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## **Aadland Esplanade Tree Information**

Let's begin by providing some detailed information about the London Plane trees currently planted along the esplanade. Their botanical name is *Platanus x acerfolia* (*P.x hispanica*) which is in the sycamore family. It is a hybrid between the American Sycamore (*P. occidentalis*) and a close cousin (*P. orientalis*). It is believed to be the result of a chance pollinization of the two trees that occurred in Spain in the early 1700's. It is widely planted throughout Europe (especially in London England) and the east coast of the United States, where it has proven to be one of the few trees that can tolerate a severely polluted urban environment. They are deciduous and may grow as tall as 100'. The leaves usually turn yellow to yellow brown before falling. Their flowers are fairly insignificant and are followed by 1" diameter round seed clusters. Their main attribute is their large stately branch structure combined with their smooth exfoliating pale green, grey and brown bark.

While the loss of any tree is regrettable; it is a predictable and inevitable outcome in a tree's life cycle and should be included in any comprehensive tree care plan. Loss is usually due to insect damage, disease or climatic conditions such as wind and ice storms. However, other conditions often warrant the early removal of a tree as is the situation with the trees along the esplanade.

No one can see into the future to predict the changing needs of the environment in which a tree is planted. We can only make an educated guess based on the information we currently have about the planting site long term use combined with the characteristics of the tree being planted. Keeping this in mind, the choice to plant London Plane trees along what was then a road was flawed due to their potential growth characteristics.

No principle is more important in tree selection than "right tree, right place." As noted above; the trees along the esplanade will reach a height and spread in excess of 100'. They are currently 60-65' tall and 55' wide. Their current size puts them outside of what is an appropriate size for their location. This is based on their proximity to the esplanade not the science building. Remember trees do not have roots that go straight down. They travel horizontally in the soil usually to a distance equal or greater than the diameter of the tree's branches. In this case that would mean the roots are over 30' from the trunk in all directions and may grow to be over 50'. Additionally, everyone has probably noticed the copious amount of debris that the trees produce throughout the year. It starts with a partial leaf drop mid-summer due to a fungal disease called anthracnose (no cultural control is available for trees of this size). This is followed by the constant drop of the irritating spiky brown seed clusters through spring. And of course the major leaf drop in fall without the benefit of significant fall color.

Given that most trees will fail in time, the most important aspect in a realistic tree maintenance program is not trying to save every tree but to continually plant trees at a rate that exceeds the

failure rate of the existing tree inventory. This strategy allows us to hone the variety of trees to blend with the needs of the campus over time. It also ensures a diverse range of species and sizes. New cultivars may also have certain desirable characteristics such as disease resistance or ornamental qualities not found in their predecessors.

It is also critical to use the proper criteria when undertaking tree selection. Site selection and evaluation are critical. If the site is pre-selected for us; such as replacement trees for the esplanade then the main emphasis should be placed on evaluation. Detailed data should be collected on the planting site about soil composition and moisture, sun exposure and proximity to structures and other trees just to name a few. The next step is the most important and ironically where most fail: proper tree selection or right tree, right place. The decision is based on three factors: cultural needs, aesthetic value and the mature size of the tree. The cultural needs must be paired with the setting in which it will be planted. The aesthetic choice is based on artistic judgment and the practical use in the landscape.

What characteristics are needed? Evergreen versus deciduous, fall color, showy or fragrant flowers, interesting foliage texture and rate of growth are some of the considerations in which we would base our selection. The one aspect that is the most critical for longevity is knowing the mature size of the specimen. This is where we most often fail for several reasons. Most nursery planting guilds refer to the mature size of the tree as the size it will attain in 10-12 years. This is sufficient in most cases because the average life expectancy of a tree planted in an urban environment is seven years. However, in many incidences the tree may live its full life span of several hundred years.

Trees do not stop growing at a certain size. They will grow continually throughout their life. Usually there is a period of accelerated growth in early development followed by moderate growth for the majority of its life span. Then the growth rate will slow until its final demise. A safe estimate is that the London Planes on campus have at least 30 or 40 years left in their moderate growth cycle, which would eventually make them three times larger than their maximum ideal size.

It is essential to understand that not any one aspect of the selection process is more important than another; they all must be given significant consideration to ensure the long term prosperity of the tree and that the right tree is planted in the right place.

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