

URBAN GREEN-BLUE GRIDS

for sustainable and resilient cities

Measures › Water › Buffering and infiltration › Infiltration boxes and infiltration drains/wells › Rainwater storage beneath sports fields

Rainwater storage beneath sports fields



Playing field © Drain Products

Data

Dimensioning: One or more sports grounds

Application: Also applicable for roads and car parks

Water ●●

Multifunctional space usage ●●●

Construction costs ●●

Maintenance/management ●

One option for creating additional water storage facilities is storing in underground crates. This is a hidden technology that fits the criteria of sustainable urban planning, which is why it is discussed here. An interesting form of multiple uses of single spaces is realising water storage beneath sports fields. The technical aspects are simple to achieve using storage boxes/bulbs or Aquaflow. The Physical Planning Department of the City of Amsterdam summarised the various options for Amsterdam's Bijlmerpark.



Playing field © Drain Products

Sports fields can be integrated into water systems in one of two ways:

- The water storage facility is connected directly to surface water. In this scenario, the water level below the sports fields rises according to the surface water level. This is a simple system to operationalise. Fluctuations in the water levels are limited by the maximum fluctuation of the surface water level.
- The water storage facility is not connected directly to surface water. In this scenario, the water that needs storing is fed in from elsewhere, stored and drained at a delayed pace. This allows for more water to be stored, since greater fluctuations in water levels are possible.



Infiltration boxes © Drain Products

Various materials can be used for storing water under sports fields.

- Aquaflo or a stone-like material with large numbers of gaps. The storage capacity is approximately 50%.
- Synthetic boxes and bulbs. These products are light and offer a high storage capacity of around 95%.

[DRO, 2010]

Literature

- DRO (Dienst Ruimtelijke Ordening); Waterberging onder sportvelden; Gemeente Amsterdam, 2010

Source: <http://www.urbangreenbluegrids.com/measures/infiltration-boxes-and-infiltration-drainswells/rainwater-storage-beneath-sports-fields/>

atelier **GROENBLAUW**

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.