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Sydney Environmental and Soil Laboratory

Our Ref:
September 2010

Friends of Erskineville

Erskineville
NSW 2043

To Whom It May Concern,

Re: Erskineville Rd Community Garden

1 Introduction

In August of 2010, Sydney Environmental and Soil Laboratory (SESL) were approached by Julie Moffat of Friends of Erskineville to prepare a report detailing the suitability of a block of land located at 54-56 Erskineville Road for community gardens. The site has been utilised as a community garden previously, mainly for the growing of herbs and vegetables.

2 Sampling and Site Visit

On the 31st August, 2010 consultants from SESL visited the Erskineville Road Community Garden site. Light measurements were taken and observations of the soil and location relevant to intensive horticultural production were made. The site's current level of production, management, and projected community interest was discussed with members of the Community Garden group.

3 Observations and Discussion

The block is approximately 15 metres by 22.5 metres – 337.5 sqm. It features two established *Eucalyptus saligna* trees, but apart from that is clear with only grass and forb cover. In some places the ground is devoid of cover, where what appears to be a recycled concrete road base has been applied. This is mainly towards the front centre of the site facing Erskineville Rd. A further large *E. saligna* is located just off the block to the rear of the NE side and provides some shading during the morning. Four compost bins are located near the North

Western wall. Some raised garden beds are already present, it being understood that these are located according to the desires of individual gardeners. They are mainly located on the eastern side obtaining the most sunlight.

The block fronts onto Erskineville Road, a busy multi lane road with heavy commuter traffic. There are townhouses either side, with likely further development at the back. To the west and south west a new townhouse development provides some shadow effect mainly on the western side of the block. The site is not connected to town water.

Readings of the light levels at the site were taken using a handheld light metre, which measures illuminance. Illuminance is the measure of light falling on a surface (lumens per square metre or lux). These readings are given in Table 1.

Table 1: Light Readings and Site Observations (Winter).

Location	Light Reading	Further Comments
Northern Corner	150 lux (shade)	The back fence receives morning sun in Winter. There is town house development along the NW wall, providing shading.
Eastern Corner	200 lux (dappled shade)	In the shade of the large *E. saligna* next door.
Centre of Block	1560 lux (full sun)	This central location, continuing to the front of the block, receives midday and afternoon sun in Winter.
Southern Corner facing the townhouse wall	500 lux	The wall here receives full sun all day all year, from 10 am. This reading is the reflectance off the wall.

These readings and the position of the buildings relative to the movement of the sun indicate that light levels on the south eastern third of the block are close to full sunlight and are more than adequate to provide sufficient light to developing plants. It is noted that readings were taken in late winter and that even the western side of the block would receive receive full sun in Summer. Shading from the large *E. saligna* to the rear is significant in the mornings only and in Summer would be insignificant.

The soil was found to be quite disturbed and compacted, likely due to the many developments including building demolition, occuring in the past. It was reported that, following rainfall events, water would pool on the ground for an extended period of time. Rich clay soils were observed being removed at nearby developments, but these were not found in the coulple of shallow soil investigations performed. The material encountered was stony and compact. However this does not rule out that under this disturbed soil lies a similar rich clay profile.

In most respects the current soil condition is not relevant to the establishment and health of small scale vegetable horticulture as the current practices of making raised beds overcomes any soil deficiencies. It is true that if the soil conditions below the raised beds were improved then better water holding and root depth could be obtained. The depth of raised beds could also be increased to improve available soil volume.

4 Conclusion

Given the ample sunlight levels across the eastern side there is no reason why this site could not be established and maintained as a successful community garden. While the western side has some light limitation in Winter it is likely that cultivation of summer crops e.g. tomato, beans and cucumbers would succeed there also.

There is no doubt that the success of the garden could be improved through the installation of infrastructure to facilitate irrigation of garden beds and water recycling. Drought tolerance and rooting depth would be increased by some improved techniques of building the raised beds and improving the soil below.

5 Recommendations

Organisers of the gardening community should encourage the following practices-

1. Continue to ensure that gardens are predominantly located on the eastern side and centre of the site. Areas closer to the western side could be used for summer cultivation but should largely be used for holding the associated infrastructure such as compost bins, shade, shelter and ideally water tanks.
2. Putting more effort into loosening the original ground surface prior to making the rasied beds. This effort will be rewarded with deeper rooting and better drought resistance. Initially, the land will require deep forking or even the use of a pick to break up the compacted clay and stone layer that was observed, particularly towards the centre of the site. Following this, the applications of gypsum at 200g/sqm will help to further break down the clay. The raised garden beds can then be built above this. As a general guide vegetables require a 300mm depth of loose soil. This may require the purchase or import of high quality soil to sustain plants. It was suggested that soil could be imported from the neighbouring developments, i.e. recycled from where it is

being excavated and removed. The height of the raised beds will determine the amount of soil required, and the root zone depth of the plants grown.

To improve plant growth it may not be sufficient to rely solely upon compost made from plant material. The inclusion of manures or even fertilisers (organic if preferred) may be necessary to overcome the initially poor soil conditions.

Water is clearly a significant restriction to expansion of the garden, and also generally to maintenance and yields. The introduction of rainwater tanks connected to the roofs of the neighbouring properties would circumvent this. Given the potential importance of such gardening to the life of the local community and the educative function it serves the provision of town water via a tap is not beyond what could be considered a reasonable use of water supplies. Certainly the lack of water currently provides the biggest limitation to gardening, rather than soil or light levels, on the site.

The compost bins already in place certainly provide the means to overcome soil deficiencies and the technique of using raised beds is sound – although that technique could be improved.

The installation of shade shelters would improve amenity and sun safety for members of the community in summer and provide a place for those who wish to enjoy the garden to do so.

It is well documented that urban greenscapes, including Community gardens, improve quality of life in urban areas. Many councils now strongly encourage such community aims and provide support. The unusually high visibility of the location provides an additional incentive to provide greenscapes, or greenspaces, encourage biodiversity, clean the air, and provide a service to the community in such a heavily built environment.

6 Summary

Despite restrictions imposed by the underlying soil compaction and lack of water supply, this site is otherwise well suited to community gardening. These issues can easily be addressed with the use of raised gardening beds combined with more thorough preparation of the soil. The installation of water supply via town water or water tanks to capture run-off from the adjacent properties are the only real capital items required to overcome all limitations.

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