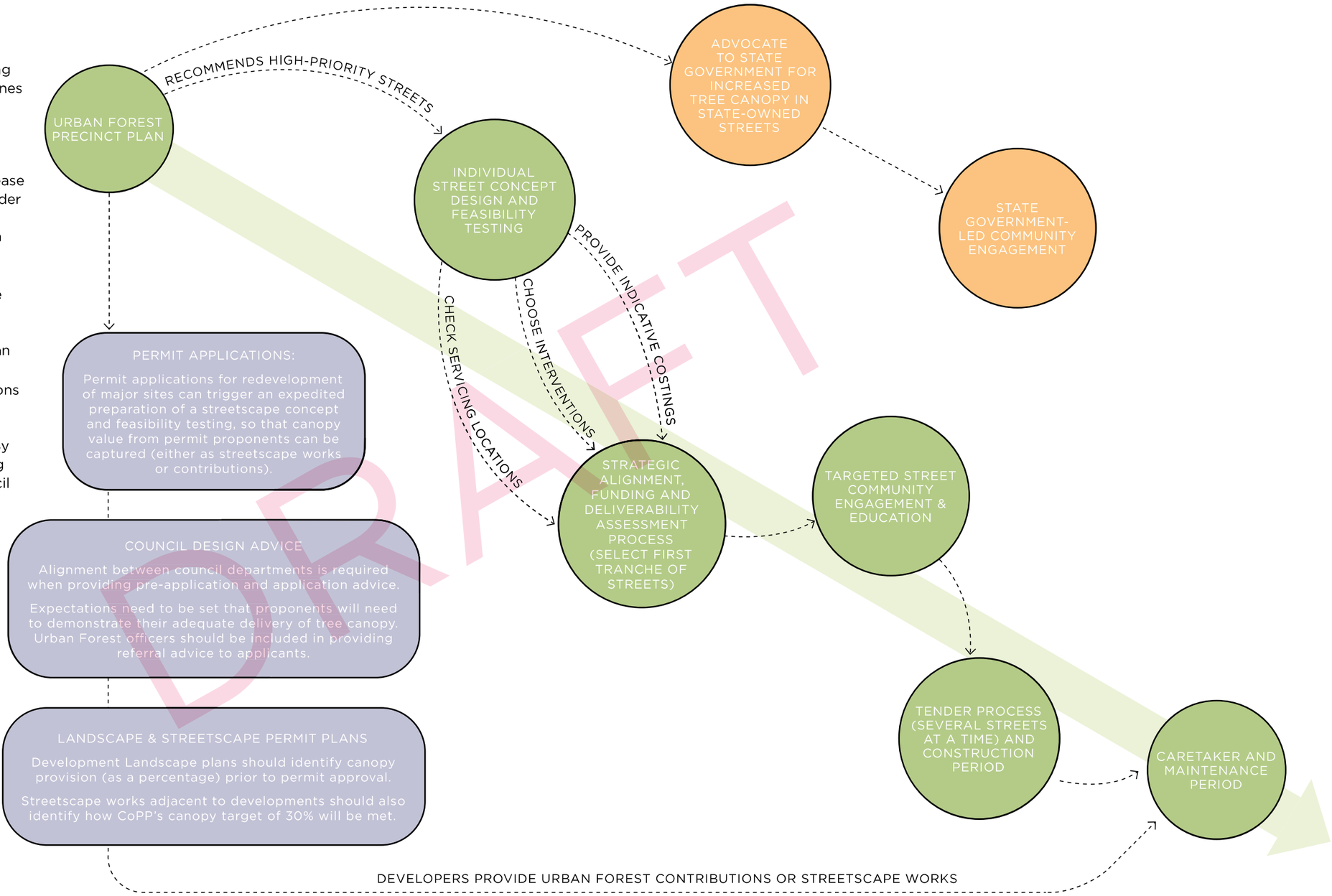
07.7
FUTURE IMPLEMENTATION PROCESS

The City of Port Phillip can enhance its urban forest through a coordinated approach across departments, ensuring alignment towards the shared goal of increasing tree canopy. The process map (shown to the right) outlines how CoPP can leverage internal synergies and external partnerships to achieve this objective.

There are three primary processes for implementation:

- Direct Action by CoPP – The council can actively increase tree canopy within streets, parks, and open spaces under its jurisdiction. This may involve planting new trees, maintaining existing vegetation, and integrating urban greening initiatives into infrastructure projects.
- Advocacy to the State Government – Many key roads and public spaces are owned or managed by the state government. CoPP can advocate for increased tree planting and improved greenery in these areas by collaborating with state agencies and influencing urban planning policies at a higher level.
- Advocacy and Enforcement through Permit Applications – CoPP can encourage and mandate tree planting in private developments and public realm projects through its planning and permit approval processes. By setting clear canopy targets, enforcing urban greening requirements, and working with developers, the council can drive increased tree cover across the municipality.

This integrated approach will help CoPP create a more resilient, green, and sustainable urban environment, benefiting both residents and biodiversity.



DRAFT

07.8

OTHER IMPLEMENTATION CONSIDERATIONS

SPECIES MIXES BEST-PRACTICE

Selecting an appropriate mix of tree species is critical to building a resilient urban forest that provides long-term canopy cover while adapting to climate change, pests, and diseases.

One of the most popular species mix standards is the 10-20-30 rule (Santamour, 1990), which recommends that no more than 10% of trees should belong to a single species, 20% to a single genus, and 30% to a single family. This mitigates risks from pests and diseases (e.g., Dutch Elm Disease, Myrtle Rust).

However, the 10-20-30 rule for tree species diversity is often criticised for oversimplifying urban forestry needs. It may not suit all climates, as some regions have limited species options that can thrive in urban conditions. Prioritising diversity can also reduce the use of native species, which support local biodiversity. Practical challenges include nursery availability, increased maintenance complexity, and inconsistent streetscapes. Additionally, the rule lacks strong scientific backing, and a more functional approach—selecting species based on resilience, ecosystem services, and site-specific conditions—may be more effective for long-term urban forest health.

The 'Tree Species Selection Guidelines for the City of Melbourne' acknowledges these issues and as a result, the City of Melbourne proposes to implement an altered benchmark to reduce vulnerability. The City of Melbourne LGA is in close proximity to CoPP and therefore species guidance is transferrable.

It is proposed that the UFPP follows similar species diversity targets.

It is recommended that species diversity of the neighbourhood should be composed of:

- No more than 5% of any one Species.
- No more than 10% of any one Genus.
- No more than 20% of any one Family.

Supporting best practice guidance:

- Diversity Ratios: Climate Resilience: Selecting species that tolerate increasing urban heat, drought, and extreme weather. This includes species from similar climate zones globally (e.g., Mediterranean and arid-climate trees) and native species adapted to local conditions.
- Site-Specific Selection: Accounting for soil type, available root space, moisture levels, and potential conflicts with infrastructure. Use of structured soils, root barriers, and engineered planting pits ensures species thrive in urban settings.
- Ecological Functionality: Selecting species that support biodiversity by providing habitat and food for birds, pollinators, and urban wildlife.
- Human Amenity and Cooling: Prioritising broad-canopied trees that provide shade, reduce the urban heat island effect, and enhance public space usability. Fast-growing but structurally stable species are preferred for quicker benefits (McPherson et al., 2018).

TREATING ROOT ZONES LIKE A 'UTILITY'

Tree roots compete for space with underground utilities such as water pipes, stormwater drains, and electrical conduits. Best practice treats root zones as critical infrastructure, ensuring sufficient soil volume, aeration, and water availability through:

- Engineered Soil Systems: Structural soils and soil cells (e.g., Silva Cells) allow tree roots to grow under pavements without damaging surfaces, supporting root expansion while maintaining infrastructure integrity.
- Shared Utility Corridors: Designing streets to allocate protected space for tree roots alongside other utilities, reducing conflict and ensuring long-term growth.
- Compacted Zone Avoidance: Implementing deep soil zones or tree trenches with uncompacted soil allows roots to establish more effectively.
- Root Management Techniques: Use of root directors and barriers to prevent invasive root growth while maximising available soil for root development.

WATER SENSITIVE URBAN DESIGN

Integrating tree planting with Water Sensitive Urban Design (WSUD) improves tree health, reduces stormwater runoff, and enhances urban cooling. Best practice includes: Passive Irrigation:

- Directing stormwater runoff into tree pits or bioretention areas increases soil moisture availability, reducing reliance on potable water.
- Permeable Pavements: Allowing water infiltration into subsoil layers provides sustained moisture for tree roots while reducing urban flooding.
- Raingardens and Bioswales: Integrating tree plantings with bioswales improves stormwater quality while supporting tree growth.
- Subsurface Irrigation: Systems such as deep pipe irrigation ensure trees receive adequate water at root level, reducing evaporation losses.
- Combining these strategies ensures a resilient urban tree canopy that thrives despite urban constraints, maximising environmental, social, and economic benefits.

DRAFT