

## 1.0 Greenbelt development program

Most of the human activities generate pollution of one or other types and of different magnitudes, to which all the organisms are exposed. Numerous mechanical devices are available for controlling pollution at the process level itself. It is often stated that zero pollution process is only hypothetical. With more than 99% efficiency of pollution abatement machinery, some amount of pollution still gets released in the atmosphere. Green belt is thought to be effective in such scenarios. Where green plants form a surface capable of absorbing air pollutants and forming sink for pollutants. Leaves with their vast area in a tree crown, sorbs pollutants on their surface, thus effectively reduce their concentrations in the ambient air. Often, the absorbed pollutants are incorporated in metabolic stream and thus settle air is purified. Plants grown in such a way as to function as pollutant sinks are collectively referred to as green belt. Primary pollutants of distillery industry are sulphur oxides, dust, odor and noise emissions.

### Proposed pollutant tolerant species

The rate of pollutant removal is found to increase linearly as the concentration of the pollutant increases over the range of concentration that are encountered in ambient air and which are low enough not to cause stomatal closure. Pollutants are absorbed most efficiently by plant foliage near the canopy surface where diffusion process is high due to favourable light conditions. Following species will be grown that will be beneficial for the purpose of reducing pollution.

#### Dust tolerant species:

*Citrus lemon* (Lemon), *Ficus elastica* (India Rubber tree), *Tectona grandis* (Teak), *Mangifera indica* (Mango), *Ficus benghalensis* (Banyan Tree), *Anthocephalus kadamba* (Kadamba), *Bauhinia purpurea* (Kanchan).

#### Sulphur-dioxide tolerant species:

*Azadirachta indica* (Neem), *Opuntia monacantha* (Drooping prickly pear), *Caesalpinia pulcherrima* (Peacock flower), *Pithecolobium dulce* (Monkey pod), *Ficus religiosa* (Sacred fig), *Alstonia scholaris* (Saptapami), *Saraca asoca* (Ashoka), *Cassia fistula* (Amaltas).

#### Noise absorbing species:

*Butea monosperma* (Palash), *Melia azedarach* (Chinaberry), *Grevillea pteridifolia* (Darwin silky oak), *Tamarindus indica* (Tamarind).

#### Odour control species:

*Azadirachta indica* (Neem), *Millingtonia hortensis* (Indian cork tree), *Pongamia pinnata* (karanj)

#### Species having low fire index:

*Tectona grandis* (Teak), *Magnolia grandiflora* (bull bay), *Parkinsonia aculeate* (jelly bean tree), *Dadonea viscosa* (hopbush), *Callistemon citrinus* (lemon bottlebrush).

#### Action plan for greenbelt development

Greenbelt development will be undertaken in 33% area of total project site. It will commence during construction phase only. Native species will be planted in consultation with horticulturist. The plant periphery will be covered in 10 m width. Action plan for the same is provided below:

S. No.	Planning schedule	Probable Number of saplings	Area (Ha.)	Width of greenbelt (along the boundary of the plant)	The budget allocated for greenbelt development will be 50 lakhs.
1.	1 <sup>st</sup> Year	1500	1.0	10 m	
2.	2 <sup>nd</sup> Year	1500	1.0	10 m	
3.	3 <sup>rd</sup> Year	630	0.42	10 m	
	<b>Total</b>	<b>3630</b>	2.42 ha		