Introduction to “Trees and Development” projects

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The intent of such projects is to highlight trees on a site that is to be developed in the pre-planning phase and then to take these trees into consideration in **both** the planning **and** construction phases.

Steps (in summary):

Pre-planning phase

- Surveying the trees on site and geolocating them.
- Categorising the surveyed trees.
- Presenting the trees on a map to showcase the constraints that they would pose.

Planning phase

- Planning of structures and layout by relevant persons/firms.
- Assessing the potential impacts of trees on structures and vice versa.
- Refining of the plans based on the above.
- Specifying which trees are removed and defining methods to protect the trees to be kept during the construction process.

Construction phase

- Site visits are conducted by the arborist to ensure understanding and compliance.

Steps (Defined):

Pre-planning phase

1. An arborist surveys the trees on site and those on the site edges which may be affected by the development.
    a. This includes categorising the retainability of these trees based on several factors such as life span, age, condition, rarity, amenity value. The categories are below:

Retention Categories
A: Good specimens for species or rare. All efforts should be made to conserve these trees as they are prime examples of trees with very few defects and in good health. Many are currently in prominent locations and therefore of benefit to many people. I estimate that they will all live at least another 40 years.
B: Good specimens for species but damaged or not old. These trees are good specimens but lack certain traits to make it into category "A". Their removal should only be considered if the benefits of the scheme outweigh their loss. May be upgraded if remedied or when older.
C: Unremarkable trees that grow fast or average specimens that grow slowly. These trees are currently unremarkable individually. It does not mean that they cannot make a positive contribution in the future, but their loss, individually, could be mitigated easily through replanting and, in my opinion, should not be seen as a constraint to development. If retained, they will also require protection during any development.
U: Trees recommended for removal due to their condition

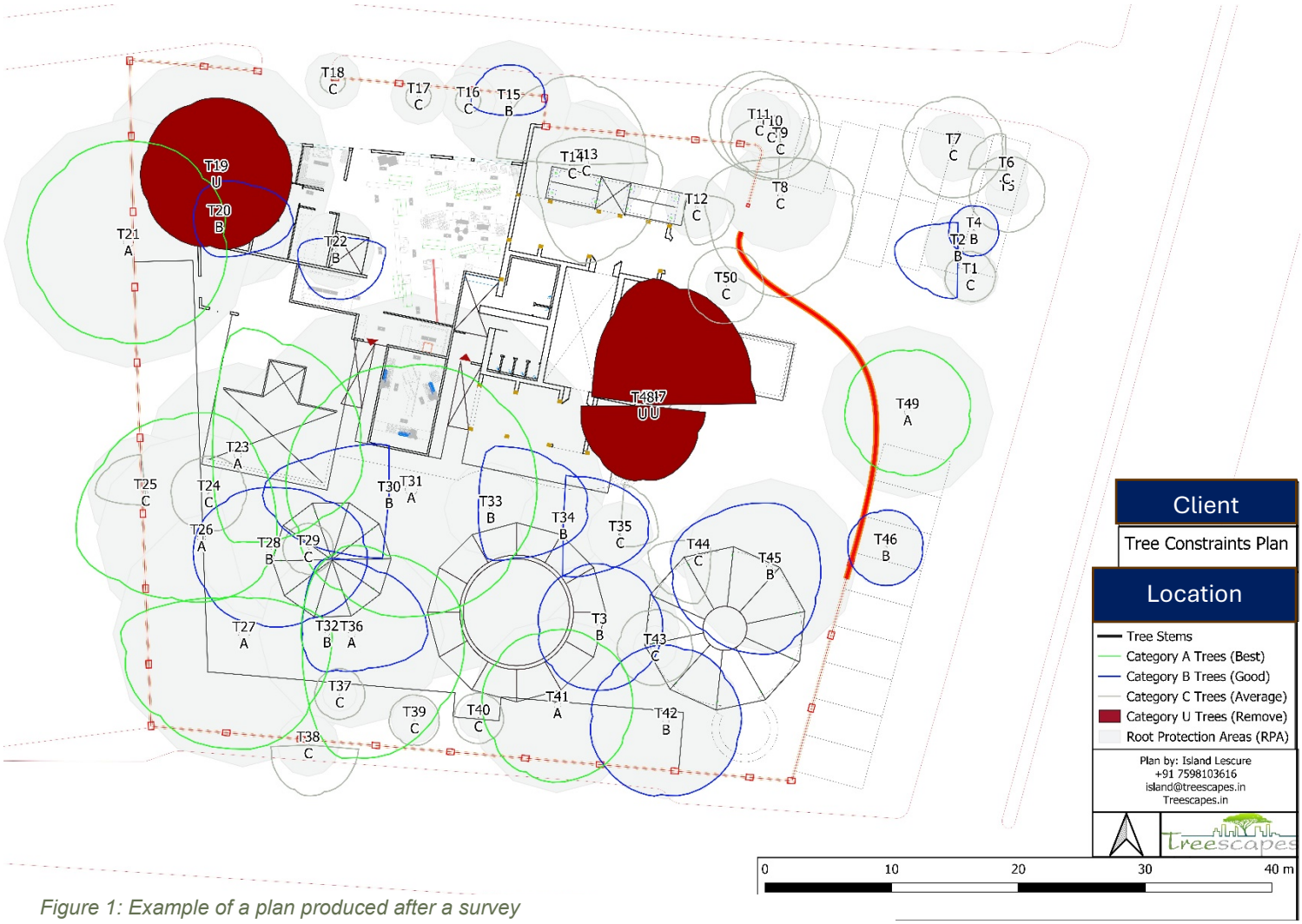


Figure 1: Example of a plan produced after a survey

b. The grey areas on the map above represent the locations of the root protection area (RPA) to consider for each tree. These are not precise locations as these can only be confirmed by ground penetrating radar or by physically locating the roots, but they give an idea of where it is worth considering the presence of roots and where solutions can be investigated to consider this.

Planning Phase

1. Architects, clients, landscape architects, engineers and/or others propose structure locations and layout of the area.
2. The arborist reviews the proposal and presents impacts between trees, construction and structures and provides alternative recommendations and/or solutions for these, if required.
3. Discussions and proposals occur between all parties until a desired result is reached.
4. The arborist recommends methods to protect the trees to be retained during the construction phase which needs to be realistic and approved by the contractor. This includes fencing off access to trees, defining access requirements, materials storage, cement mixing locations etc. Discussions occur until a desired result is reached.
5. Before construction starts, the arborist performs an initial site visit to ensure that everything is clearly understood by the contractor and inspects any tree protection measures that have been put in place.

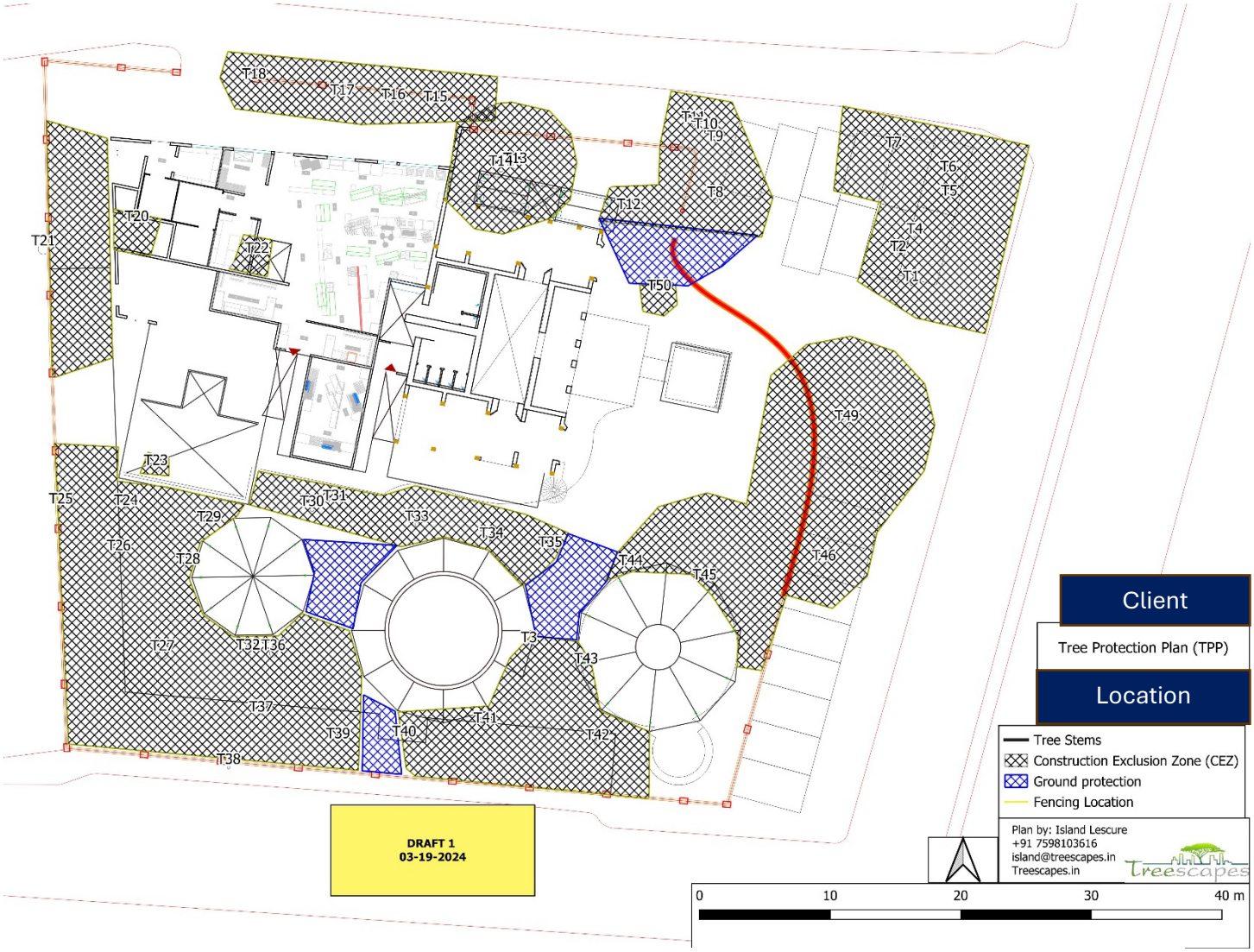


Figure 2: Example Tree Protection Plan

Construction phase

Site visits are conducted or, at least communication is kept up, to ensure everything is going according to plan or when anything requiring further evaluation occurs.

Examples of recommendations:

Figures 3 & 4: Examples of tree protection measures

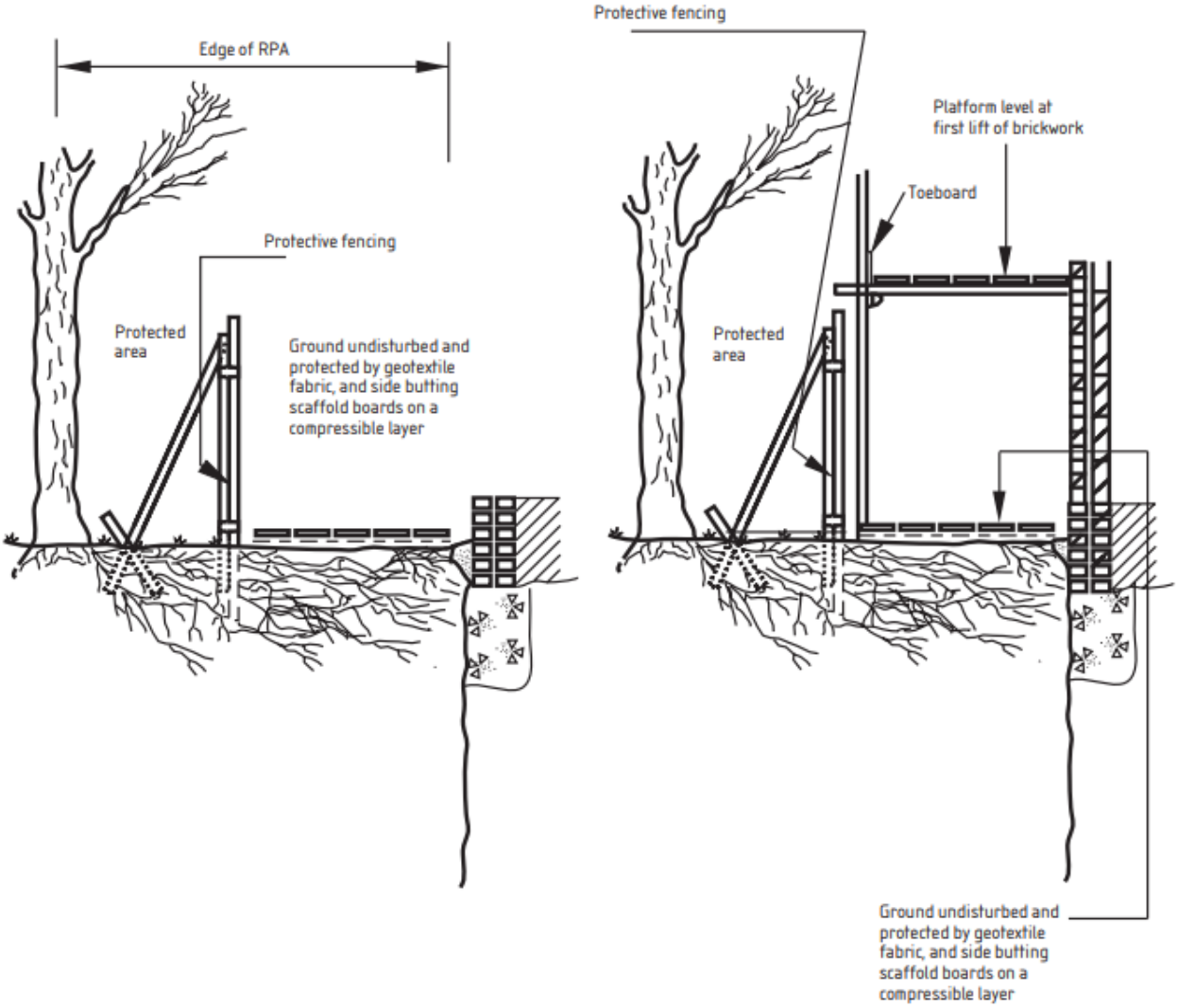
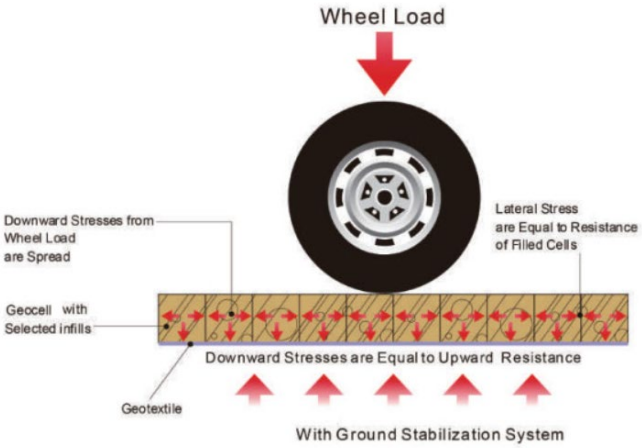


Figure 5: Example of tree protection and ground protection from pedestrians (taken from BS:5837 2005)



Figures 6 and 7: Examples of ground protection for heavier vehicles: Geocell technology (available in India)

Figure 8: Example of permanent tarmac using Geocell or similar. Exposed Geocell is only there to show that it is present but would normally be covered/under the road.

Post-Construction Phase

Only after construction and landscaping is complete are the tree protection measures removed.