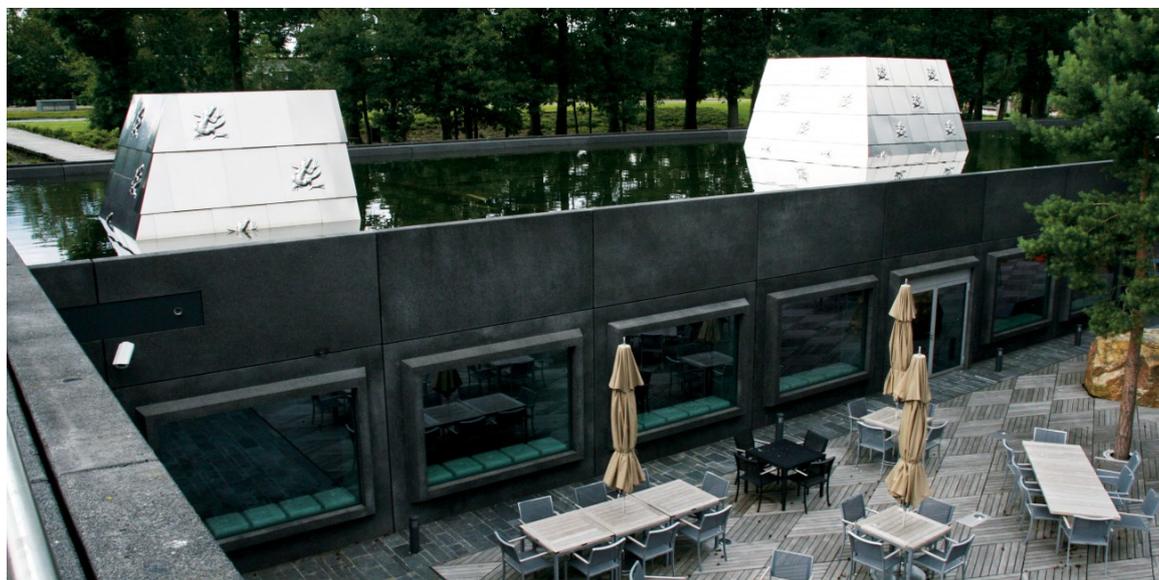


URBAN GREEN-BLUE GRIDS

for sustainable and resilient cities

Measures › Water › Buffering and infiltration › Water roofs for rainwater retention

Water roofs for rainwater retention



Water roof on Walter Bos Complex, Apeldoorn, The Netherlands © Frank Nijs

Data

Dimensioning: Average buffer height of 60 mm (taking the slope level of the roof into account)

Application: Flat roofs

Advantage: Can be placed on almost any flat roof

Disadvantage: Waterproofing requires additional attention

Water ●●●

Heat ●

Multifunctional space usage ●●

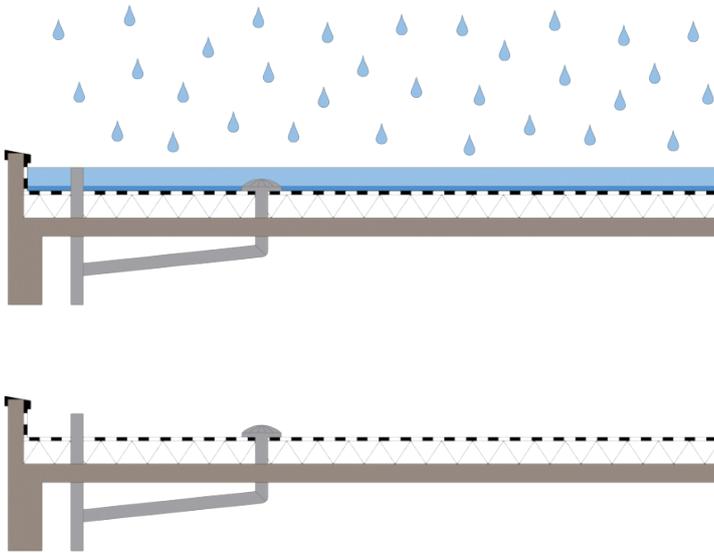
Construction costs ●●

Maintenance/management ●

Flat roofs can be designed to buffer a degree of precipitation by situating the overflow at a slightly higher level. This needs to be taken into account in the roof's construction (greater load). The water only remains on the roof for a short period of time after rainfall. The rainwater is drained off at a delayed pace using narrower drainpipes. The water needs to be drained off to create sufficient storage capacity in time for the next rainfall. Contrary to what some people assume, the cooling effect of the water on the underlying rooms is only temporary and does

not always occur at the preferred moments.

Water roofs only need to store rain falling on the roof; as such, the storage height need not be as high as that in rainwater ponds. [Geiger et al., 2009]



Section schemes during rainfall and when it's dry © atelier GROENBLAUW, Marlies van der Linden (based on: Geiger et al, 2009)

Literature

- Geiger W., Dreiseitl H. & Stemplewski J.; Neue Wege für das Regenwasser – Handbuch zum Rückhalt und zur Versickerung von Regenwasser in Baugebieten; Oldenbourg Industrieverlag GmbH, München, 2009

Source: <http://www.urbangreenbluegrids.com/measures/water-roofs-2/>

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Green-blue urban grids make cities sustainable, resilient and climate-proof. This website and the design tool will help to find fitting measures and inspires with attractive examples.