0 CONDITION ASSESSMENT

The findings are described in Table 4 below using nomenclature and condition ratings described in Tables 1, 2 and 3. The condition ratings are as per the Surf Coast Shire's Asset Management System.

Nomenclature

The following notations are used in the condition assessment.

Table 1 – Access

The following table sets out the ranking used by the assessor to indicate the level of access.

Ranking	Definition
R	Reasonably accessible; - Unimpeded vertical and horizontal clearance without removal of any fixed claddings, lining materials, plants or soil. - Adequate day lighting and/or artificial lighting for inspection purposes.
P	Partially accessible; - Not physically accessible but visibly accessed, eg. roof viewed from ladder or binoculars. - Limited due to physical obstructions.
N	No Access; - Due to safety hazard limiting access. - Due to physical obstructions.
NA	Not Applicable
TBC	To Be Confirmed

To maintain consistency across Council's Asset Management System, the use of the following condition rating system is required.

Within the buildings space two styles of ratings are used:

- Rating 1 – 10 for the overall building as a whole as per Table 2; and
- Rating 1 – 5 for building components and sub-components such as roof, walls, structure as per Table 3.

The following Table 2 indicates the rating used to represent the general condition of the overall building and is taken from the Surf Coast Shire Grading system outlined in the Jan Juc Recreation Centre Structural Assessment:

Table 2

Rating	Description
0	A new asset or asset recently rehabilitated back to a new condition. (Score as 1 to avoid confusion in rating system)
1	A near new asset with no visible signs of deterioration often moved to condition 1 based upon the time since construction rather than observed condition.
2	An asset in excellent overall condition. There would be only very slight condition decline but it would be obvious that the asset was no longer in new condition.

Rating	Description
3	An asset in very good overall condition but with some early stages of deterioration evident but the deterioration still minor in nature and causing no serviceability problems.
4	An asset in good overall condition but with some obvious deterioration evident serviceability would be impaired slightly.
5	An asset in fair overall condition. Deterioration in condition would be obvious and there would be some serviceability loss.
6	An asset in fair to poor overall condition. The condition deterioration would be quite obvious. Asset serviceability would now be affected and maintenance cost would be rising.
7	An asset in poor condition, deterioration would be quite severe and would be starting to limit the serviceability of the asset. Maintenance cost would be high.
8	An asset is in very poor condition with serviceability now being heavily impacted upon by poor condition. Maintenance cost would be very high and the asset would at a point where it needed to be rehabilitated.
9	An asset in extremely poor condition with severe serviceability problems and needing rehabilitation immediately. Could also be a risk if it remains in service.
10	An asset that has failed is no longer serviceable and should not remain in service. There would be an extreme risk in leaving the asset in service.

5.1 OVERALL BUILDING CONDITION

The overall condition of the senior citizens building are rated as 8-9 or in very or extremely poor overall condition. Deterioration of local areas of the asset is obvious and is affecting serviceability. Delay in rectification will result in an increase in maintenance costs.

Table 3

	1	2	3	4	5
	Very Good Condition	Good Condition	Moderate Condition	Poor Condition	Very Poor Condition
Estimated Proportion of life consumed	Up to 45%	Between 45 and 90%			Up to 90%
Structure	Sound Structure	Functionally sound structure	Adequate structure, some evidence of foundation movement, minor cracking.	Structure functioning but with problems due foundation movement, Some significant cracking.	Structure has serious problems and concern is held for the integrity of the structure.
External	Surface constructed with sound materials, true to line and level. No evidence of deterioration or discolouration.	Showing minor wear and tear and minor deterioration of surfaces.	Appearance affected by minor cracking, staining, or minor leakage. Indications of breaches of weatherproofing. Minor damage to coatings.	Surface damaged, weakened or displaced. Appearance affected by cracking, staining, overflows, or breakages. Breaches of weatherproofing evident. Coatings in need of heavy maintenance or renewal.	Surface is badly damaged or weakened. Appearance affected by cracking, staining, overflows, leakage, or wilful damage. Breaches of waterproofing. Coatings badly damaged or non-existent.
Internal			Appearance affected by minor cracking, staining, or minor leakage, some dampness or mildew. Minor damage to wall/ceiling finishes.	Surface damaged, weakened or displaced. Appearance affected by cracking, staining, dampness, leakage, or breakages. Breaches of waterproofing evident. Finishes of poor quality and in need of replacement.	Surface badly damaged or weakened. Appearance affected by cracking, staining, leakage, or wilful damage. Breaches of waterproofing. Finishes badly damaged, marked and in need of replacement.

Table 4

The following table provides a list of defects noted at the site inspection conducted on the 15th of November 2022. This list should be considered as a suggested works program for long term building use. The recommendations outlined in the Cetec Asbestos Audit Report reference CV120826 should be followed for working safely with asbestos containing materials.

ITEM		ACCESS	CONDITION RATING	CONDITION DESCRIPTION	RECOMMENDED WORKS	PHOTO No.
1	Roofing, flashing	P ⁽¹⁾	3-4	No obvious signs of rust but very limited access for inspection. Water damage at roof penetration noted in Geelong Pest Control report suggests other penetrations may be leaking. Degradation noted to majority of timber fascia boards and flashing. Vegetation was observed growing in gutters suggesting lack of regular maintenance.	Recommend all roof areas are cleared and cleaned of all debris, detritus and lichen. Investigate seals around all roof penetrations. All flashings to be inspected by plumber. All degraded fascia boards and soffit linings to be replaced. All roofing, flashing, gutters and downpipes should be inspected regularly for damage, build-up of detritus or leaks and repaired as required.	1, 2
2	Canopy to west wall	P ⁽¹⁾	5	Extensive degradation to timber elements, eaves beam rotten. Water staining to soffit and masonry wall suggests ongoing water leaks.	Recommend demolition within 6-12 months. Recommend two free corners are propped until demolition works take place.	3, 4, 5, 6
3	External Wall Cladding	R ⁽¹⁾	3-5	Brick veneer walls in poor condition in isolated areas. Cracks evident to west of plumbing void access door on south wall, under roof beam to south entry, above AJ on north elevation. Articulation joints not in accordance with industry standards outlined in Cement Concrete & Aggregates Australia (CCAA) technical guidance document TN61. Movement evident to articulation joints to north, east and west elevation where it has opened at the top and is pinched at the bottom. Degradation to timber weatherboard cladding to west elevation. External ground levels built up over weatherboard along east elevation likely resulting in degradation of cladding. Sub-floor ventilation not in accordance with NCC Volume 2 which requires min 6000mm ² per m of wall, existing vents insufficient and	Remove and replace all degraded timber fascia boards, cladding. Remove garden beds from east wall. Regrade ground to fall away from footings min 50mm over 1000mm with area suitably drained to collect and drain surface water to LPOD. The lack of adequate ventilation to sub-floor areas is only one of a number of issues requiring attention related to the sub-floor. The remaining issues will be discussed further in the report under item 9. Considering all of the issues related to the sub-floor, the concluding recommendation is that all sub-floor areas are removed and reinstated with a concrete raft slab footing.	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

ITEM		ACCESS	CONDITION RATING	CONDITION DESCRIPTION	RECOMMENDED WORKS	PHOTO No.
				covered up by ground or pavement slabs. Damp ingress and degradation noted to all window frames. Brick veneer to south wall of billiards room is not supported by the stud frame. The termite damage to the south and north walls billiards room and south and east wall of the sick bay and library is extensive. The south wall of the billiards room has lost all structural integrity. The damage on the south east of the sick bay and library room is such that the entire timber wall frame on the south and east walls should be exposed so that every element can be checked for termite damage.	Window frames are in poor condition and approaching the end of their life, replacement to be considered within a 12-24 month period. The damage to the south wall, north wall and roof beams to the billiards room is such that demolition of the entire room is recommended. The damage to the south and east wall of the sick bay and library requires significant destructive investigation in order to assess the full extent of termite damage where every timber element would need to be exposed by removal of all plasterboard, flooring and ceiling. The issues with the sub-floor in the building generally will be discussed later in the report under item 9. The extent of damage and remedial works required to the sick bay and library is such that demolition is recommended. Access to library, sick bay and billiards room should be prevented until remedial works are completed. It is recommended that that billiards room, library and sick bay are demolished within 6-12 months. South wall of billiards room should be propped laterally to ground within 1 week. Sick bay and library roof should be propped to ground within 1 month. On completion of all remedial works described elsewhere, install articulation joints to both sides of any opening 1800mm wide or more. Remove and reinstate all sealants to existing AJs to AS 3700. Rebuild masonry walls and repair masonry cracks in accordance with AS 3700 and AS 4773.	
4	Internal Wall Cladding	P	3	Duration of inspection did not allow for the extent of opening up works required to determine the full extent of termite damage.	Internal walls adjacent to proven termite infested areas require removal of all plasterboard linings and flooring if in a sub-floor area to prove the extent of termite damage i.e. main hall east wall, hall south wall. Recommended rectification works to sub-floor	NA

ITEM		ACCESS	CONDITION RATING	CONDITION DESCRIPTION	RECOMMENDED WORKS	PHOTO No.
					areas discussed under item 9 may result in all internal walls to these areas being removed and reinstated on completion of sub-floor rectification works.	
5	Roof beams	P ⁽¹⁾	3-5	Roof beams to billiards room have extensive termite damage require removal and replacement. Roof beams elsewhere only inspected visually where possible due to restricted access.	Roof beams to billiards room require removal and replacement. Footings provided for roof beams in main hall appear unsuitable. Refer to item 9 for further discussion. Recommend replacement of footings to main hall roof beams within 6-12 months.	23, 34
6	Roof Bracing	N	-	Not observed.		
7	Wall Bracing	N	-	Not observed.		
8	Footings-raft slab	N	-	As discussed in Section 4.0 and illustrated in Figure 2.0 of this report, a raft slab footing is assumed to: hall, north of main hall, kitchen to north, billiards room, entry, offices and toilets to south of main hall; with sub-floor framing onto stumps assumed to the central strip consisting of the library and sick bay, main hall and south of kitchen.		

9	Footings – sub-floor onto stumps	P	3-5	As discussed in Section 4.0 and illustrated in Figure 2.0 of this report, sub-floor framing onto stumps has been assumed to the central strip consisting of the library and sick bay, main hall and south of kitchen. The sub-floor exposed adjacent to the library entry showed joists and bearers in very poor condition with what appears to be borer damage. The clearance to the bearers was measured at 100mm, less than the minimum required in the NCC for ventilation and significantly less than the 400mm required for termite management systems. The steel columns supporting the roof beams to the main hall were found to bear onto timber packers onto brick piers with the adjacent raft slab footing cast around the brick pier suggesting the areas with raft slab footings were installed as later additions to the main hall. The plate at the base of the steel column inspected was corroded likely due to the high moisture build up in the sub floor due to lack of ventilation. The sub floor to the main hall does not have sufficient ventilation, there is no cross flow from north to south due to the concrete raft slabs each side of the sub-floor area, the ventilation to the east is hindered by planting and to the west is hindered by the access deck. The timber access deck to the west wall has insufficient clearance to the ground, does not appear to be drained and is obstructing ventilation to the sub-floor.	The works required to rectify the sub-floor is extensive and would include as a minimum: - expose the existing sub-floor elements to allow an inspection of each and every element, - replace the framing elements that are damaged or degraded, - provide minimum clearance to all sub-floor framing members suitable for a termite management system i.e. 400mm, - investigate the need for forced ventilation to account for the loss of cross flow in the north south direction, - investigate the remaining footings to the main hall steel columns and posts and carry out remedial works as required including provision of a new pad footing for the column identified in photo 34, - clear garden beds away from the east wall clearing any obstruction to sub-floor ventilation ducts, - remove timber access deck to the west wall and reinstate to ensure free ventilation to the sub-floor, minimum clearances to the timber framing and adequate drainage below the deck. The extent of remedial works required to repair the sub-floor is such that a new raft slab footing is recommended to replace all existing sub-floor framing. A raft slab would not require sub-floor ventilation, external paved areas could be cast up to 50mm below the slab level and the main hall columns and posts could be founded directly onto the raft slab. The slab would act as a barrier to minimise the risk of ongoing termite infestation to any above ground timber elements. All load bearing elements including columns, posts and internal load bearing walls would need to be propped to allow installation of a raft slab. Access to main hall should be prevented until rectification works are completed.	26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38
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ITEM		ACCESS	CONDITION RATING	CONDITION DESCRIPTION	RECOMMENDED WORKS	PHOTO No.
10	Site maintenance	R	4-5	Site drainage is in poor to very poor condition. The ground around the perimeter of the building is not adequately drained. The ground does not grade away a minimum 50mm over 1000mm to ensure no ponding at the footings. The ground is not drained to collect all surface water and drain to the LPOD. There are no pits provided to the north wall at the base of the retaining wall. Insufficient pits have been provided to the west wall. No drainage pits appear to have been provided below the access deck. The existing pit to the north wall is completely blocked. Pits have not been provided below external taps. There does not appear to be any pits provided along the east or south walls. Rainwater pipes were noted to discharge direct to ground and were not connected to the below ground drainage system to the east of the east wall in the billiards room in the area of most severe termite damage.	Garden beds should be removed away from the building ensuring all external ground levels are minimum 150mm below the internal floor slab level, or minimum 50mm below internal slab levels where a concrete pavement has been provided externally, or below any sub-floor ventilation ducts. The ground around the perimeter should be graded to ensure a minimum fall of 50mm away from the footings over a 1000mm distance suitable drained and collected to ensure all surface water run off is drained to the LPOD. This should result in pits at approximately 8m spacing around the building and at closer spacing where conditions require to ensure no ponding. Consideration to be given to the installation of concrete pavement around full building perimeter to falls noted above to minimise risk of ongoing movement. CCTV survey and pressure tests of all below ground drainage should be carried out to check for leaks with repairs carried out as required. Refer to Appendix C for suggested procedures. All downpipes to be positively connected to below ground drainage system and ultimately to the LPOD.	37, 38, 39, 40, 41, 42, 43, 44

Notes;

1. Viewed from ground level only.

Special notes;

1. Building permits may be required for some or all of the above works, the tenant is to investigate the requirement for building and any other permits and is to obtain the permits as necessary.
2. All Occupational Health and Safety regulations and requirements are to be observed during works undertaken.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The majority of the building inspected is considered overall to be in a poor to very poor condition. Some areas require immediate rectification works to ensure the structural integrity is maintained. Other areas require extensive rectification works to address defects that if left untreated will present significant OH&S risks with 1-5 years.

The roof requires further investigation to repair all seals to penetrations and flashing. All gutters require inspection and clearing.

The extent of damage to the billiards room and library and sick bay rooms is such that demolition of these rooms is recommended within 12 months. The extent of damage to the sub-floor to the main hall and the level of disruption that would result from the reinstatement of a new sub-floor in accordance with the requirements of the NCC is such that a raft slab footing would be considered a better long term solution for the building.

The existing footings to the main hall roof beams requires investigation and any that are not founded directly onto concrete pad footings or concrete raft slab footings are to be replaced. This would require propping of all structural posts, columns and load bearing walls to the main hall.

The canopy to the west wall, fascia boards, timber cladding to the west wall and east wall of the sick bay and access deck to the west wall are recommended to be replaced.

Articulation joints are recommended to all openings greater than 1800mm wide on each elevation. Remedial works are required to all existing articulation joints and to repair existing cracks.

The window frames are very near the end of their life and are expected to require replacement within 12-24 months.

The site drainage works are in very poor condition and require substantial works to rectify the issues identified.

All below ground drainage pipes should be pressure tested and a CCTV survey conducted with any issues identified repaired.

In our opinion, given the extent of rectification works required, it may be more cost efficient to consider demolition of the entire building so that Shire funds could be directed at a new facility designed and built in accordance with current standards that may better meet the needs of the senior community.

End of Report

Yours sincerely,

ACNL Engineers Pty Ltd

Niall Logue BEng (Hons) MIEAust MStructE

Director

Endorsed Engineer No; PE0000781

Appendix A

Site Inspection Photographs

Photo	Notes
	Photo 1: Roofing to south of building with vegetation in gutters, degraded fascia boards, and flashing. Possible leaks to service penetrations.
	Photo 2: Roofing to south of building with degraded flashing. Possible leaks to service penetrations.

Photo	Notes
 A photograph showing the exterior of a building with a brick wall and a white canopy over the entrance. A ramp with a metal handrail is visible on the left side of the entrance.	Photo 3: Canopy to west wall to be removed and replaced.
 A close-up photograph of a wooden fascia board that is severely rotted and crumbling. The wood is dark brown and splintered, with a large section missing, revealing the underlying structure.	Photo 4: Rotten fascia boards to canopy.

Photo	Notes
	Photo 5: Canopy not weathertight.
	Photo 6: Evidence of long term water leaks to canopy, staining to soffit and masonry.

Photo	Notes
	Photo 7: Cracking to underside of roof beam at north entry extended down wall measuring up to 2mm wide. Classified as Damage Category 2 or 'Slight' in accordance with AS 2870 Table C1.
	Photo 8: Cracking to west of plumbing void access door on south wall measuring up to 2mm wide. Classified as Damage Category 2 or 'Slight' in accordance with AS 2870 Table C1.

Photo	Notes
	Photo 9: Evidence of long term movement to east of sick bay. Articulation joint (AJ) measuring up to 20mm wide. Original AJ width assumed to be industry standard 10mm for single story building. Classified as Damage Category 3 or 'Moderate' in accordance with AS 2870 Table C1.
	Photo 10: No articulation joint to window on east elevation greater than 1800mm wide.

Photo	Notes
	Photo 11: Insufficient articulation joints to windows on north elevation greater than 1800mm wide.
	Photo 12: Articulation joint on north elevation not in line with pier between windows resulting in crack at window sill. Articulation joint has pinched at top due to footing movement.

Photo	Notes
	Photo 13: Articulation joint to north of west kitchen wall opened at top, pinched at bottom due to footing movement.
	Photo 14: Articulation joint to north of west kitchen wall opened at top to 20mm, pinched at bottom due to footing movement. Sealant not full height allowing water ingress.

Photo	Notes
	Photo 15: Planting built up above timber cladding to east wall. Likely obstructing sub-floor ventilation in adjacent masonry panels.
	Photo 16: Degradation of timber cladding and fascia boards to west wall above canopy. Not weather tight.

Photo	Notes
	Photo 17: Degradation to timber cladding to west wall.
	Photo 18: Degradation to fascia boards to west wall.

Photo	Notes
	Photo 19: No articulation joints to windows on north elevation greater than 1800mm wide. Timber window frame in poor condition.
	Photo 20: No articulation joints to windows on south elevation greater than 1800mm wide.

Photo	Notes
 A close-up photograph of a timber window frame. The frame is made of light-colored wood and shows significant signs of decay, including dark staining and structural weakening. It is set against a white wall, and a brick wall is visible to the right. The floor is covered with brown tiles.	Photo 21: Timber window frame to north wall in poor condition.
 A photograph showing extensive damage to a wall and window frame. The wall is made of brick and has been severely compromised by termite damage, with large sections of the outer layer missing, exposing the internal structure. Debris, including wood and plaster, is scattered on the floor. A window with white blinds is visible in the background.	Photo 22: Extensive termite damage to clad frame on south wall of billiards room. Structural integrity to wall lost.

Photo	Notes
	Photo 23: Termite damage to roof beams in billiards room. Beams to be replaced.
	Photo 24: Termite damage to east wall of sick bay. Wall to be replaced.

Photo	Notes
 A close-up photograph showing severe termite damage to a wooden wall. The wood is heavily decayed and crumbling, with a large section missing, revealing the internal structure. The damage is extensive, with significant loss of material and visible termite activity.	Photo 25: Termite damage to east wall of sick bay.
 A photograph showing rot and borer damage to a sub-floor. The wood is dark, wet, and heavily decayed, with a large section missing. The damage is extensive, with significant loss of material and visible termite activity. A timestamp '15/11/2022 10:31' is visible in the bottom right corner of the photo.	Photo 26: Rot and borer damage to sub- floor of main hall adjacent to library entrance.

Photo	Notes
 A photograph showing severe rot and borer damage to a wooden sub-floor. The wood is heavily decayed, with a large section missing, revealing a dark, hollowed-out interior. A metal fastener is visible in the remaining wood. A timestamp "15/11/2022 10:31" is visible in the bottom right corner.	Photo 27: Rot and borer damage to sub-floor of main hall adjacent to library entrance.
 A photograph showing rot and borer damage to a wooden sub-floor. The wood is heavily decayed, with a large section missing, revealing a dark, hollowed-out interior. A metal fastener is visible in the remaining wood. A timestamp "15/11/2022 10:31" is visible in the bottom right corner.	Photo 28: Rot and borer damage to sub-floor of main hall adjacent to library entrance.

Photo	Notes
 15/11/2022 10:33	Photo 29: Evidence of historic rot and borer damage to sub-floor of main hall adjacent to library entrance with historic local repairs.
 15/11/2022 10:36	Photo 30: Rot and borer damage to sub-floor of main hall adjacent to library entrance.

Photo	Notes
	Photo 31: Screwdriver pushed into face of joist in sub-floor area adjacent to library entrance indicating degradation.
	Photo 32: General photo of clearance to sub-floor in main hall less than 150mm minimum required under the NCC and significantly less than the 400mm required for termite management systems.

Photo	Notes
	Photo 33: General photo of clearance to sub-floor in main hall less than 150mm minimum required under the NCC and significantly less than the 400mm required for termite management systems.
	Photo 34: Corroded baseplate to steel column supporting main hall roof beam onto timber packing over brick pier with face of adjacent raft slab visible to right.

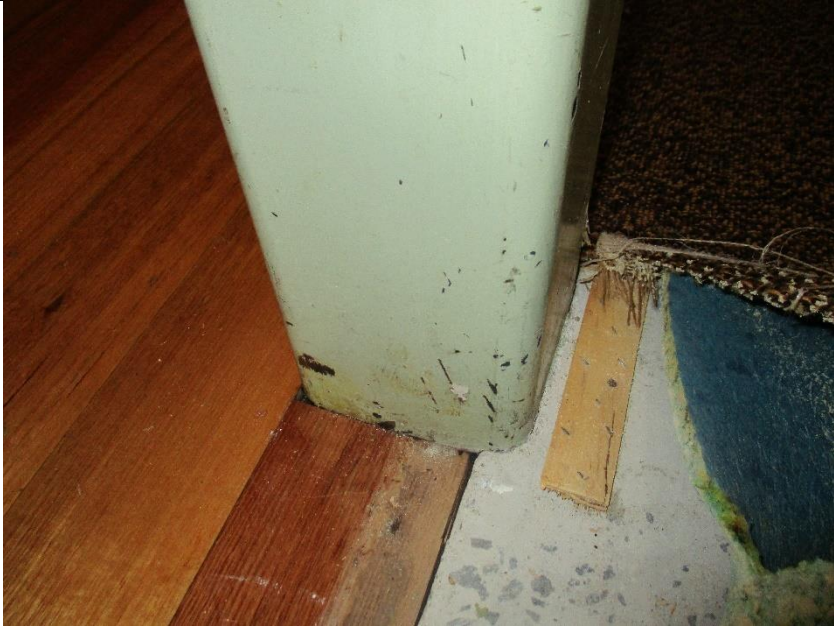
Photo	Notes
	Photo 35: Photo of column in photo 34 from above floor level with raft slab cast against face of steel column.
	Photo 36: Planting built up over sub-floor ventilation to east of sick bay and north of billiards room.

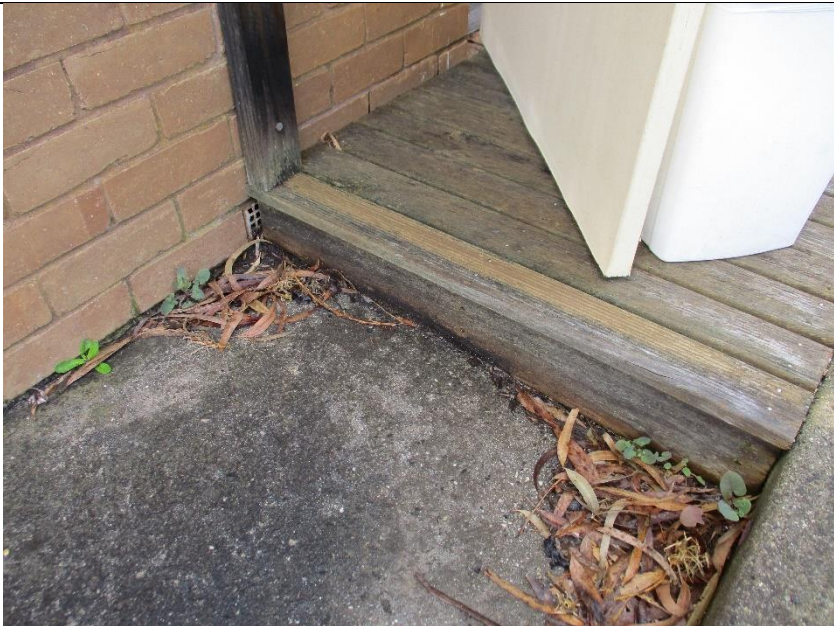
Photo	Notes
	Photo 37: Timber access deck to west wall obstructing sub-floor ventilation. No drainage to sub-floor visible. Insufficient clearance to sub-floor framing.
	Photo 38: Sub-floor framing to access deck to west wall obstructing sub-floor ventilation. No drainage to sub-floor visible. Insufficient clearance to sub-floor framing.

Photo	Notes
 A side view of a brick building with a parking sign. The building has a brick base and a light-colored upper section. A parking sign with a 'P' and a wheelchair symbol is visible. The ground is covered with gravel and some greenery.	Photo 39: No drainage pits visible to north wall at base of retaining wall.
 A view of a brick wall with a drainage pipe. The wall is made of brick and has a white downspout. The ground in front of the wall is covered with grass and some gravel.	Photo 40: Insufficient drainage provision to west wall.

Photo	Notes
	Photo 41: Existing pit to west wall fully blocked.
	Photo 42: No drainage pits visible to east wall. Planting above internal floor levels and against timber cladding obscuring sub-floor ventilation. Ground not graded away from footings.

Photo	Notes
	Photo 43: No drainage pits visible to south wall. Ground not graded away from footings. No pits under external taps.
	Photo 44: Rainwater pipe discharging directly onto broken bitumen pavement to adjacent car park to east wall resulting in high moisture levels of ground adjacent to most severe area of termite damage.

Appendix B

Method of Pipe Inspection

Part A

Method of Inspection of Sub-Surface Waste and Stormwater Pipes.

The following is a recommended method for the inspection of sub-surface domestic or light commercial pipes for determining of leaks or cracks.

1. Flush all pipes with clean clear water. For stormwater pipes this may include removal of silt that has settled in the pipe.
2. All pipes should be camera inspected for blockages and obvious cracks or leaks along full length of section of pipe to be tested.
3. The camera inspection should be undertaken from both ends and in the case of sewer pipes, should include all traps below ground level. All joins in pipes should be carefully inspected to determine if any obvious movement is evident that may indicate improper sealing of the joints. (Cracks or breaks at joints may not be obvious when sighting from one direction only, hence the requirement to view from both directions)
4. After the camera inspection;
 - a. Seal pipe at downslope end of section under consideration. This seal should be visible to determine if any water is leaking from seal or should have another method of leak detection. When undertaking a complete site pipe inspection, the seal should be located as close as possible to the Legal Point of Discharge. (LPOD)
 - b. Establish a location to suitably monitor water level in the section to be tested.
 - c. Fill system with clean or dyed potable water and note time and height of water.
 - d. Allow to stand for 15 minutes and inspect water level. If level has fallen, check if seal is operating properly. Determine if an air lock is possible in system and remove air from system. Top up water to monitor level.
 - e. Allow to stand for 30 minutes minimum.
 - f. Check water level.
 - g. If water level has dropped; To verify if a leak is in the system, measure level drop and refill to previous level then continue to monitor for a further 30 minutes. After this time if all possible causes of water drop have been eliminated (air lock, leaking seal) then a leak in the pipe may be present and it is recommended to undertake further investigations to locate and repair any leak. If water has dropped by same amount over same timeline, then leak is likely cause.

Note that each line of the system may be required to be tested.

If the test is undertaken due to high soil moisture levels near a pipe or due to foundation movement, it should be noted that water may enter and travel along a pipe trench within the pipe bedding material without a pipe leaking.

Part B

Method of testing water supply pipes.

1. Turn off all water use taps and devices. Check that any irrigation supply is disconnected.
2. Record the reading on the water meter. Check if the 'Tell tail wheel' is moving.
3. Check meter after one hour.
4. If meter number has changed or if Tell tail wheel is moving, a possible water supply leak may be the cause.

Appendix C

The Purpose of the Inspection and Report

1. This report is a response to the client's stated purpose for the inspection and scope.
2. To identify a list of issues for information or for discussion, action and resolution.
3. Inform the client of any fault or condition that otherwise can be determined by a visual inspection but may not be apparent to persons with no technical or building knowledge.

Inspection Limitations and Report Disclaimer

This report is not an **Expert Witness VCAT Report** and as such it does not have all the additional details, references and declarations that are required from an expert witness VCAT report (a VCAT report requires more time and research to prepare, and it is therefore not within the limited scope).

Advice Limitations: This report does not contain legal advice. For legal advice contact a lawyer. Anything pertaining to legal aspects are for discussion only.

Safe Access Limitations: The Inspector's decision about safe access to any area on the day of inspection is final. Property inspection can be extremely dangerous due to: work in progress, presence of chemicals (pesticides), asbestos dust, unsafe access, confined spaces, risk of falling, dilapidation of buildings and other hazards. Due to OH & S requirements to provide safe working environment for the inspection the policy of ACNL Engineers Pty Ltd is to inspect only safely accessible areas as defined in AS 4349.1. Where an inspection of unsafe areas is required, and the risk to the inspector is assessed and deemed to be controllable by special precautions, then an additional separate special inspection booking is required. (Eg: access to high roof can be achieved with scissor lift or cherry picker). Re-inspection of inaccessible/ unsafe area requires an additional booking and will attract additional fees.

Visual Inspection Limitations: This report is limited to visual inspection of the property (unless otherwise stated and no measurements or testing were carried out which are considered outside the limits of the report). This report addresses issues that are visible or may be reasonably deduced or inferred from the visual inspection and the inspector kept to safe areas and unobstructed access was possible at the time of inspection. The inspection is non invasive (unless otherwise stated). The inspection policy and procedure is not to move furniture, stored materials etc and there is no interference with personal items. (Wardrobe filled with stored goods will not be accessed).

Residual Risk of Undetected Defects:

There is no expressed or implied guarantee that there are no defects in the property that were not mentioned in the report. Defects that cannot be reasonably discovered by visual inspection such as when: inspection is obstructed, defects are concealed by renovations, are deliberately concealed or are concealed by nature of construction, may not be listed in the report. The client should clearly understand that because of inspection limitations significant residual risks of undetected defects remain. The clients should always consider additional follow up inspection or invasive inspection (at additional cost) to access areas that previously could not have been accessed. Typical examples of special additional inspections are; re inspection of property when vacant, re inspection when obstructions are removed, re inspection when inaccessible areas are opened up by additional manholes, invasive termite damage inspection when wall lining is removed to assess damage.

This is not a termite inspection report.

Assumptions:

In the case of a completed building for which a Certificate of Occupancy has been issued it is assumed that mandatory inspections by relevant authority have been undertaken and that the works have been assessed as in accordance with all requirements of BCA and associated standards. This includes; footings/slab inspection, frame inspection and final inspection.

Note: All findings and comments in this report are subject to veracity of information supplied by the clients and their agents. The report proceeds on the basis that the clients and their agents act in good faith.