

YARRA CITY COUNCIL REQUESTS FOR FURTHER INFORMATION

ITEMS FOR DISCUSSION

a) Animal management (possums/birds/rats);

Possums and rats will not have access to the green façade that starts from L1. The façade at Ground floor is non climable, and there are no green facade stainless steel cables or living walls starting from the ground.

All green facades occur from the first floor up to the vertical building faces will not allow vermin to climb. This is shown in the diagram opposite. Pigeons will not be a problem as they prefer the open edges of older style buildings, not hidden by greenery or within planter boxes. This is not the preferred habitat of common pigeons, that prefer ledges underneath building or bridge overhangs for shelter from the elements and predation by falcons.

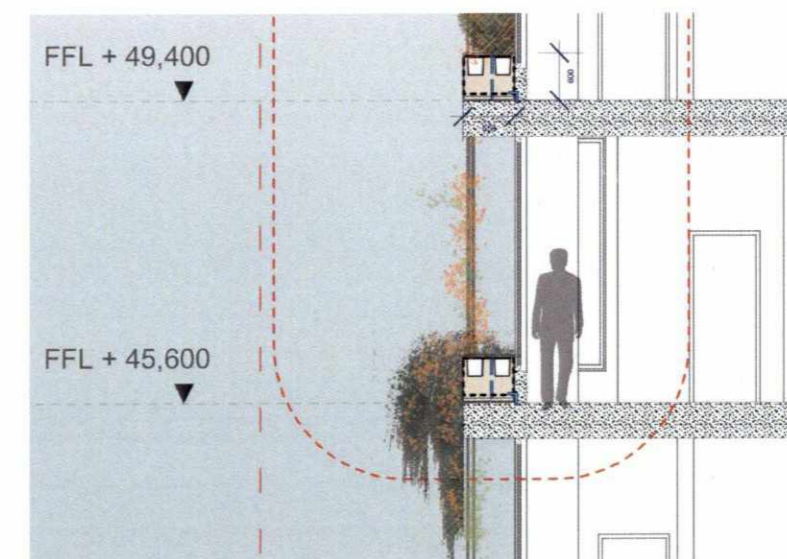
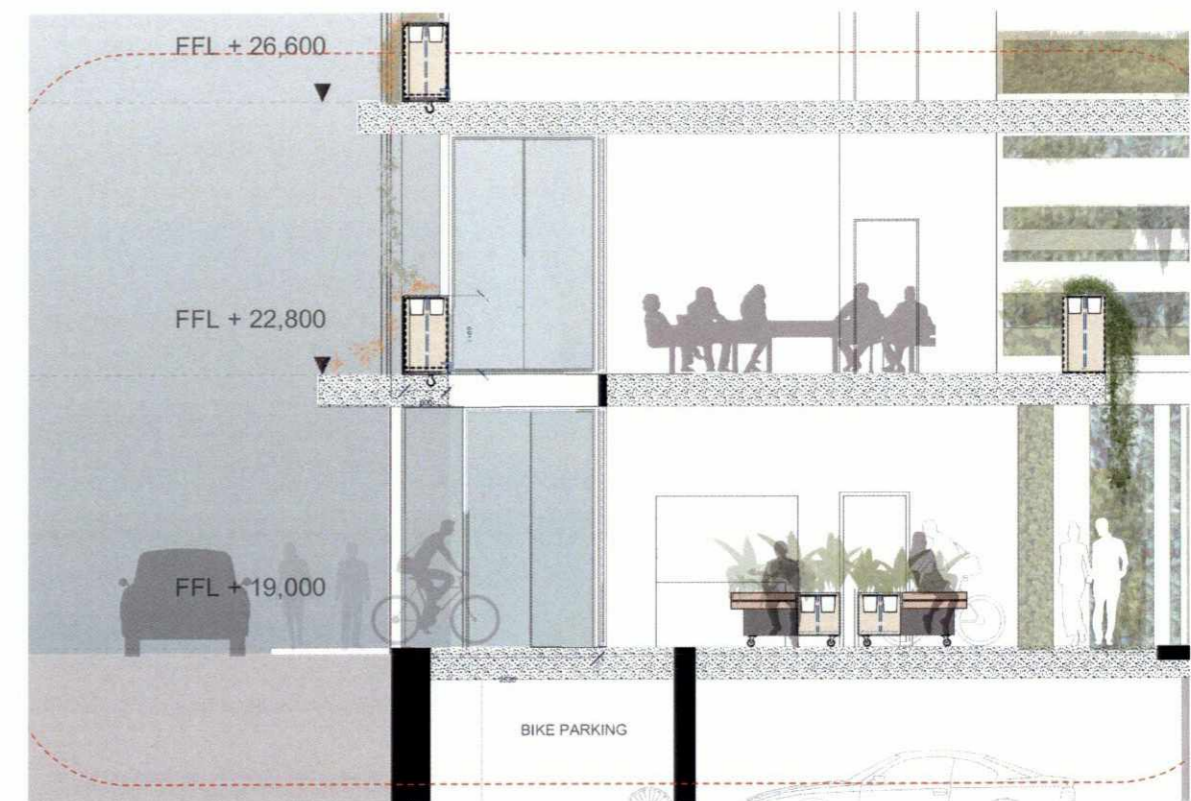
b) Life span of plants and their Useful Life Expectancy.

The life span of the proposed plant species is relative to two factors. These are the species selection, and the relative soil volume of the container. The minimum soil volume for shallow containers will be 0.6 m³ which will sustain the planting for a minimum of 7 years. The size of the plant species will be proportional to the volume size.

Species selection will predominantly be longer lived species, plants that often are slower growing and used to growing in environments with lower rainfall.

Plants will be on an irrigation system with environmental sensors, plants grouped to have similar water requirements and regime and systematic maintenance. This contribute to plant longevity.

Both of these observations come from information provided to us by Junglefy who maintain the One Central Park building in Sydney.



YARRA CITY COUNCIL REQUESTS FOR FURTHER INFORMATION

ITEMS FOR DISCUSSION

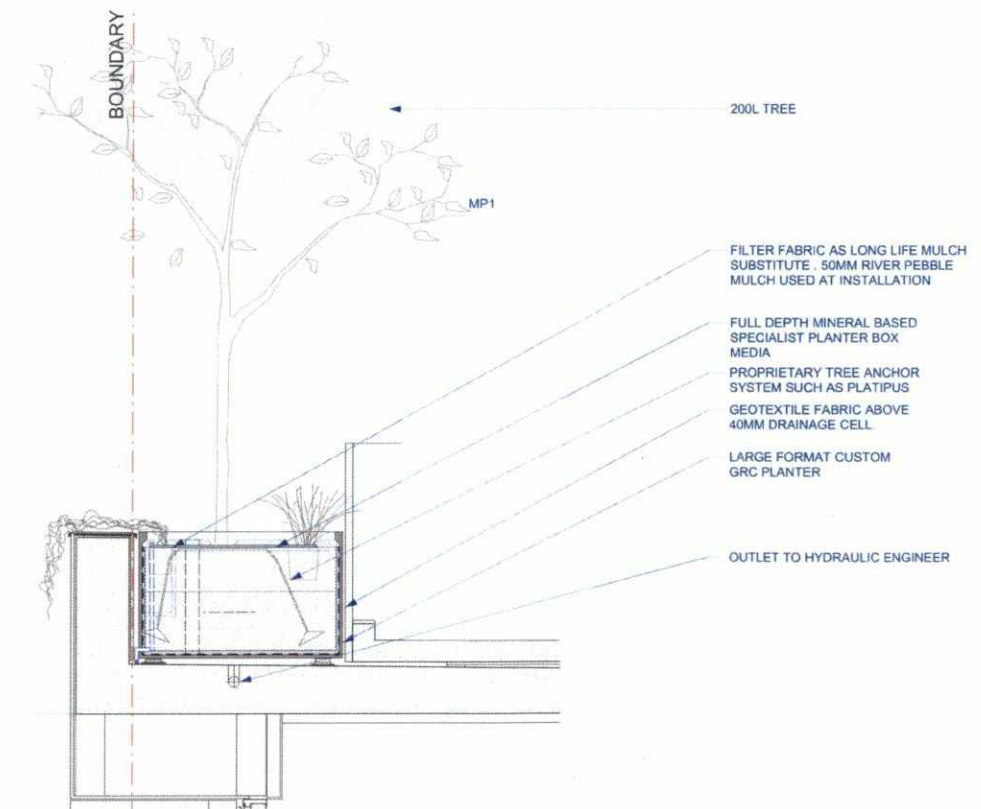
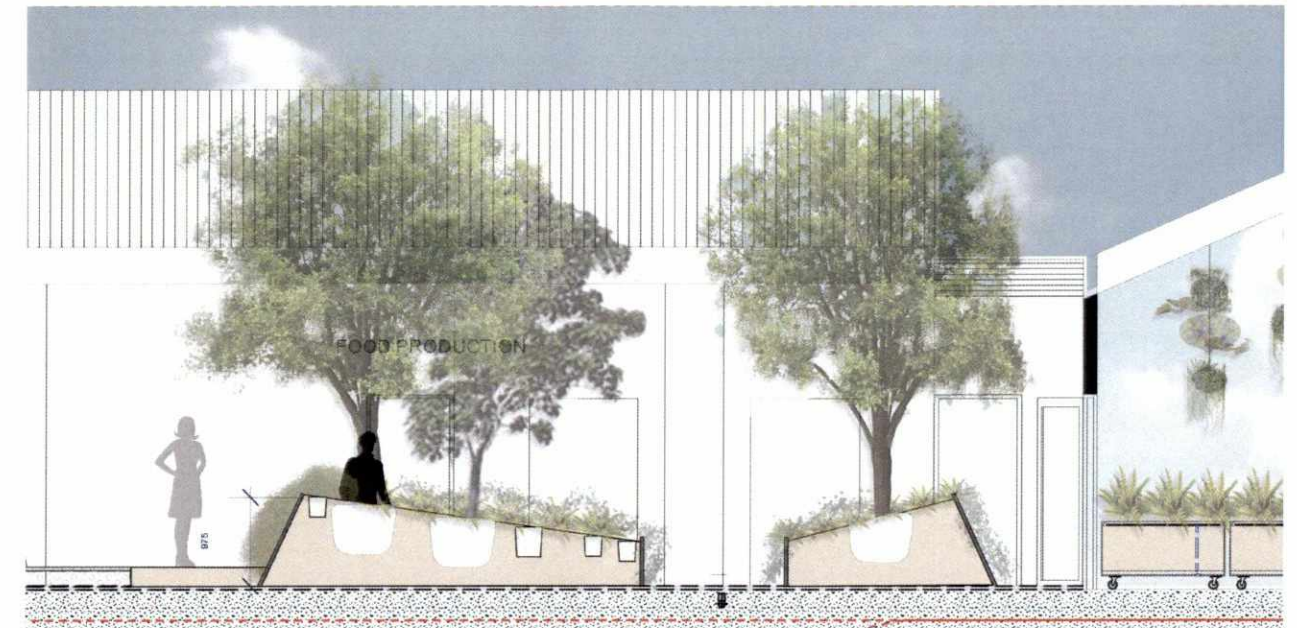
c) Soil Volumes for Trees;

There are a number of floors that will support small trees. For consistency, the soil volumes will be between 4 m³ and 6m³ of high-quality medium per tree. Growing trees in a large container (nominally 5.5 m³) in an environment with a high degree of horticultural management can enable the following:

- Trees to grow up to 4-9m high
- is on a well maintained and environmentally sensitive automated irrigation system
- soil type is optimal.
- Consistent maintenance.
- Stunting of the tree is acceptable (the bonsai effect'), or the lifespan of the tree is to be 16-35 years.

All of these factors apply to this project. This information is sourced from the Australian Landscape Soils Handbook - Soils Simulator by Elke Haege and Simon Leake (SESL).

Please note species selection will be suitable for there environments according to the aspect, available sunlight, growth rate and form. All trees will have a platypus tree rootball securing system. (see diagram).



YARRA CITY COUNCIL REQUESTS FOR FURTHER INFORMATION

DISCUSSION ITEMS

d) Maintenance Program

- Trees are all supported with a deadweight 'Platipus' system for guying the rootballs.
- A structural vine cable frame is selected that will create the best opportunity for the long-term survival of climbing plants;
- Access for maintenance can be carried out without reliance on BMU or other mechanised access gear.
- Plant support system to provide a growing frame for climbing plants, which will achieve design intent of 'living architecture', as well as provide an attractive internal environment and passive cooling.
- The durability of the materials is a crucial requirement. All materials to be 316 marine grade stainless steel with proper treatments applied at contact points; and
- The interface between structure, planter boxes and support system to be fully integrated where possible to minimise bulk and clutter to the building façade, e.g. fixing points to be cast into planter boxes.

MAINTENANCE

Regular maintenance inspections will be implemented for checking the irrigation system, connections and drippers and fertigation system. They will be equipped with a fail-safe device installed with electronic communications, to enable any system failures to be fixed quickly.

Maintenance to the green roof and the façade planting will be undertaken via twin rope access. For the rooftop area, the ropes team will take the stairs to Levels 4 and 11 as staging points for the facades below. From here they will connect to a davit arm or into eyelets mounted into the garden bed walls and the rappel down through each of the garden beds undertaking their maintenance as they go. A Safety Access Consultant will determine the type and location of the eyelets and to Australian Standards AS 4488 Industrial Rope Access and 1891 Industrial Fall Arrest systems.

For the green façades, the linear nature of the planter boxes makes it simple for the ropes team to maintain from a connection point at Levels 4 and 11. Any green waste will be lowered down to the landing point on Level 4 or permission obtained to use a cordoned off area on John and Down Street to remove green waste from street level. This will be subject to council approvals.

f) Possible additional maintenance to Council assets (street sweeping) due to plant and leaf litter.

Most species have low leaf litter drop. It will be the building manager who will ensure paths are free of litter.

Landscape Maintenance Items

SYDNEY DESIGN COLLECTIVE

Landscape Item	Task	Time Period	Comments
Plant material	Check plants for health	Monthly from ground / Min twice per year from rope.	Rope drop inspection all facade planters & roof gardens/terraces twice annually. Provide report. Deaths of plant species is to be noted and in what quantities, within 5 weeks of proposed maintenance contractor visit.
	Vine growth plant maintenance	Monthly from ground / Min twice per year from rope.	<ul style="list-style-type: none"> excessive vine growth at the top of the cables will need pruning vines require additional support through tying with budding tape. vines need to be cleared from planters that are competing with other plants. vines that are cascading not climbing to be re-tied to support cables.
	Cascade plant growth and maintenance	Monthly from ground / Min twice per year from rope.	<ul style="list-style-type: none"> excessive cascade plant growth hanging from planters. cascading plants need to be cleared from planters that are competing with other plants.
	Check any logged complaints about plant deaths	As required	Provide report on deaths to be catalogued as part of the
	Replace failed plants	As required	Facades & roof gardens plant replacements from rope drop (lift & replace mulch mat & drip lines). Provide report.
	Treat for disease or insect attack.	As part of twice yearly maintenance regime.	<ul style="list-style-type: none"> catalogue incidents of pest infestations or disease. provide information on the symptoms to the maintenance contractor (with supporting photos) in advance of rope drop maintenance schedule. determine if the pest or disease can be treated through the irrigation or will require foliar treatment and spraying from the rope drop. determine if the pest or disease needs to be treated immediately or if it can wait till the six monthly landscape maintenance programme from the BMU.
	Tree surgery	As required	By qualified arborist only & as directed, unlikely to be a problem in the first 5 years of the project lifecycle.
	Fertilising generally	Min twice per year	By dosing through irrigation system. Individual planters with particular deficiency problems may need application of water based trace elements, nutrients or minerals.
	Fertilising for specific nutrient deficiencies	As required	Based on soil tests. By dosing through irrigation system or slow release applied directly to planters
	Thin out planting	As required	<ul style="list-style-type: none"> Facades & roof gardens plant thinning out from rope drop. Only as directed. Green waste material to be taken down via the rope drop.
	Pruning/trimming	Min twice per year	<ul style="list-style-type: none"> Facades & roof gardens plant pruning / trimming from rope drop. Green waste material to be taken down via the rope drop.
	Check plant stability/support	Min twice per year	Check facade vine planting adequately supported on cables from rope drop. Determine if additional tying is required.
Soil	Check for soil erosion	Min twice per year	Check soil in facade planters from rope drop
	Check soil levels	Min twice per year	Check soil level in all planters & top up if required. Facade planters soil replacement from rope drop (lift & replace mulch mat & drip lines).
	Soil tests	Min twice per year	Obtain physical & chemical test results from approved laboratory & act on recommendations. Facade planters soil tests taken from rope drop
	Weeding	Min monthly except facade planters min twice per year	Facades & roof gardens hand weeding from rope drop. Systemic herbicide applied through dosing system may not be suitable for potential of damage to intended planting. Weeds are to be taken to green waste room in the basement for disposal
	Check drainage / moisture level	Min twice per year	Check planter drainage functional & report. Refer also to soil tests.
Mulch	Top up mulch	As required	
	Check	Min twice per year	From rope drop - check mulch mat secure & intact. Replace if required
Rubbish removal	Generally remove bottles, paper, cigarette butts etc.	Min weekly except facade planters min twice per year	Facade planters from rope drop
	Remove leaf litter from paved areas	Min weekly except facade planters min twice per year	
Vine Cables	Check tension of all cables	half yearly	Re-tension as necessary
	Visual inspection for corrosion	half yearly	Any broken, damaged or corroded fixings need to be recorded and logged. Contact the installer or rigger for replacing damaged or corroded parts.
Irrigation	Check operation by testing	Min monthly. Visual testing of facade planter irrigation min twice per year	Check controller, dosing unit, valves working properly. Facade planter irrigation visual test from BMU
	Respond to any system warnings /	As required	
	Adjust operation	As required	Refer to soil test moisture results & soil chemical analysis
	Replace parts / repair	As required	Facade planter irrigation repairs from rope drop
	Clean out drip lines / flush system with potable water	Min twice per year	Refer to soil test results. Contractor is to ensure safe discharge and disposal of all flushing water.
	Clean out subsurface drains		
	Ensure maintenance of all pumps and		
	Log and record all data from the irrigation control system, including all	Min twice per year	
Grow Lamps	Check operation of grow lamps	Immediately as required (lower retail greenwall)	Replace faulty parts, globes or operation
If used internally	Check coverage of grow lamp lights.	Monthly from ground (lower retail greenwall)	Readjust to ensure correct coverage for optimum plant growth.

