Curtin University

Version 2.3
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PF&D CONDITION ASSESSMENT GUIDE
BUILDINGS

Acknowledgements

The provision of documented information used during the compilation of this guide is acknowledged. Curtin University's aim has been to utilise the most up-to-date practical experience being demonstrated by users across Australia.

This guide draws on concepts contained in the International Infrastructure Management Manual (IIMM), IPWEA Practice Note 3: Buildings, and IPWEA Practice Note 10.1: Parks Management.

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Revision History

Ver	Approved /Amended /Rescinded	Date	Committee /Board /Executive Manager	Approval /Resolution Number	Key Changes and Notes
1.0	Amended	11/08/2017	Committee	-	First draft
2.0	Amended		Committee	-	Second draft
2.1	Amended	06/11/2017	Committee	-	Final version, updated to align with SAMP
2.2	Amended	07/12/2017	Committee	-	Minor amendments
2.3	Amended	31/10/2018	Committee	-	Minor amendments from CU review

Contents

1. Purpose and Scope

1.1. Purpose of this Guideline

This guideline has been specifically developed for Curtin University (CU) to:

- Facilitate site and desktop condition assessment of assets;
- Provide guidelines for the assessment process; and
- Describe data capture requirements.

This document is intended to be utilised by asset management staff of Curtin University and contractors engaged by Curtin University engaged to undertake condition assessments. A separate guideline is available for each of the following asset groups:

- Buildings
- Public places
- Inground infrastructure.

1.2. Condition Assessment Purpose

Assets typically deteriorate with time and use in terms of effectiveness, appearance, and potentially function. The rate of declining performance may vary from asset to asset based on quality, usage, maintenance regime, environmental conditions, and functional need.

The purpose of an asset condition assessment is to:

- Assess if the asset is performing effectively;
- Inform condition-based renewal planning (timing and scope);
- Identify any urgent compliance or maintenance needs; and
- Inform other asset planning and operational needs.

1.3. Condition Assessments and Asset Planning

The practice of asset renewal has a direct impact on the future work activities over the assessment period. This section describes the renewal and maintenance strategy that has been applied to the property assets.

Future renewal work activities are forecast based on the assessed Remaining Life (RL) as determined by considering the current condition and function

assessment relative to the expected design life, for each building element. The condition (effectiveness and appearance) assessment determines the current position of the asset relative to the expected performance curve for that asset group. This approach does not require the date of asset installation and considers the utilisation and technical performance of the asset. For example, an asset installed in year 2012 that has an expected design life of 10 years, but has never been used, would produce a 2017 condition rating score that reflects a near new asset. This rating would derive a remaining life expectation of say 9 years, which would calculate an end of life at 2026. Conversely, if an asset was over utilised, then its condition and function would reflect that of an asset further through its expected asset life. On this basis, the remaining life expectation would be less than that contemplated at the time of installation. This concept is illustrated in Figure 1.

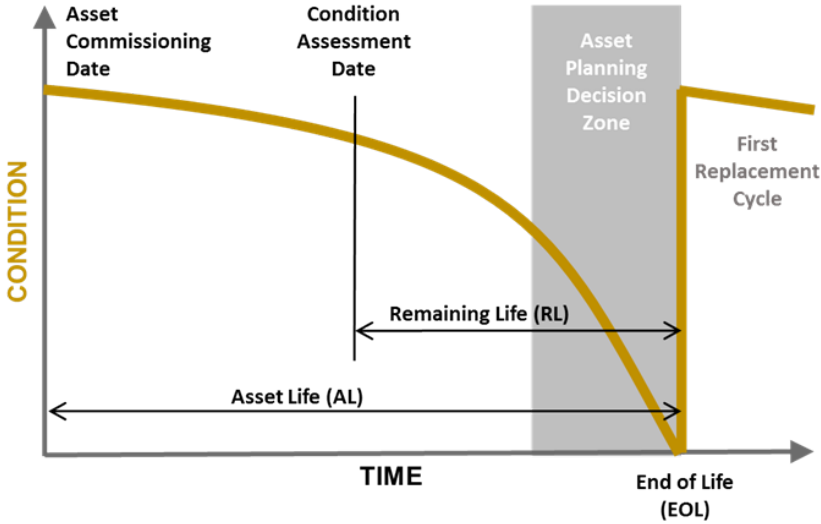


Figure 1: Typical Asset Performance Curve

The asset planning zone identifies the time-period when the asset is examined for renewal purposes. This zone typically captures significant changes to the asset performance with respect to service delivery, risk, and costs.

In best circumstances predicting the EOL is imprecise due to variation in usage, quality and environment. The risk of failure generally increases towards the end of the asset life. This period requires asset evaluation to determine the opportunities to optimise investment and asset outcomes. This time-period is referred to as the Asset Planning Decision Zone.

The calculations used to develop the forward works program follow:

EOL = Current Year + RL

RL = (Minimum Rating [either condition or function] x relevant RL Factor) x AL

Where RL Factor: *Effectiveness RL*

Rating 1 = 5% AL
Rating 2 = 15% AL
Rating 3 = 30% AL
Rating 4 = 45% AL
Rating 5 = 70% AL

AL = Asset life

The time-period in which the asset is expected to provide the service from the time of commissioning through to failure of the asset. The asset life is not subject to adjustment.

The University facilities renewal strategy is influenced by the renewal intervention categories. Specific data is captured in terms of Effectiveness (CE ratings) and Appearance (CA ratings). Safety, compliance issues are typically captured in note form when urgent works are identified.

For condition-based renewal planning, the useful lives need specific consideration to ensure they are appropriate to the asset. Considerations include industry experience, maintenance strategy, and engineering-based observations (effectiveness and appearance). These computed End of Life (EOL) dates are validated by the assessors based upon their experience. There may be numerous 'renewal cycles' during the assessment period depending upon the length of the asset life relative to the assessment period. Subsequent cycles of renewals are forecast based upon the calculated Asset Life (AL).

1.4. Condition Assessment Scope

The scope of the condition assessment is contained within the property assets assessment guideline. This guide addresses:

- Assessment scope;
- Level of assessment;
- Assessment rating system;
- Assessment data;
- Assessment frequency;
- Assessment resources; and
- Assessment program.

2. Condition Assessment Process

2.1. General

This condition assessment is focused on data that will assist an asset planner to identify capital works opportunities in terms of asset replacements and refurbishments. To identify these works Curtin University uses two measures to assess asset condition:

- Effectiveness assessment (CE); and
- Appearance assessment (CA).

These measures are collected separately, however both do not apply to all assets.

Where works are identified, by an experienced asset inspector, that need to be undertaken within five years, a deferral risk assessment is undertaken to identify the implications to cost, safety, and to the operational business of the university. These implications will provide the basis for determining if the works can be deferred from the original assessed end of life timing. This risk assessment is referred to as:

- Deferral Risk assessment (DR)

This guide provides direction to asset inspectors on condition effectiveness (CE), condition appearance (CA), and deferral risk (DR) assessments. These assessments are expected to be completed using a physical inspection of the asset by an appropriately knowledgeable and experienced person.

2.2. Condition Effectiveness Assessment

The purpose of the effectiveness assessment is to determine the assets ability to meet expectations for its intended purpose.

The condition effectiveness assessment is specific to each facility element and sub-element as identified in Table 1.

Table 1: Generic Condition Effectiveness Rating Scale

Rating	Descriptor	Description	Life Remaining
CE5	Very Good	Asset is perfectly fit for purpose in its intended purpose.	>55%
CE4	Good	Asset is functioning well for its intended purpose.	35 - 55%
CE3	Fair	Asset is generally functional for its intended purpose.	20 – 35%
CE2	Poor	Asset is marginally appropriate for its intended purpose.	10 – 20%
CE1	Very Poor	Asset is not meeting expectations for its intended purpose.	< 10%

Examples of poor effectiveness include:

- a carpet floor covering in a wet area;
- an aged and noisy air conditioner in a designated quiet public space; or
- a new roof that leaks.

2.3. Condition Appearance Assessment

The purpose of the condition appearance assessment is to determine the asset visual presentation measured by the extent of defects evident.

The condition appearance assessment relates to the physical appearance of the asset and the condition of the asset. The rating scale is based on IPWEA Practice Note 3, Building Condition & Performance Guidelines and Practice Note 5, Drainage. This rating scale is also consistent with the TEFMA Guideline for condition assessments. The Condition appearance rating scale is shown in Table 2.

Table 2: Generic Condition Appearance Rating Scale

Rating	Descriptor	Description
CA5	Very Good	Asset has no defects; condition and appearance are as new
CA4	Good	Asset exhibits superficial wear and tear, minor defects, minor signs of deterioration to surface finishes; but does not require major maintenance; no major defects exist
CA3	Fair	Asset is in average condition; deteriorated surfaces require attention; services are functional, but require attention; backlog maintenance work exists
CA2	Poor	Asset has deteriorated badly; serious structural problems; general appearance is poor with eroded protective coatings; elements are defective, services are frequently failing; and a considerable number of major defects exist
CA1	Very Poor	Asset has failed; is not operational and is unfit for occupancy or normal use

2.4. Deferral Risk Assessment

A deferral risk assessment in terms of the cost, safety and operational impact is to be undertaken on site for works that are likely to be programmed within the next five years.

Impact on Cost

Cost in this context includes any increase in the original cost estimate to complete the renewal works (capital project) and any maintenance costs that are likely to be incurred during the period of deferral.

Impact on Safety

University users in this context includes any stakeholder who interfaces with the asset. This includes maintenance staff, students, researchers, contractors, visitors, etc.

Impact on Operations / Reputation

University operations and reputation, in this context, includes any issues resulting from the deferral of renewal activities that directly affects the ability for the University to operate normally or create negative impressions on the University.

Table 3: Deferral Risk (DR)

DR Rating	Impact	General Description	Potential Deferral Period
DR5	Insignificant	The deferred works do not expose the asset, surrounding assets, occupants or users to any serious risks, or will have minimal detrimental impact on the cost of remediation, or will not affect university operations / reputation.	Within 5 years
DR4	Minor	The deferred works could possibly have a limited detrimental impact on the asset and/or surrounding assets, with limited potential exposure to health and safety risks, or potential for incurring unnecessary costs, or the potential to have some impact on university operations / reputation.	Within 3 years
DR3	Moderate	The deferred works will have a substantial detrimental impact on the asset and/or surrounding assets, with potential exposure to health and safety risks, or failure of some parts of the asset resulting in high costs or create the potential for impacting university business.	Within 1 year
DR2	Major	The consequential event could result in the failure of the asset with potential health, safety, and harm risk, or failure of some critical parts of the asset resulting in high costs or create the potential for impacting core university business.	Within 6 months
DR1	Extreme	The postponement of works could result in the loss of life, or catastrophic asset failure and incurring significant cost, or significant impact on the core university business.	Immediate

3. Onsite Considerations

3.1. Hidden Aspects

The basis of the condition assessment is a visual surface inspection. Degradation to the appearance of an asset or component can be an indicator of deterioration or failure of the substrate or structure that is not visible. Such indicators of failure are to be noted for further investigation. Typical indicators include stains and watermarks, cracking, settlement, distortion, delaminating elements such as walls and floors etc.

If the assessor has reason to suspect an issue with hidden aspects of an asset, this is to be reported to Curtin University in a timely manner.

3.2. Identification of Maintenance, Safety and Other Issues

Unless otherwise instructed the inspector generally is only required to perform the condition assessment. The inspector is not required to assess legislative compliance with respect to the assets. This includes codes, standards, maintenance repairs, service issues, or other matters.

However, the inspector is likely to be a qualified and experienced practitioner who are expected to exhibit a duty of care. If, during the assessment, the inspector identifies any issues of concern, these should be reported to Curtin University in a timely manner.

4. Condition Rating

4.1. Condition Rating Reporting

The condition rating reporting specification presented in Table 4 provides direction for the condition assessment data collection process. Explanations for the column follow:

Reference level	Defines the level at which the rating is assigned in terms of the parent asset, for example with building asset, the asset data can be assigned to the building/elevation, floor or room;
Assessment level	Represents the level of assessment. Level 1 is a desktop assessment, level 2 is a walk-through assessment and level 3 is a detailed assessment;
Rating type	Defines the rating type with respect to either a summary condition rating (single number) or condition profile rating (assigning proportional percentages across multiple ratings).
Condition type	Defines if the assessment is to be undertaken in terms of effectiveness (CE), and/or appearance (CA).

4.2. Condition Rating Specification

Table 5 provides the specification for determining the most appropriate condition rating for effectiveness (CE) and appearance (CA).

Table 4: Asset and Condition Reporting Specification

Asset Group	Element	Sub Element	Asset	Reference Level	Assess Level	Rating Type	Condition Type
Buildings	Structure	Sub-structure	Sub-structure	Building	1	S	E
		Super-structure	Columns	Floor	1	S	E
			Floors	Floor	1	S	E
			Staircases	System	2	S	E&A
			Roof	Building	2	P	E&A
		External Fabric & Finishes	External Walls	Building	2	P	E&A
			Windows	Room	2	P	E
			External Doors	Building	2	S	E&A
			Covered Veranda	Building	2	P	E&A
Buildings	Interiors	Internal Fabric	Internal Walls	Room	2	S	E
			Internal Ceilings	Room	2	S	E
			Internal Doors	Room	2	S	E&A
		Internal Finishes	Wall Finishes	Room	2	S	E&A
			Floor Finishes	Room	2	S	E&A
			Ceiling Finishes	Room	2	S	E&A
		Fittings	Fitments	Room	2	S	E&A
			Special Equipment	Room	2	S	E&A

Asset Group	Element	Sub Element	Asset	Reference Level	Assess Level	Rating Type	Condition Type
Buildings	Services	Hydraulics	Sanitary Fixtures	Room	3	S	E
			Sanitary Plumbing	Room	3	S	E
			Water Supply	Room	3	S	E
			Gas Services	Room	3	S	E
		HVAC	Space Heating	System	3	S	E
			Ventilation	Room	3	S	E
			Evaporative Cooling	System	3	S	E
			AC (Ducted)	System	3	S	E
			AC (Package)	Room	3	S	E
		Fire Protection	Fire Protection	System	3	S	E
		Electrical	Light and Power	Room	2	S	E
			Security System	System	2	S	E
		Communications	Communications	System	2	S	E
		Transport	Transport Systems	System	2	P	E&A
		Other	Special Services	Room	3	P	E&A

***Legend** – refer section 4.1 for details*

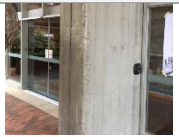
Assessment Level: (1) desktop; (2) visual; (3) investigative

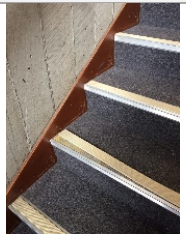
Rating Type: (P) profile (S) singular

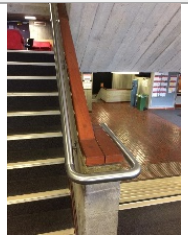
Condition Type: (E) effectiveness; (A) appearance;

Table 5: Condition Rating Specification

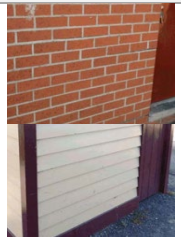
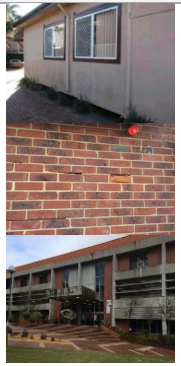
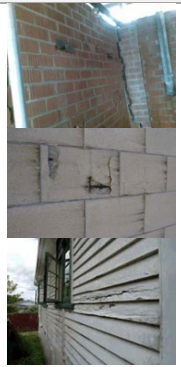
Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Structure	Sub-structure	Sub-structure	CE	 No signs of fretting, cracking, settlement, deflection or displacement of sub-structure or structure. No signs of moisture, mildew or mould. Well ventilated	 No signs of deflection, settlement or displacement of sub-structure. Some minor cracking or fretting. No signs of moisture, mildew or mould, good ventilation	 Minor deflection of members (<3mm), cracking of concrete with no signs of spalling, minor decay of timber, steelwork protective coating breakdown less than 5% of the surface area. Minor signs of moisture, mildew and mould. Poor ventilation.	 Signs of Cracking or displacement of joints and fixings. Deflection of members (between 3mm and 10mm), cracking of concrete with spalling, decay of timber with loss of section, steelwork protective coating breakdown greater than 10%. Visible moisture. Mould or mildew over 50% of surfaces. Dank air. Non-structural termite damage	 Cracking or displacement of joints and fittings. Excessive deflection and/or broken subfloor elements, spalling of reinforced concrete with reinforcing steel exposed, extensive decay of timber, Steelwork pitted with loss of section. Mould, mildew. Surfaces wet. Termite damage to structural elements. Dank air.
				CA	N/A	N/A	N/A	N/A	N/A

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Super-structure	Super-structure	Columns	CE	No signs of fretting, cracking, settlement, deflection or displacement of sub-structure or structure.	 No signs of deflection, settlement or displacement of sub-structure. Some minor cracking or fretting.	Minor deflection of members (<3mm), cracking of concrete with no signs of spalling, minor decay of timber, steelwork protective coating breakdown less than 5% of the surface area.	Signs of Cracking or displacement of joints and fixings. Deflection of members (between 3mm and 10mm), cracking of concrete with spalling, decay of timber with loss of section, steelwork protective coating breakdown greater than 10%.	Cracking or displacement of joints and fittings. Excessive deflection and/or broken subfloor elements, spalling of reinforced concrete with reinforcing steel exposed, extensive decay of timber, Steelwork pitted with loss of section.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Super-structure	Super-structure	Floors	CE	Functioning effectively	Functioning effectively, minor cracking	Signs of deflection or deterioration of slabs and timber such as rust, cracking. Signs of surface corrosion on bolts and fixings	Deflection apparent, significant cracking, splitting or rotting of timbers, corrosion, spalling, evidence of concrete cancer. Fittings and fixings corroded.	Structural integrity compromised. Deflection or sagging, significant cracking, spalling exposing reinforcing steel, corrosion of reinforcing steel evident on underside, corroded fittings and fixings
				CA	N/A	N/A	N/A	N/A	N/A

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Super-structure	Super-structure	Staircases	CE	Functioning effectively	Functioning effectively, minor cracking	Signs of deflection or deterioration of slabs and timber such as rust, cracking. Signs of surface corrosion on bolts and fixings. Treads or grabrails functioning effectively	 Deflection apparent, significant cracking, splitting or rotting of timbers, corrosion, spalling, evidence of concrete cancer. Fittings and fixings corroded. Treads or grabrails worn slippery, loose or uneven.	Structural integrity compromised. Deflection or sagging, significant cracking, spalling exposing reinforcing steel, corrosion of reinforcing steel evident on underside, corroded fittings and fixings. Treads or grab rails missing, badly worn, slippery, uneven or loose

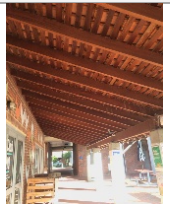
Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
				CA	 As new, no signs of deflection, discolouration or cracking	 Weathered surface, minor surface discolouration, hairline cracking, minor chipping evident.	Weathered surface, Significant discoloration and staining, failing coatings, minor surface defects including rust.	Severe discolouration and rust staining, cracking and spalling evident on underside. Signs of splitting and rotting of timbers, concrete cancer in concrete and rust in steelwork.	Severe discolouration and staining, cracking and spalling (severe and/or extensive) corrosion of reinforcing steel, rotting and splitting of timbers.
Buildings	Super-structure	Super-structure	Roof	CE	Weather proof, no signs of leaks and appears secure in high winds.	Weather proof, no signs of leaks and appears secure in high winds.	Weather proof, no signs of leaks and appears secure in high winds.	Some leaks. Concern about security and integrity in high winds.	Significant leaks. Doubts about security and integrity in high winds
				CA	 Free of defects, excellent visual appearance.	 Minor breakdown of protective coatings with no signs of corrosion. Minor cracking of concrete.	Minor surface corrosion less than 5% of surface area. Cracking of concrete or tiles. Surface corrosion of fittings and fittings.	Surface corrosion between 5 and 10% of surface area. Repaired holes within roofing material. Cracking and spalling of concrete and tiles. Loose tiles or	Loose sheeting, missing tiles or obvious holes. Large areas of corrosion, unrepaired holes within roofing material, or misaligned sheets.

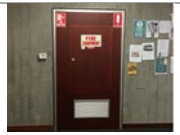
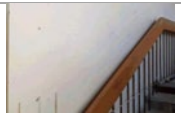
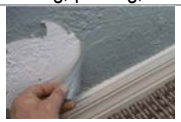
Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
								sheets. Batons, struts, beams showing signs of splitting or rotting. Corrosion of fixings or fittings.	Deflection, sagging, cracking of concrete.
Buildings	Super-structure	External Fabric & Finishes	External Walls	CE	Functioning effectively. No defects. Surface fixture's working effectively.	Functioning effectively. Some minor components misaligned. Minor distortion of flashing, minor loss of sealants and membranes. Surface fixtures working effectively	Functioning effectively. Surface defects, cracking or rust evident but not compromising function or weatherproofing. compromising Localised failures of membranes, flashings and sealants. Fixtures sound but showing wear and tear	Function compromised. Minor misalignment of components. Gaps or cracks in walls, damaged blockwork, significant corrosion, signs of concrete cancer. Defects requiring repair. Failure of sealing, membranes, flashing. Surface fixtures showing signs of corrosion or damage.	Function compromised and concerns about stability. Weatherproofing compromised. Gaps and misalignments. Components out of alignment. Missing sections or blocks. Major cracking, spalling, exposed reinforcement, holes breaching wall. Surface fixtures missing, corroded, loose or damaged.

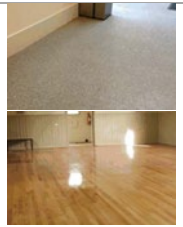
Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
				CA	 Free of visible defects, surface coatings as new, excellent visual appearance	 Some minor cracking, weathering or discolouration minor chipping or scratching; minor damage to surface coatings	 Weathered surface, some chipping, surface defects or minor cracking. Signs of rust. Discoloration and staining, failing surface coatings. Minor graffiti	 Weathered surface, chipping, surface defects or cracking. Rust. Signs of fretted mortar. Discoloration and staining, failing surface coatings. Extensive graffiti	 Badly Weathered surface, chipping, surface defects cracking. Spalling of concrete or masonry. Fretted mortar. Rust over large areas. Discoloration and staining, failing surface coatings. Extensive graffiti

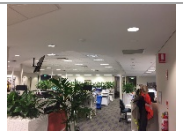
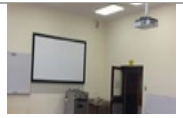
Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Super-structure	External Fabric & Finishes	Windows	CE	 Free of defects, excellent visual appearance, and faultless operation.	 Effective closure, good air tightness, minor wear marks on handles or operating, weathered framing surface.	Limited faulty closure, minor air leaks, localised scratches on glass, initial signs of tint integrity damage, failing coatings and minor surface splits of framing	Poor sealing, generally difficult operation, ineffective locking, extensive marking on frames, scratched glass, distorted frames, extensive internal condensation, splitting, dry rot or corrosion in frame	Generally faulty closure, defective or damaged locking and operating component, extensive cracked or broken glass, >50% loss of tint integrity, splitting or decay compromising structural integrity of framing.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Structure	External Fabric & Finishes	External Doors	CE	Functioning effectively	Minor wear marks on handles or operating system.	Some stiffness in operation.	Ineffective locking or operation of operating systems.	Defective or damaged locking and operating components.
				CA	 "as new" appearance	 Discolouration, scuff	 Chipping, minor delamination of facing material at door edges, gouging <20mmØ.	Extensive surface chips or marks, extensive delamination of facings, gouging >20mmØ.	Door facings extensively detached.

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
						marks and minor scratching			
Buildings	Super-structure	External Fabric & Finishes	Covered Veranda	CE	Functioning effectively. No defects. Surface fixtures working effectively.	Functioning effectively. Some minor components misaligned. Railing and surface fixtures working effectively	Functioning effectively. Surface defects, cracking or rust evident but not compromising function or weatherproofing. Compromising. Localised failures of membranes, flashings and sealants. Fixtures and railing sound but showing wear and tear	Function compromised. Minor misalignment of components. Gaps or cracks in walls, damaged blockwork, significant corrosion, signs of concrete cancer. Defects requiring repair. Failure of sealing, membranes, flashing. Surface fixtures and railing showing signs of corrosion or damage.	Function compromised and concerns about stability. Weatherproofing compromised. Gaps and misalignments. Components out of alignment. Missing sections or blocks. Major cracking, spalling, exposed reinforcement, holes breaching wall. Surface fixtures missing, corroded, loose or damaged.

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
				CA	 Free of visible defects, surface coatings as new, excellent visual appearance	 Some minor cracking, weathering or discolouration minor chipping or scratching; minor damage to surface coatings	 Weathered surface, some chipping, surface defects or minor cracking. Signs of rust. Discoloration and staining, failing surface coatings. Minor graffiti	 Weathered surface, chipping, surface defects or cracking. Rust. Signs of fretted mortar. Discoloration and staining, failing surface coatings. Extensive graffiti	Badly Weathered surface, chipping, surface defects cracking. Spalling of concrete or masonry. Fretted mortar. Rust over large areas. Discoloration and staining, failing surface coatings. Extensive graffiti
Buildings	Interiors	Internal Fabric	Internal Walls	CE	Functioning well	Functioning effectively	Functioning effectively, joints and seals may have defects	Gaps in seals and joints, flaking, dust and other issues	Panels broken or missing, holes in walls
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Interiors	Internal Fabric	Internal Ceilings	CE	Functioning well	Functioning effectively, minor deterioration of surfaces	Functioning effectively, joints and seals may have defects	Gaps in joints, flaking, dust, minor water damage, some unevenness and other issues	Panels broken or missing, grid system support failures, and water damage

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Interiors	Internal Fabric	Internal Doors	CE	Functioning effectively	Minor wear marks on handles or operating system.	Some stiffness in operation.	Ineffective locking or operation of operating systems.	Defective or damaged locking and operating components.
				CA	"as new" appearance	 Discolouration, scuff marks and minor scratching	Chipping, minor delamination of facing material at door edges, gouging <20mmØ.	Extensive surface chips or marks, extensive delamination of facings, gouging >20mmØ.	Door facings extensively detached.
Buildings	Interiors	Internal Finishes	Wall Finishes	CE	Functioning well and appropriate for the space use.	Functioning effectively	Functioning effectively, small localised failures.	Localised failures of finishes, such as flaking, peeling, etc	Finish is failed or inappropriate for space use.
				CA	 Excellent visual appearance.	 Scuff marks, scratches and minor chipping, faded or peeling surfaces	 Minor surface cracking, scuff marks, scratches, gouges	 Surface gouging, staining, loss of surface coatings, scratches and chipping	 Severe discolouration, surface damages, holes, peeling or delamination

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Interiors	Internal Finishes	Floor Finishes	CE	Functioning well and appropriate for the space use.	Functioning effectively minor deterioration of surfaces	Functioning effectively, small localised failures.	Localised failures of finishes, such as lifting, excessive wear	Finish is failed or inappropriate for space use.
				CA	 Excellent visual appearance.	 Scuff marks, scratches and minor chipping, faded or fraying surfaces	 Minor surface cracking, scuff marks, scratches, gouges	 Surface gouging, staining, loss of surface coatings, scratches and chipping	 Severe discolouration, surface damages, holes, peeling or delamination
Buildings	Interiors	Internal Finishes	Ceiling Finishes	CE	Functioning well and appropriate for the space use.	Functioning effectively, minor deterioration of surfaces	Functioning effectively, small localised failures	Localised failures of finishes, such as panel loss of strength, etc	Finish is failed or inappropriate for space use.
				CA	 Excellent visual appearance.	Scuff marks, scratches and minor chipping, faded or peeling surfaces	Minor surface cracking, scuff marks, scratches, gouges	 Surface gouging, staining, loss of	Severe discolouration, surface damages, holes, peeling or delamination

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
								surface coatings, scratches and chipping	
Buildings	Interiors	Fittings	Fitments	CE	Functioning well	Functioning effectively	Functioning effectively, joints and seals may have defects, minor misalignment, loose	Gaps in seals and joints, misalignment, loose or rusted connections, possible functional and service risks	Broken or missing elements, misalignment, identified safety or functional risks
				CA	 Excellent visual appearance.	Scuff marks, scratches and minor chipping, faded or peeling surfaces	Minor surface cracking, scuff marks, scratches, gouges	Surface gouging, staining, loss of surface coatings, scratches and chipping	Severe discolouration, surface damages, holes, peeling or delamination
Buildings	Interiors	Fittings	Special Equipment	CE	Functioning well	Functioning effectively	Functioning effectively, joints and seals may have defects, minor misalignment, loose	Gaps in seals and joints, misalignment, loose or rusted connections, possible functional and service risks	Broken or missing elements, misalignment, identified safety or functional risks
				CA	 Excellent visual appearance.	Scuff marks, scratches and minor chipping, faded or peeling surfaces	Minor surface cracking, scuff marks, scratches, gouges	Surface gouging, staining, loss of surface coatings, scratches and chipping	Severe discolouration, surface damages, holes, peeling or delamination

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
Buildings	Services	Hydraulics	Sanitary Fixtures	CE	 Functioning effectively	 In good condition with no detectable leaks	 Minor leakage, stained, chipping and scratching	Leakage evident, intermittent blockages, fastenings loose, damage to fixtures	Fixture is not functioning effectively, is unstable and or broken with leaks
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Hydraulics	Sanitary Plumbing	CE	 Functioning effectively	In good condition with no detectable obstructions or breaks	 Minor or intermittent blockages, stained, chipping and scratching, intermittent odour problem	Regular blockages, flow restricted, fastenings loose, damage to fixtures, persistent odour problem	Fixture is not functioning effectively, is unstable and or broken with leaks, blocked and broken pipes
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Hydraulics	Water Supply	CE	 Functioning effectively, pressure and flow adequate	In good condition with no detectable leaks, pressure and flow adequate	Minor leakage, stained, chipping and scratching, pressure and flow adequate	Leakage evident, intermittent blockages, fastenings loose, damage to fixtures, pressure or flow restricted	Fixture is not functioning effectively, is unstable and or broken with leaks, pressure or flow inadequate

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Hydraulics	Gas Services		CE	Functioning effectively	In good condition with no detectable leaks	Minor leakage, stained, chipping and scratching	Leakage evident, intermittent blockages, fastenings loose, damage to fixtures
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	HVAC	Space Heating	CE	The Heater is operating correctly and appears sound and integral. There are no signs of any defect, deficiencies or risk to the facility or operators. Unit is operating as per original design elements.	The Heater is operating correctly. There are minor signs of general wear with elements and associated components. Unit is operating correctly without any danger or risk to operators /facility or operation of the plant.	The Elements and associated components are showing signs of wear. There are non-functional components. Repairs and Maintenance are required.	The Heater and associated components have deteriorated badly, faulty and non-functional components, and needs replacement in the short term.	Non-Functional and unable to repair, beyond economical life. The unit is operating at a danger to the asset or occupants.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	HVAC	Ventilation	CE	The unit is operating correctly and appears sound and integral. There are no signs of any	The unit has some signs of surface corrosion, general wear, but is working satisfactory for its	The Unit is in average condition, has some surface corrosion and non-functional or Dirty	The unit has deteriorated badly, with corrosion, faulty and non- functional components, and is	Non-Functional and unable to repair, beyond economical life. The unit is operating at a

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
					defect or risk to the facility or operators.	age without any danger or risk to operators/facility or operation of the plant.	components. The unit is deteriorating. Unit requires minor repairs and Maintenance.	in need of replacement in the short term.	danger to the asset or occupants.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	HVAC	Evaporative Cooling	CE	Unit is operating correctly with no signs of deterioration from original design conditions. There is no risk or danger to the operators/facilities or the operation of the plant.	Unit is operating with some signs of general wear and scale. System is operating with no signs of reduced capacity. The Unit is all sound and integral with no risk to the operators/facility or operation of the plant.	 Unit is in average condition with visible signs of wear. Unit needs minor maintenance. There are signs of corrosion and scale and splash eliminators/fill are deteriorating.	The Unit is in poor condition with visible rust/corrosion. Tower and equipment are becoming towards the end of its economic life span and require repairs and or replacement in the short term.	Non-Functional and unable to repair, beyond economical life. There is need of replacement and is a danger/risk to the operators/facility and the operation of the plant.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	HVAC	AC (Ducted)	CE	The Refrigeration Unit is operating correctly without any signs of deficiencies	The Refrigeration Unit has some signs of surface corrosion, general wear, and	The Refrigeration Unit is in average condition, has some surface corrosion	The Refrigeration Unit has deteriorated badly, with corrosion, faulty	Non-Functional and unable to repair, beyond economical life. The unit is

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
					or faults. There is no risk to operators or with the operation of this plant.	slight deficiencies with performance. The plant is operating satisfactory.	and deficiencies with performance. Unit is deteriorating.	and non- functional components, poor efficiency and is in need of replacement in the short term.	operating at a danger to the asset or occupants.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	HVAC	AC (Packag e)	CE	The Package Unit is operating correctly without any signs of deficiencies or faults. There is no risk to operators or with the operation of this plant.	The Package Unit has some signs of surface corrosion, general wear, and slight deficiencies with performance. The plant is operating satisfactory.	The Package Unit is in average condition, has some surface corrosion and deficiencies with performance. Unit is deteriorating.	The Package Unit has deteriorated badly, with corrosion, faulty and non- functional components, poor efficiency and needs replacement in the short term.	Non-Functional and unable to repair, beyond economical life. The unit is operating at a danger to the asset or occupants.
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Fire Protection	Fire Protectio n	CE	The equipment is operating "As new" with no defects or issues. Well signposted.	The equipment is operating correctly with no defects or issues; minor signs of age or wear; adequately signposted	The equipment is almost entirely operating correctly with possibly some minor faults in non-critical elements; signs of age or wear; maintenance is needed; adequately signposted	The equipment is mostly operating correctly with some reported faults and defects, repairs or replacements needed, possible issues of obsolescence; there is a perceived risk that needs to be	The equipment is only partially operating and contains faults and defects which substantially affect its function; repairs and replacements urgently needed, elements are obsolete; there are

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
								assessed; signposting less than required	identified safety risks, poor sign posting
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Electrical	Light and Power	CE	 Functioning well	Functioning effectively	Functioning satisfactorily, some minor deterioration of non-critical elements	Functioning marginally, minor defects and issues, possible obsolescence	Broken or missing elements, identified functional issues
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Electrical	Security System	CE	Functioning well	Functioning effectively	Functioning satisfactorily, some minor deterioration of non-critical elements	Functioning marginally, minor defects and issues, possible obsolescence	Broken or missing elements, identified functional issues
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Communications	Communications	CE	Functioning well	 Functioning effectively	Functioning satisfactorily, some minor deterioration of non-critical elements	Functioning marginally, minor defects and issues, possible obsolescence	Broken or missing elements, identified functional issues
				CA	N/A	N/A	N/A	N/A	N/A
Buildings	Services	Transport	Transport Systems	CE	Fully functional	Operating effectively	Operating satisfactorily, some	Operating but less than satisfactorily, some defective	Non-function, key features disabled,

Asset Group	Element	Sub Element	Asset	Type	5 Very Good	4 Good	3 Fair	2 Poor	1 Very Poor
							minor maintenance issues	features, possible obsolescence, poor user perception	poor safety, user dissatisfaction'
				CA	"as new" appearance	Discolouration, scuff marks and minor scratching	Chipping, minor delamination of facing material,	Extensive surface chips or marks, extensive delamination of facings, excessively noisy operations.	Unit is extensively deteriorated and shabby, scratching and damage of surfaces, excessively noisy
Buildings	Services	Other	Special Services (e.g. Passeng er lift)	CE	Fully functional	Operating effectively	Operating satisfactorily, some minor maintenance issues	Operating but less than satisfactorily, some defective features, possible obsolescence, poor user perception	Non-function, key features disabled, poor safety, user dissatisfaction
				CA	New condition	Minor surface weathering, damage or exposure	Protective coatings are failing, minor surface corrosion or damage	Protective coatings have largely failed, surface corrosion and damage	Pitting of the surface, corrosion, damage, wear and tear

Notes