Introducing heat resilience to EEKLO ‘de Zuidkaai’ picnic area

Summary

- Transforming a partly enclosed area of bare ground that gets hot in summer into an attractive, cool, lunch spot for local workers and school children
- This will contribute to the climate resilience strategy for the city

During construction	After intervention	
		
		

Location

Eeklo is a small town in the region “het Meetjesland” in the province of East Flanders, Belgium. It has a population of about 21,000 inhabitants in an area of 30km². The city centre is particularly densely built and so experiences significant heat stress in hot weather.

Site Description

Figure 1:the ground plan of the site ‘De Zuidkaai’ (this plan is not finalised .

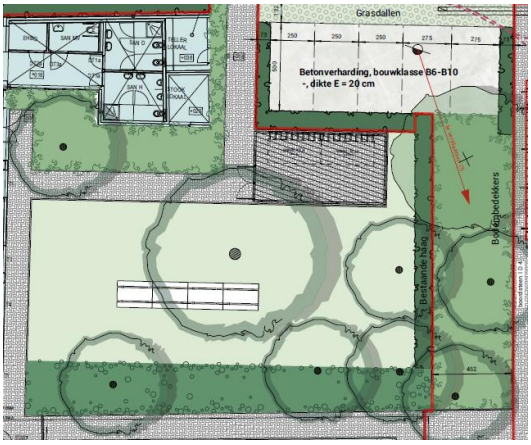

Figure 2:ground plan of the site 'De Zuidkaai': close up of lunch area with turfed area (shown in light green), planting of low shrubs (shown in dark green) and trees (shown as black circles)

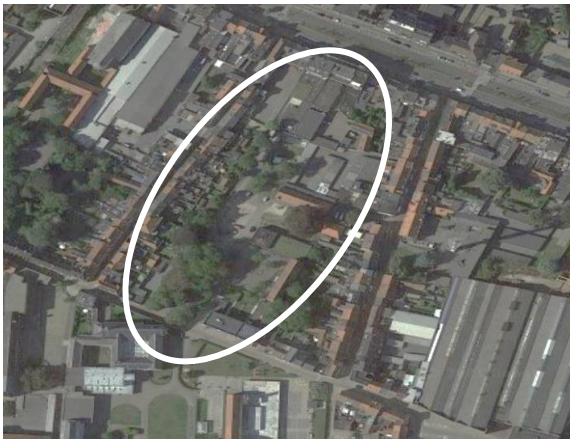

Figure 3: Site 'De Zuidkaai' on Google Maps. Source:https://www.google.be/maps/place/Sociaal+Huis+Eeklo

The site being refurbished is a partly enclosed public space between buildings owned by the Public Welfare Center and occupied by various not for profit social organisations (figure 3) near the city center. A large part of the site was covered with hard surfaces resulting in heat stress during summers affecting the health and overall wellbeing of workers and other user of the lunch area on this site.

The Decision-making Journey

Transformation of the 'De Zuidkaai' was already included in the city Climate Adaptation Plan and the "Climate healthy region Meetjesland", which have altered policy with, for example, building permits focussing on green infrastructure, rainwater infiltration and reducing the area hard surfaces to an absolute minimum. Before detailed plans were drawn up, the opinions of different stakeholders, including the users of the buildings were considered to ensure their needs were met, they felt involved in the project and supported it. The goal was to create an attractive, cooler, outdoor space with more potential use for public function and greater local people during the day and at holiday periods. The first step was to remove paving and prepare the ground for laying of grass turf, this took a year to complete and was followed by installation of picnic tables.

Implementation – problems encountered

This project was part of a wider scheme and, as the total funding package was not in place before the start, it had to be approved in stages. If there had been an overview it would have been easier to take other plans into consideration and avoid possible overlaps.

Indicative costs: please note that costs have been rounded and, while accurate at the time of implementation, can only be used as an indication of cost.

Capital Cost	€	£=1.19€
Turfing: - ground preparation including removal of 0.5 tons of stones (€ 31.95); - leveling 180 m² (€ 102.14); - spreading 3cm depth of compost to improve 10.93 m3 soil (€ 443.58). - Procuring and laying 180 m² of grass turf (€ 1,551.62)	2,129	1,788
Shrub planting: preparation of soil by adding and levelling topsoil and green compost (€443.58) and purchase of plants (€31.95)	475	399
Tree planting: purchase (€ 512.30)and planting (€ 327.18) three tree 2 x *Sorbus discolor* (2 x € 123,53) 1 x *Tilia x europaea* 'Euchlora' (1x € 265,24)	839	705
Total	3,444	2,893

Maintainence Costs	€	£=1.19€
Mowing grass (21 X per year @ €38,22)	802	674
Weeding shrub beds (1 x per year)	76	64
Pruning shrubs (1 x per year)	95	79
Pruning trees (1 x per year)	35	29
Total	1,009	847

Reflection: what went well/what could have gone better?

- This project makes a positive impact on the overall wellbeing of the workers and passers-by
- This intervention would have gone better it there had been an overview of related projects and the whole budget agreed before the start.

MEASURES OF SUCCESS	EVIDENCE
Reduction in PET value (baseline vs result values, comparison with reference point)	Cool surface grass: 2.3°C *Tilia x europaea* 'Euchlora' in grass: 13.5 °C Group of beech trees: 19.8 °C Single beech in hard surface: 11.3 °C Honey locust in hard surface: 13.7 °C
Size of the area (m2) with improved heat resilience (the total area that benefits from the measures approximate this by using the same approach used for the initial estimation in the application form)	180 m²

MEASURES OF SUCCESS	EVIDENCE
Number of daily users benefitting from the intervention (if relevant/available: are there specific times of day or the year when there is heavy use?)	Around 54 workers work on this site. The spot is mostly used during the working hours. "During warmer weather we often take our meetings outside. Sometimes it is easier to communicate with people when sitting outside"
Co-benefits achieved (for example biodiversity, pollution reduction, economic benefits, influence on property value, long-term savings, aesthetic improvement, psychological impact, increased health and wellbeing)	Grass is more attractive than bare ground, has better water infiltration, reduces surface water flooding and, if not close mown is beneficial for invertebrates. Planting low shrubs increases attractive appearance and water infiltration reducing surface water flooding. Tree planting provides shade, pleasant appearance, rainwater management, improves biodiversity and air quality, and reduces CO^2 exhaustion. "We cannot wait for the trees to grow so we have more shade"
Any other results observed	The site is used more by the workers and passer-by's: "When the weather permits, we use the picnic zone. My colleagues and I often eat at the benches. Who wouldn't want to sit in a green environment?" "During periods of warm weather we like to site outside in de shade of the trees. It's a nice place to escape to."

No technical information available