

Explanatory Notes to Tolerance and Feature

Tolerances / Features	High	Medium	Low
Ecological Value	1. Native species that provide a variety of habitat values, or 2. Species of scientific value to the location	1. Naturalised or Exotic species that provide a variety of habitat values, or 2. Natives species that provide less variety of habitat values	1. Exotic species that provide less variety of habitat values
Ornamental Value (Seasonal interest, color, tree form, cultural, historical context and function)	1. Can relate to Hong Kong's cultural or historical context, or 2. Unique tree form, leaves, flowers or fruit, seasonal foliage, seeds, or 3. Has high ornamental value for a prolonged period of time (more than 3 months), or 4. Species with botanical interest, or 5. Has functional values such as visual screening, noise absorption, barrier and exhaust outlet buffering), or 6. Appeals to more than one of the five sensory senses	1. Has moderate feature value for a short period of time (less than 3 months), or 2. Appeals to one of the five sensory senses	1. Has little or no feature value, or 2. Cannot be distinguished amongst surrounding vegetation as a feature.
Shade Cast	1. Species with heavy shade cast by large and spreading crown (diameter of crown greater than 10m) and dense foliage at mature stage in summertime	1. Species with moderate shade cast by medium-sized spreading crown (diameter of crown 5-10m) or moderate foliage density at mature stage in summertime	1. Species with low shade cast by small tree spreading crown (diameter of crown less than 5m) or low foliage density at mature stage throughout year
Heat Tolerance	1. Ability to withstand transitory or constantly high temperature in summer at $\geq 35^{\circ}\text{C}$ for 2 weeks time without leaf or bark burn; abnormal health stresses	1. Ability to withstand summer mean temperature (29°C) for more than 2 weeks without leaf or bark burn; abnormal health stresses	1. Ability to withstand summer mean temperature (29°C) with sign of leaf or bark burn; abnormal health stresses
Drought Tolerance	1. Can tolerate dry spell ≥ 2 months without supplementary irrigation, and 2. Can quickly recover from temporary wilting without any means of irrigation, and / or 3. Can thrive when consistently exposed to drought stress during growing season.	1. Can tolerate dry spell ≥ 1 month without supplementary irrigation	1. Can only tolerate dry spell < 1 month without supplementary irrigation
Waterlogging Tolerance	1. Adapted to waterlogged tree pit, and / or 2. Can recover within annual season after flooding	1. Can survive fortnightly Amber rainstorm or above signals and inundation events, and 2. Can recover within annual season after flooding.	1. Require well-drained tree pit.
Wind Tolerance	1. Require supporting structure up to sapling stage, and / or 2. High mechanical stress tolerance - strong and stiff or strong and moderately stiff, and / or 3. High structural strength; low tree limb brittleness.	1. Require supporting structure up to semi-mature stage, and / or 2. Moderate mechanical stress tolerance - Moderately strong but not stiff or moderately strong and stiff, and / or 3. Moderate structural strength; moderate tree limb brittleness.	1. Require supporting structure from propagation to maturity stage, and / or 2. Low mechanical stress tolerance - Not strong but stiff or Not strong but moderately stiff, and / or 3. Low structural strength; high tree limb brittleness.
Pest and Disease Resistance	1. Without known common pests and diseases in Hong Kong, and / or 2. Containment and management achievable through established treatment mechanisms	1. With infection/infestation record of common pests and diseases in Hong Kong, and 2. Containment and management achievable through established treatment mechanisms	1. With known pests and diseases outbreak in local history, and / or 2. Require aggressive treatment and management processes
Roadside Pollution Tolerance	1. High tolerance to pollution; does not wilt, die or deteriorate in health, and / or 2. Tolerates atmospheric pollution at high traffic areas or industrial areas	1. Moderate tolerance to pollution; does not wilt or die	1. Poor tolerance to pollution; high chance of mortality
Pruning Tolerance	1. Foliage can easily and rapidly recover from pruning within the same growing season, and / or 2. Can maintain fair tree form within the same growing season after pruning, and / or 3. Can recover from pruning cuts with sound wood within one growing season.	1. Foliage can easily and rapidly recover from pruning during the following growing season, and / or 2. Can maintain fair tree form during the following growing season after pruning, and / or 3. Can progressively recover from pruning cuts with sound wood growth during the following growing season.	1. Take more than 3 growing seasons to slowly recover its foliage growth and/or tree form after pruning, and / or 2. Slowly recovers from after-effect of crown pruning, and / or 3. Species suffer from poor health after pruning.
Soil Compaction Tolerance	1. Survive in soil with bulk density ($x \geq 1.92$ Mg/cubic meter) ² ; or 2. Can survive with restricted soil aeration	1. Survive in soil with bulk density (1.42 Mg/cubic meter $< x \leq 1.92$ Mg/cubic meter) ²	1. Survive in soil with bulk density ($x \leq 1.42$ Mg/cubic meter) ²
Root System (Manageability)	1. (Manageable) Root system seldom causes pavement upheaving or conflict with adjacent structures	1. (Moderate) Root system causes some degree of pavement upheaving	1. (Aggressive) Root system can easily to cause pavement upheaving and conflict with adjacent structures
Soil Volume Tolerance	1. (Small) Species can maintain fair tree health, condition and form in small planting sites (average soil surface area for each tree: 1.2m to 1.5m dia. X 1.2m depth)	1. (Medium) Species can maintain fair tree health, condition and form in medium-sized planting sites (average soil surface area for each tree: 1.5m to 2m dia. X 1.2m depth), and 2. Species may be unable to maintain fair tree health, condition and form in small planting sites (average soil surface area for each tree: 1.2m to 1.5m dia. X 1.2m depth)	1. (Large) Species can maintain fair tree health, condition and form in large-sized planting sites only (average soil surface area for each tree > 4 m dia. X 1.2m depth)
pH of Soil (Range)	1. Species that is most favourable to grow / perform well in the general topsoil pH requirement range (pH 5.5 – 7.0) ³ and can also perform well in moderate acidic and slightly alkaline topsoil pH	1. Species that can grow properly / well perform only in either medium to slightly acidic (pH 5.5 - 6.5) ⁴ or slightly to moderate alkaline (pH 7.5 - 8.5) ⁴ topsoil	1. Species that can grow properly / well perform only in either strongly acidic (pH 4.0 - 5.5) ⁴ or strongly alkaline (pH 8.5 - 10.0) ⁴ topsoil

Note:

¹ Pollution ratings of species are primarily based on literature reference and biological/horticultural experience

² Bulk density (x) is an indicator for soil compaction from Jim, C.Y. (1998). Soil compaction at tree-planting sites in urban Hong Kong. In: D. Neely and G.W. Watson (eds.) The Landscape Below Ground II. International Society of Arboriculture, Champaign, Illinois, pp. 166-178

³ ArchSD GS 25.02 (a)(iii), the general topsoil pH should have a pH value between 5.5 – 7.0.

⁴ General Soil pH categories