MEMORANDUM

GREENSCENENZ
ENHANCING AND PROTECTING LIVING ENVIRONMENTS

TO: **Katrina Morgan – Community Facilities, Auckland Council**

FROM: **Stacy Colyer – GreensceneNZ Limited**

DATE: **14th April 2016**

SUBJECT: **Western Springs Pine Tree Removal Project Methodology – General Comments & Recommendations**

Dear Katrina,

Due to health and safety issues associated with the aging tree stock present within the subject site, a review of the current Western Springs Pine Tree Removal methodology has been undertaken (please refer to the 'yellow lined' site plan attached to this memorandum).

The attached methodology recommended the felling/dismantling of all pine trees growing within a 10 metre wide corridor along the boundary lines of the site and either side of the existing public walking track (creating a 20+ meter wide swathe). The methodology also recommended reducing the remaining pine trees (primarily by way of sectional dismantling - which results in the cut branches and truck sections landing relatively close to a tree's growing location) down to 10 metres above ground level (creating a large group of 'totem poles'), with the resulting brush being stacked in 'eco-piles'.

Photo No.1: Example of an Eco Pile

Photo No.2: Result of 'dismantle and leave on site'

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Having reviewed the above methodology, I am of the opinion that the proposed method of 'getting the trees on the ground' (primarily by way of sectional dismantling) would cause significant damage to the existing native vegetative understory throughout the site. I am also of the opinion that the amount of debris created from dismantling an estimated 200+ pine trees growing within the subject site would be staggering. It is also reasonable to suggest that leaving this amount of debris (stacked in eco piles or not) would present a sizeable fire risk as the resulting debris dries out.

Given that I am not, in general terms, in support of this methodology, I propose 3 additional methodologies for your consideration (please also refer to the table attached to this memo for a condensed version of the considered tree removal methodologies, as well as a draft accessway and processing site location map). These methodologies for consideration are as follows:

<u>100% Tree Removal by Helicopter</u>

Method: All trees would be removed in small sections by a helicopter to a processing area adjacent to the site. The creation of an accessway and on site processing areas would not be required

Cost: $500K+ (est.)

Result: Limited damage to the existing native understory and existing wildlife. No debris left on site

Noise: Noise levels would be significant and, due to the sectional removal method, lengthy in duration (both in 'boundary locations' and in overall project delivery days)

Erosion: Erosion concerns sit primarily with the reduced root/soil holding capacity that will occur as the root stock decays and dies. The effects of this anticipated issue can be mitigated by the proposed restorative native planting programme

Comment: The prohibitive estimated cost and noise issues make this methodology difficult to support when considered against the following methodologies

<u>10% Tree Removal by Helicopter / 60% Fell and Remove / 30% Fell and Leave On Site</u>

Method: An estimated 10% of trees (primarily identified 'site boundary' trees) would be removed in small sections by a helicopter to a processing area adjacent to the site. The creation of an accessway and on site processing areas would be required. An estimated 60% of the trees would be felled on to/adjacent to the accessway and/or on site processing areas and then removed off site. An estimated 30% of primarily 'site boundary' trees would be felled away from the boundaries and, once cut up into appropriate sized sections, left on site

Cost: $250K+ (est.)

Result: High level of damage to the existing native understory and existing wildlife. Identified native tree specimens and quality vegetation areas can be protected/retained. Whilst limited in overall effect, this would aid in the reduction of damage to wildlife. Targeted debris to be left on site

Noise: Noise levels associated with the helicopter work would be significant on adjacent sites when removing the 'site boundary' trees. Noise would be evident due to the expected project duration (both in 'boundary locations' and in overall project delivery days)

Erosion: Erosion concerns relate to the creation of an accessway and on site processing areas. Like the reduced root/soil holding capacity issue, the effects of these anticipated issues can be mitigated by the proposed restorative native planting programme

Comment: The cost of helicopter work and associated noise issues vs the minor reduction in damage to the existing vegetative understory makes this methodology difficult to support when compared with the following proposed methodology

70% Fell and Remove / 30% Fell and Leave On Site

Method: The creation of an accessway and on site processing areas would be required. An estimated 70% of the trees would be felled on to/adjacent to the accessway and/or on site processing areas and then removed off site. An estimated 30% of primarily 'site boundary' trees would be felled away from the boundaries and, once cut up into appropriate sized sections, left on site

Cost: $180K+ (est.)

Result: High level of damage to the existing native understory and existing wildlife. Identified native tree specimens and quality vegetation areas can be protected/retained. Whilst limited in overall effect, this would aid in the reduction of damage to wildlife. Targeted debris to be left on site

Noise: Noise would be evident due to the expected project duration

Erosion: Erosion concerns relate to the creation of an accessway and on site processing areas. Like the reduced root/soil holding capacity issue, the effects of these anticipated issues can be mitigated by proposed restorative native planting

Comment: When weighing up the overall site impacts, the estimated cost of the works and the end results of the proposed restorative native planting programme, this tree removal methodology is recommended to be implemented

General Comment

A tree population survey was undertaken in October 2013, which indicated that, aside from an estimated 224 dead trees and 'stumps' (interpreted as standing trunks with no foliage), there were 282 'live' trees displaying various states of health, safety and/or form. Since the initial survey (2.5 years ago), the 'live' tree population has reduced to approximately 200 trees (again excluding dead trees and 'stumps' – note a detailed live tree count is now being undertaken).

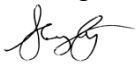
I am of the understanding that some trees have been intentionally felled in the preceding years, primarily due to health and safety reasons. Whilst definitive numbers relating to the intentional tree felling are not yet confirmed, it is reasonable to assume at this stage that a number of trees existing in October 2013 have since failed on their own accord, thus reinforcing the health and safety issues pertaining to this site.

Whilst there are established large specimens of reasonable form and vitality growing within the site, continued failure/targeted removal of the declining tree stock will/would render 'quality' trees vulnerable to future wind-throw (due to the removal of wind protection currently supplied by the trees in decline). It is due to this issue that partial tree population removal is not recommended. Given the age of the tree stock, assumed tree 'self failure' and the presence of targets within the tree population fall zone (public walking track, residential dwellings, etc), I am of the opinion that removal of the tree stock on health and safety grounds is not a matter of 'if' but 'when'.

In summary, consideration is required in relation to the anticipated degree of damage to the ecological aspects and values of the site, in conjunction with the estimated vegetative regeneration resulting from the proposed restorative native planting programme and costs associated with the various tree removal methodologies. Whilst aware of the general degree of damage to the site that will result from the '70% Fell and Remove / 30% Fell and Leave On Site' methodology, previous examples of similar styled pine tree removal projects, coupled with the results of appropriate restorative native planting programmes, provide a pathway as to how this project could be effectively managed to achieve medium and long term quality results.

Please contact me to discuss this matter further.

Kind regards,



Stacy Colyer
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