



# Standard Classification for Serviceability of an Office Facility for Structure and Building Envelope<sup>1,2</sup>

This standard is issued under the fixed designation E 1700; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This classification contains pairs of scales (see Figs. 1-6) for classifying an aspect of the serviceability of an office facility, that is, the capability of an office facility to meet certain possible requirements for structure and building envelope.

1.2 Within that aspect of serviceability, each pair of scales (see Figs. 1-6) are for classifying one topic of serviceability. Each paragraph in an Occupant Requirement Scale summarizes one level of serviceability on that topic, which occupants might require. The matching entry in the Facility Rating Scale is a translation of the requirement into a description of certain features of a facility which, taken in combination, indicate that the facility is likely to meet that level of required serviceability.

1.3 The entries in the Facility Rating Scale (see Figs. 1-6) are indicative and not comprehensive. They are for quick scanning, to estimate approximately, quickly, and economically, how well an office facility is likely to meet the needs of one or another type of occupant group, over time. The entries are not for measuring, knowing, or evaluating how an office facility is performing.

1.4 This classification can be used to estimate the level of serviceability of an existing facility. It can also be used to estimate the serviceability of a facility that has been planned but not yet built, such as one for which single-line drawings and outline specifications have been prepared.

1.5 This classification indicates what would cause a facility to be rated at a certain level of serviceability, but does not state how to conduct a serviceability rating nor how to assign a serviceability score. That information is found in Practice E 1334. The scales in Figs. 1-6 are complimentary to and compatible with Practice E 1334. Each requires the other.

<sup>1</sup> This classification is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

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<sup>2</sup> Portions of this document are based on material originally prepared by the International Centre for Facilities (ICF) and © 1993 by ICF and Minister of Public Works and Government Services Canada. Their cooperation in the development of this standard is acknowledged.

## 2. Referenced Documents

### 2.1 ASTM Standards:

E 631 Terminology of Building Constructions<sup>3</sup>

E 1334 Practice for Rating Serviceability of a Building or Building-Related Facility<sup>3</sup>

E 1679 Practice for Setting Requirements for Serviceability of a Building or Building-Related Facility<sup>3</sup>

### 2.2 ISO Documents:<sup>4</sup>

ISO 6240 International Standard, Performance Standards in Building—Contents and Presentation

ISO/DIS 7162 Draft International Standard, Performance Standards in Building—Contents and Format of Standards for Evaluation of Performance

ISO/DIS 7164 Draft International Standard, Performance Standards in Building—Definitions and Means of Expression for the Performance of a Whole Building

## 3. Terminology

### 3.1 Definitions:

3.1.1 *facility, n*—a physical setting used to serve a specific purpose.

3.1.1.1 *Discussion*—A facility may be within a building, or a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.

3.1.2 *facility serviceability*—the capability of a facility to perform the function(s) for which it is designed, used, or required to be used.

3.1.2.1 *Discussion*—The scope of this performance is of the facility as a system, including its subsystems, components, and materials and their interactions, such as acoustical, hydrothermal, air purity, and economic; and of the relative importance of each performance requirement.

3.1.3 *office*—a place, such as a room, suite, or building, in which business, clerical, or professional activities are conducted.

<sup>3</sup> Annual Book of ASTM Standards, Vol 04.11.

<sup>4</sup> Available from American National Standards Institute, 11 W. 42nd St., 13 Floor, New York, NY, 10036.

3.1.4 For standard definitions of additional terms applicable to this classification, as well as those in 3.1.1-3.1.3, see Terminology E 631.

#### 4. Significance and Use

4.1 Each Facility Rating Scale in this classification (see Figs. 1-6) provides a means to estimate the level of serviceability of a building or facility for one topic of serviceability, and to compare that level against the level of any other building or facility.

4.2 This classification can be used for comparing how well different buildings or facilities meet a particular requirement for serviceability. It is applicable despite differences such as location, structure, mechanical systems, age, and building shape.

4.3 This classification can be used to estimate the amount of variance of serviceability from target or from requirement, for a single office facility, or within a group of office facilities.

4.4 This classification can be used to estimate the following:

4.4.1 Serviceability of an existing facility for uses other than its present use.

4.4.2 Serviceability (potential) of a facility that has been planned but not yet built.

4.4.3 Serviceability (potential) of a facility for which a remodeling has been planned.

4.5 Use of this classification does not result in building evaluation or diagnosis. Building evaluation or diagnosis generally requires a special expertise in building engineering or technology, and the use of instruments, tools, or measurements.

4.6 This classification applies only to facilities that are building constructions, or parts thereof. (While this classification may be useful in rating the serviceability of facilities that are not building constructions, such facilities are outside the scope of this classification.)

#### 5. Basis of Classification

5.1 The scales in Figs. 1-6 contain the basis for classification.

5.2 Instructions for use of this classification are contained in Practices E 1334 and E 1679.

#### 6. Keywords

6.1 basement; serviceability of; building; building envelope and structure; facility; facility occupants; function; office; performance; rating; rating scale; requirements; roofs; serviceability of; serviceability; structure and building envelope; walls (external) and projections; serviceability of

**B.1. Structure and Building Envelope**

**Scale B.1.1. Typical office floors**

Facility Management Requirement Scale	Facility Rating Scale
<p><b>9</b> <input type="checkbox"/> ○ <b>AREAS FOR HEAVY LOADS:</b> Heavy loading is necessary in large areas, e.g. safes or compact filing. ○ <b>REQUIREMENT FOR LEVEL FLOORS:</b> Floors must be so consistently level and even that no adjustments to furniture or screens are needed.</p>	<p><b>9</b> <input type="checkbox"/> ○ <b>Information on allowable loading:</b> Information is readily available at the site, e.g. on drawings available to occupants. ○ <b>Floor load capacity:</b> Floor load capacity meets or exceeds 7.2 kPa (150 psf) for office loads, plus 1 kPa (20 psf) for partitions in all office areas. Heavy loads of 12 kPa (250 psf) for office loads, plus 1 kPa (20 psf) for partitions are possible in generous-size zones (each at least one column bay between 4 columns), for at least 20% of each office floor. ○ <b>Levelness and evenness:</b> Floors are superior, e.g. tall screens need no adjustment.</p>
<p><b>7</b> <input type="checkbox"/> ○ <b>AREAS FOR HEAVY LOADS:</b> Operations require some areas for heavy loads. ○ <b>REQUIREMENT FOR LEVEL FLOORS:</b> Overall, floors must be level and even.</p>	<p><b>7</b> <input type="checkbox"/> ○ <b>Information on allowable loading:</b> Information is readily available, e.g. in Asset Management Plan. ○ <b>Floor load capacity:</b> Floor load capacity meets or exceeds 2.9 kPa (60 psf) for office loads, plus 1 kPa (20 psf) for partitions. There are designated zones for heavy loads of 7.2 kPa (150 psf) for office loads, plus 1 kPa (20 psf) for partitions, equal to at least 10% of floor area. ○ <b>Levelness and evenness:</b> Floors are good, e.g. furniture and screens seldom need adjustment.</p>
<p><b>5</b> <input type="checkbox"/> ○ <b>AREAS FOR HEAVY LOADS:</b> Require a standard level of floor load capacity, with no designated areas for heavy loads necessary. ○ <b>REQUIREMENT FOR LEVEL FLOORS:</b> Floors must be generally level and even; can tolerate making minor adjustments to screens, partitions and furniture.</p>	<p><b>5</b> <input type="checkbox"/> ○ <b>Information on allowable loading:</b> Information is difficult to obtain, e.g. only from original specifications. ○ <b>Floor load capacity:</b> Floor load capacity is standard, e.g. it meets local code requirements for normal loads. There is no designated zone for heavy loads, e.g. a safe or compact filing. ○ <b>Levelness and evenness:</b> Floors are acceptable, e.g. screens, furniture and partitions need minor adjustments in some areas.</p>
<p><b>3</b> <input type="checkbox"/> ○ <b>AREAS FOR HEAVY LOADS:</b> No designated areas for heavy loads are needed. ○ <b>REQUIREMENT FOR LEVEL FLOORS:</b> Occupants are willing to tolerate problems with levelling furniture and screens.</p>	<p><b>3</b> <input type="checkbox"/> ○ <b>Information on allowable loading:</b> Information is very difficult to obtain, e.g. requires an engineer's report. ○ <b>Floor load capacity:</b> Floor load capacity is limited, due to a lack of information, or, it marginally meets local code requirements for older buildings, e.g. 2.4 kPa (50 psf), plus 1 kPa (20 psf) for partitions. There is no designated zone for heavy loads, e.g. a safe or compact filing. ○ <b>Levelness and evenness:</b> Floors are marginal, e.g. furniture and screens are difficult to level in some areas.</p>

**Scale B.1.1 continued on next page**

FIG. 1 Scale B.1.1 for Typical Office Floors

**B.1. Structure and Building Envelope**

**Scale B.1.1. Typical office floors (continued)**

Facility Management Requirement Scale	
1 <input type="checkbox"/>	<p>○ <b>AREAS FOR HEAVY LOADS:</b> Occupants have absolutely no requirement for heavy loading of floors.</p> <p>○ <b>REQUIREMENT FOR LEVEL FLOORS:</b> Levelness and evenness of floors does not affect operations.</p>

Facility Rating Scale	
1 <input type="checkbox"/>	<p>○ <b>Information on allowable loading:</b> No information is available despite an extensive search.</p> <p>○ <b>Floor load capacity:</b> Floor load capacity is limited, due to a lack of information, or, it is well below 2.4 kPa (50 psf), plus 1 kPa (20 psf) for partitions, and below current local code requirements for new construction.</p> <p>○ <b>Levelness and evenness:</b> It is unacceptable, e.g. furniture, screens cannot be leveled. Relocatable partitions are not usable.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 1 Scale B.1.1 for Typical Office Floors (continued)

**B.1. Structure and Building Envelope**

**Scale B.1.2. External walls and projections**

<p><b>Facility Management Requirement Scale</b></p>	<p><b>Facility Rating Scale</b></p>
<p>9 <input type="checkbox"/> ○ <b>CONDITION OF BUILDING EXTERIOR WALLS:</b> The exterior of the building needs to be in like-new condition.</p> <p>○ <b>EVIDENCE OF WATER PENETRATION:</b> No interior evidence of water penetration.</p>	<p>9 <input type="checkbox"/> ○ <b>Permanence of exterior finishes:</b> All finishes are permanent with no exterior painting needed.</p> <p>○ <b>Water penetration:</b> Sealants in wall joints are in new or as-new watertight condition. There is no evidence of moisture penetration to inside surfaces of exterior walls.</p> <p>○ <b>Signs of deterioration:</b> There are no visible signs of deterioration or failure in external walls.</p> <p>○ <b>Exterior projections:</b> Exterior features and projections are structurally sound, and the condition has been verified within the last 12 months.</p>
<p>7 <input type="checkbox"/> ○ <b>CONDITION OF BUILDING EXTERIOR WALLS:</b> The exterior of the building needs to be in good condition.</p> <p>○ <b>EVIDENCE OF WATER PENETRATION:</b> No interior evidence of water penetration.</p>	<p>7 <input type="checkbox"/> ○ <b>Permanence of exterior finishes:</b> Most finishes are of the type that do not require periodic refinishing, e.g. painting.</p> <p>○ <b>Water penetration:</b> Sealants in surface-sealed joints are watertight. There is no evidence of moisture penetration to inside surfaces of exterior walls.</p> <p>○ <b>Signs of deterioration:</b> There are minor defects, e.g. minor discoloration, stains or efflorescence, indicating past problems that have been corrected. Some minor repair is needed to sealants in external wall joints.</p> <p>○ <b>Exterior projections:</b> Exterior features and projections are understood by the building manager to be structurally sound.</p>
<p>5 <input type="checkbox"/> ○ <b>CONDITION OF BUILDING EXTERIOR WALLS:</b> Occupants can accept exterior with some minor signs of deterioration.</p> <p>○ <b>EVIDENCE OF WATER PENETRATION:</b> History of occasional minor water stains on inside surfaces of exterior walls.</p>	<p>5 <input type="checkbox"/> ○ <b>Permanence of exterior finishes:</b> Some, e.g. about half, exterior surfaces are of the type that require periodic refinishing, e.g. painted walls and elements.</p> <p>○ <b>Water penetration:</b> Sealants in surface-sealed joints in walls are generally watertight. There is evidence of minor moisture penetration to inside surfaces of exterior walls.</p> <p>○ <b>Signs of deterioration:</b> Some defects, e.g. minor discoloration, stains or efflorescence. Some repair or periodic replacement is needed to sealants in external wall joints.</p> <p>○ <b>Exterior projections:</b> There is localized evidence of structural distress, e.g. canopies and cornices are starting to sag or crack, or otherwise require maintenance.</p>
<p>3 <input type="checkbox"/> ○ <b>CONDITION OF BUILDING EXTERIOR WALLS:</b> Occupants can tolerate exterior surfaces which are in a deteriorated condition.</p> <p>○ <b>EVIDENCE OF WATER PENETRATION:</b> Some water stains on inside surfaces of exterior walls.</p>	<p>3 <input type="checkbox"/> ○ <b>Permanence of exterior finishes:</b> Most exterior surfaces require periodic refinishing, e.g. painting.</p> <p>○ <b>Water penetration:</b> Surface-sealed joints in walls are not fully watertight and need repair. A few locations give evidence of localized moisture penetration to inside surfaces of exterior walls.</p> <p>○ <b>Signs of deterioration:</b> There are many defects, e.g. stains, discoloration, efflorescence.</p> <p>○ <b>Exterior projections:</b> There is localized evidence of structural distress, e.g. canopies and cornices are starting to sag or crack and require maintenance. There is localized seismic risk.</p>

Scale B.1.2. continued on next page

FIG. 2 Scale B.1.2 for External Walls and Projections

**B.1. Structure and Building Envelope**

**Scale B.1.2. External walls and projections (continued)**

<b>Facility Management Requirement Scale</b>	<b>Facility Rating Scale</b>
<p><b>1</b> <input type="checkbox"/> <b>CONDITION OF BUILDING EXTERIOR WALLS:</b> Condition of exterior walls is either completely irrelevant or completely unimportant to occupants.</p>	<p><b>1</b> <input type="checkbox"/> <b>Permanence of exterior finishes:</b> All exterior surfaces require periodic refinishing, e.g. painting.</p> <p><input type="checkbox"/> <b>Water penetration:</b> Surface-sealed joints in walls are not watertight and need replacement. There is evidence of extensive moisture penetration.</p> <p><input type="checkbox"/> <b>Signs of deterioration:</b> There are extensive defects, e.g. many areas of staining, discoloration, efflorescence, or, in cold winter conditions, icicles and moisture on outside walls.</p> <p><input type="checkbox"/> <b>Exterior projections:</b> There is widespread evidence of structural distress, e.g. canopies and cornices are sagging and cracked, and anchors are rusted or loose. There is widespread seismic risk.</p>

<input type="checkbox"/> <u>E</u> xceptionally important. <input type="checkbox"/> <u>I</u> important. <input type="checkbox"/> <u>M</u> inor Importance.	
Minimum <u>T</u> hreshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** *Space for handwritten notes on Requirements or Ratings*

FIG. 2 Scale B.1.2 for External Walls and Projections (continued)

**B.1. Structure and Building Envelope**

**Scale B.1.3. External windows and doors**

Facility Management Requirement Scale	Facility Rating Scale
<p><b>9</b> <input type="checkbox"/> ○ <b>WEATHERTIGHTNESS OF WINDOWS AND DOORS:</b> Doors and windows must be weathertight. ○ <b>EASE OF OPERATION OF WINDOWS AND DOORS:</b> All doors and windows must operate normally, with no evidence of potential problems.</p>	<p><b>9</b> <input type="checkbox"/> ○ <b>Weather tightness:</b> Windows and doors are completely weathertight, with no history of leaks. ○ <b>Sealants:</b> There is full adhesion of all perimeter sealants around openings. There has been a recent full inspection, test and repair. ○ <b>Defects:</b> All doors and windows operate normally with no evidence of potential problems.</p>
<p><b>7</b> <input type="checkbox"/> ○ <b>WEATHERTIGHTNESS OF WINDOWS AND DOORS:</b> Doors and windows must be weathertight. ○ <b>EASE OF OPERATION OF WINDOWS AND DOORS:</b> All doors and windows must operate normally.</p>	<p><b>7</b> <input type="checkbox"/> ○ <b>Weather tightness:</b> Windows and doors are mostly weathertight. ○ <b>Sealants:</b> There is apparent full adhesion of all perimeter sealants around openings, e.g. between frames and adjacent wall materials. ○ <b>Defects:</b> All doors and windows operate normally. If any potential problems are identified, remedial action is now scheduled.</p>
<p><b>5</b> <input type="checkbox"/> ○ <b>WEATHERTIGHTNESS OF WINDOWS AND DOORS:</b> Require that doors and windows be mostly weathertight. ○ <b>EASE OF OPERATION OF WINDOWS AND DOORS:</b> It is acceptable that a few doors and windows may be difficult to operate, or that occasionally a minor leak may have to be fixed.</p>	<p><b>5</b> <input type="checkbox"/> ○ <b>Weather tightness:</b> Windows and doors are generally weather tight, with occasional minor leaks. ○ <b>Sealants:</b> Some gaskets, weatherstripping and/or perimeter sealants around openings are at or near the end of useful life. ○ <b>Defects:</b> A few doors and/or windows are difficult to open or close, and are due for repair.</p>
<p><b>3</b> <input type="checkbox"/> ○ <b>WEATHERTIGHTNESS OF WINDOWS AND DOORS:</b> Require that doors and windows be mostly weathertight with some leaks of air and moisture permissible. ○ <b>EASE OF OPERATION OF WINDOWS AND DOORS:</b> It is acceptable that many doors and windows may be difficult to operate.</p>	<p><b>3</b> <input type="checkbox"/> ○ <b>Weather tightness:</b> Doors and windows are generally weathertight, but with some leaks of air and moisture during storms. ○ <b>Sealants:</b> Some sealants or flashings around openings have failed. ○ <b>Defects:</b> There are some defects, e.g. difficulty in opening or closing doors and windows, corroded fastenings. Some repair is required.</p>
<p><b>1</b> <input type="checkbox"/> ○ <b>WEATHERTIGHTNESS OF WINDOWS AND DOORS:</b> Condition of doors and windows is either completely irrelevant or completely unimportant to occupants. ○ <b>EASE OF OPERATION OF WINDOWS AND DOORS:</b> Condition of doors and windows is either completely irrelevant or completely unimportant to occupants.</p>	<p><b>1</b> <input type="checkbox"/> ○ <b>Weather tightness:</b> Doors and windows are not weather-tight. Significant leaks of air and water occur during storms. ○ <b>Sealants:</b> Perimeter sealants around openings have mostly failed. ○ <b>Defects:</b> There are many defects, e.g. difficulty in opening or closing doors and windows. Some replacement is required.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 3 Scale B.1.3 for External Windows and Doors

**B.1. Structure and Building Envelope**

**Scale B.1.4. Roof**

Facility Management Requirement Scale	Facility Rating Scale
<p><input type="checkbox"/> <b>9</b> ○ <b>HISTORY OF ROOF LEAKS:</b> It is required that there be no leaks and no history of leaks. ○ <b>ANTICIPATED TIME BEFORE REPAIRS NEEDED:</b> A negligible risk of leakage or need for repair for the next 5 to 10 years.</p> <p><input type="checkbox"/> <b>7</b> ○ <b>HISTORY OF ROOF LEAKS:</b> It is required that there be no leaks and no history of leaks. ○ <b>ANTICIPATED TIME BEFORE REPAIRS NEEDED:</b> A low risk of leakage or need for repair for the next 5 to 10 years.</p> <p><input type="checkbox"/> <b>5</b> ○ <b>HISTORY OF ROOF LEAKS:</b> It is acceptable to have had, in the past, moisture from roof leak. ○ <b>ANTICIPATED TIME BEFORE REPAIRS NEEDED:</b> It is not acceptable to have leaks now, nor need for repair likely in the next 5 years.</p> <p><input type="checkbox"/> <b>3</b> ○ <b>HISTORY OF ROOF LEAKS:</b> Moisture from roof leak into the building, but not into the occupant's space. ○ <b>ANTICIPATED TIME BEFORE REPAIRS NEEDED:</b> Can occasionally be tolerated until repaired.</p> <p><input type="checkbox"/> <b>1</b> ○ <b>HISTORY OF ROOF LEAKS:</b> Condition of roof is either completely irrelevant or completely unimportant to occupants.</p>	<p><input type="checkbox"/> <b>9</b> ○ <b>Leaks:</b> There are no leaks. The roof is new, or has had a recent full inspection, test and repair. ○ <b>Flashings:</b> All metal flashing is in place with no corrosion. ○ <b>Condition:</b> There are no signs of roof failure, and negligible risk or need for repair over the next 5-10 years.</p> <p><input type="checkbox"/> <b>7</b> ○ <b>Leaks:</b> There are no leaks at present and only a few minor leaks in the history of the building. ○ <b>Flashings:</b> All metal flashing is in place with very minor corrosion. ○ <b>Condition:</b> There are no signs of roof failure, and low risk or need for repair over the next 5-10 years.</p> <p><input type="checkbox"/> <b>5</b> ○ <b>Leaks:</b> There are no leaks at present, but some history of leaks that are now fixed. Not likely to leak into occupant space nor need repair in the next 5 years. ○ <b>Flashings:</b> All metal flashing is in place with some corrosion. ○ <b>Condition:</b> There are no signs of roof failure. There is minor risk due to a few defects, e.g. cracks, loose or corroded elements, bare bituminous tar membrane, loose or open joints at pipe penetrations. Most areas have a positive slope to drains with some pools of water.</p> <p><input type="checkbox"/> <b>3</b> ○ <b>Leaks:</b> Some leaks are evident, e.g. moisture appears inside. ○ <b>Flashings:</b> Some metal flashing is missing or partly corroded or damaged. There is loose flashing around some roof penetrations. ○ <b>Condition:</b> There are some signs of risk to roof integrity, e.g. pools of water, missing gravel on built-up bituminous membrane and some flat areas are not sufficiently sloping to drains.</p> <p><input type="checkbox"/> <b>1</b> ○ <b>Leaks:</b> There are significant leaks, e.g. water drips inside. ○ <b>Flashings:</b> Much metal flashing is corroded, damaged or missing. There is loose or cracked flashing around most roof penetrations. ○ <b>Condition:</b> There are obvious signs of risk to the roof integrity or clear evidence of failure, e.g. metal flashings are loose or missing. There are holes or cracks; blocked or broken drains; deep pools of water on a flat roof, with the roof surface not sloping to drains; tiles are missing; and metal roofing is corroded through or punctured in many places.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 4 Scale B.1.4 for Roof



**B.1. Structure and Building Envelope**

**Scale B.1.5. Basement**

Facility Management Requirement Scale	Facility Rating Scale
<p><b>9</b> <input type="checkbox"/> ○ <b>USE OF BASEMENT:</b> Basement is used for parking or storage. ○ <b>REQUIRED ENVIRONMENTAL CONDITIONS:</b> Items require clean, dry conditions. ○ <b>ACCEPTABLE PHYSICAL CONDITION:</b> There can be no deficiencies in the basement, e.g. no settling, no visible cracks, no moisture penetration, no alkaline attack on concrete, no salt damage.</p>	<p><b>9</b> <input type="checkbox"/> ○ <b>Settling:</b> There is no indication of settling or structural distress. ○ <b>Cracking:</b> There are normal minor hairline cracks. ○ <b>Moisture penetration:</b> There is no moisture penetration. ○ <b>Condition of concrete:</b> There is no evidence of alkaline attack on concrete and no salt damage.</p>
<p><b>7</b> <input type="checkbox"/> ○ <b>USE OF BASEMENT:</b> Basement storage or parking is required. ○ <b>REQUIRED ENVIRONMENTAL CONDITIONS:</b> Basic environmental conditions. ○ <b>ACCEPTABLE PHYSICAL CONDITION:</b> Minor deficiencies in basement are acceptable, e.g. a few visible hairline cracks, minor moisture penetration, minor salt damage in parts of the garage.</p>	<p><b>7</b> <input type="checkbox"/> ○ <b>Settling:</b> There is no indication of settling or structural distress, but some indication that a past problem has been corrected. ○ <b>Cracking:</b> There are normal minor hairline cracks, and a few visible hairline cracks. ○ <b>Moisture penetration:</b> There has been minor moisture penetration, which did not affect occupant spaces or storage. ○ <b>Condition of concrete:</b> There is no evidence of alkaline attack on concrete, but there is minor salt damage in parts of garage areas.</p>
<p><b>5</b> <input type="checkbox"/> ○ <b>USE OF BASEMENT:</b> Basement storage or parking is required. ○ <b>REQUIRED ENVIRONMENTAL CONDITIONS:</b> Environmental conditions are not critical. ○ <b>ACCEPTABLE PHYSICAL CONDITION:</b> Some deficiencies in basement are tolerable (if they do not affect storage), e.g. hairline and a few minor cracks, minor moisture penetration, minor salt damage in the garage.</p>	<p><b>5</b> <input type="checkbox"/> ○ <b>Settling:</b> There are indications of settling in the past, but the problem is corrected, and not now active. ○ <b>Cracking:</b> There are no significant cracks, but many hairline cracks. ○ <b>Moisture penetration:</b> There is some moisture penetration, which does not affect occupant spaces or storage. ○ <b>Condition of concrete:</b> There is no evidence of alkaline attack on concrete, but there is significant salt damage in garage areas.</p>
<p><b>3</b> <input type="checkbox"/> ○ <b>USE OF BASEMENT:</b> Basement is needed infrequently, or is needed for storage of items not affected by the condition of the basement. ○ <b>ACCEPTABLE PHYSICAL CONDITION:</b> Condition of the basement is not very important.</p>	<p><b>3</b> <input type="checkbox"/> ○ <b>Settling:</b> There is some settling and distress evident. ○ <b>Cracking:</b> There are a few significant cracks, and many hairline cracks. ○ <b>Moisture penetration:</b> There is significant moisture penetration. ○ <b>Condition of concrete:</b> There is evidence of minor alkaline attack on concrete, and extensive salt damage in garage areas.</p>

Scale B.1.5 continued on next page

FIG. 5 Scale B.1.5 for Basement

**B.1. Structure and Building Envelope**

**Scale B.1.5. Basement (continued)**

Facility Management Requirement Scale	
<b>1</b>	<input type="radio"/> <b>USE OF BASEMENT:</b> Condition of the basement is completely unimportant, or basement is not needed.
<input type="checkbox"/>	

Facility Rating Scale	
<b>1</b>	<input type="radio"/> <b>Settling:</b> There is serious settling, and the floor is uneven.
<input type="checkbox"/>	<input type="radio"/> <b>Cracking:</b> Cracks in structure are very obvious, e.g. reinforcing steel rusting.
	<input type="radio"/> <b>Moisture penetration:</b> Water is a significant problem, e.g. from surface drainage.
	<input type="radio"/> <b>Condition of concrete:</b> There is evidence of severe alkaline attack on concrete, and extensive salt damage in garage areas.

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum <u>T</u> hreshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 5 Scale B.1.5 for Basement (continued)

**B.1. Structure and Building Envelope**

**Scale B.1.6. Grounds**

<p align="center"><b>Facility Management Requirement Scale</b></p>	<p align="center"><b>Facility Rating Scale</b></p>
<p><input type="checkbox"/> <b>9</b> ○ <b>REQUIRED LEVEL OF GROUNDS MAINTENANCE:</b> A high level of maintenance of the grounds is essential, in keeping with the high public image of the occupant. ○ <b>ACCEPTABLE CONDITION OF SITE IMPROVEMENTS:</b> Paving, curbs and walks in good repair, trees and shrubs regularly maintained, fully functional exterior lighting.</p>	<p><input type="checkbox"/> <b>9</b> ○ <b>Paving:</b> Paving, curbs and walks are excellently maintained, free of potholes, and there is no unrepaired heaving or cracks. ○ <b>Landscaping:</b> Tree and shrub growth is in excellent condition and is well maintained on a regular basis. ○ <b>Site drainage:</b> The site slopes away from the foundation for natural drainage. There are no problems with standing water and no risk of flooding over adjacent property. ○ <b>Site or street furniture:</b> Site or street furniture items, e.g. signs, seats, flagpole, railings, and exterior lights are all in good condition and fully functioning.</p>
<p><input type="checkbox"/> <b>7</b> ○ <b>REQUIRED LEVEL OF GROUNDS MAINTENANCE:</b> Grounds need to be kept in good repair. ○ <b>ACCEPTABLE CONDITION OF SITE IMPROVEMENTS:</b> No potholes in paving, curbs or walks, trees and shrubs in good condition, no damage to signs, seats, railings, outdoor lights, etc.</p>	<p><input type="checkbox"/> <b>7</b> ○ <b>Paving:</b> Paving, curbs and walks are well maintained, free of potholes and there is no unrepaired heaving, but a few cracks. ○ <b>Landscaping:</b> Tree and shrub growth is in good condition, and is regularly and well maintained. ○ <b>Site drainage:</b> The site slopes away from the foundation, for natural drainage. There are a few small water puddles. ○ <b>Site or street furniture:</b> Site or street furniture items, e.g. signs, seats, flagpole, railings, and exterior lights are all free of damage.</p>
<p><input type="checkbox"/> <b>5</b> ○ <b>REQUIRED LEVEL OF GROUNDS MAINTENANCE:</b> An average level of repair in the grounds is needed. ○ <b>ACCEPTABLE CONDITION OF SITE IMPROVEMENTS:</b> Can tolerate a few potholes, minor damage to signs, seats, railings, outdoor lights, etc., if not a hazard to people, and does not cause tripping.</p>	<p><input type="checkbox"/> <b>5</b> ○ <b>Paving:</b> There are few potholes and only minor unrepaired heaving and cracking of paving. ○ <b>Landscaping:</b> Tree and shrub growth is in acceptable condition and is regularly maintained. ○ <b>Site drainage:</b> Most drainage slopes away from the building but it needs improvement. There are some water puddles in the parking areas and roads. ○ <b>Site or street furniture:</b> Some site or street furniture items, e.g. signs, seats, flagpole, railings, and exterior lights, have some minor damage, but are functioning.</p>
<p><input type="checkbox"/> <b>3</b> ○ <b>REQUIRED LEVEL OF GROUNDS MAINTENANCE:</b> A low level of maintenance of the grounds is acceptable; public image is not a priority.</p>	<p><input type="checkbox"/> <b>3</b> ○ <b>Paving:</b> There are considerable pot holes and obvious heaving of paving and serious cracks. ○ <b>Landscaping:</b> Tree and shrub growth has been neglected, and about half need replacement. ○ <b>Site drainage:</b> There is poor drainage sloping away from the building. ○ <b>Site or street furniture:</b> Some site or street furniture items, e.g. signs, seats, flagpole, railings, and exterior lights are broken and need repair or replacement.</p>

**Scale B.1.6 continued on next page**

FIG. 6 Scale B.1.6 for Grounds

**B.1. Structure and Building Envelope**

**Scale B.1.6. Grounds (continued)**

Facility Management Requirement Scale	Facility Rating Scale
<p><b>1</b> <input type="checkbox"/> <b>REQUIRED LEVEL OF GROUNDS MAINTENANCE:</b> Condition and appearance of grounds are not important; public image is not a concern, or the occupant's task is such that highly maintained grounds would be incongruous.</p>	<p><b>1</b> <input type="checkbox"/> <b>Paving:</b> There is a major breakdown of paving; total replacement is needed.</p> <p><input type="checkbox"/> <b>Landscaping:</b> The landscaping has failed. All planting needs replacement.</p> <p><input type="checkbox"/> <b>Site drainage:</b> The site back slopes toward the perimeter of the building.</p> <p><input type="checkbox"/> <b>Site or street furniture:</b> Most site or street furniture items, e.g. signs, seats, flagpole, railings, and exterior lights are missing or broken, and need repair or replacement.</p>
<p><b>2</b> <input type="checkbox"/></p>	

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.	
Minimum Threshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 6 Scale B.1.6 for Grounds (continued)

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