Korswagen, et al. 2022

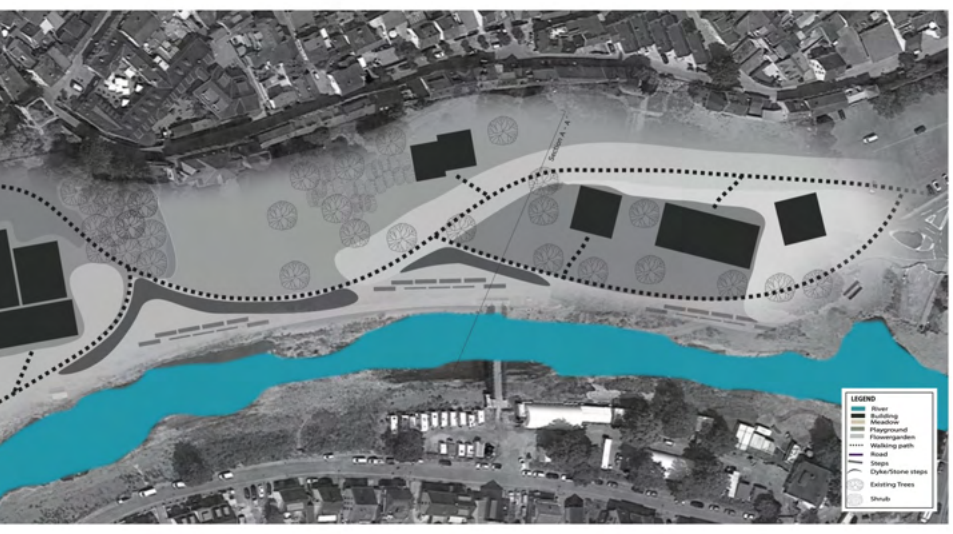
Tending to the territory of the river Post-flood design for the Ahr Valley (D), GLA302 NMBU 2022
Gz. MeeNilankco Theiventhran

Tending to the territory of the river Post-flood design for the Ahr Valley (D), GLA302 NMBU 2022

MeeNilankco Theiventhran

Sponge Measures in the Old Town of Ahrweiler

Starting at the old Ahrtor gate, there is a boardwalk that goes across meadows and flower beds, and on the other side, it takes to an adventure-filled playground and public spaces. The surviving trees allow views of the river and provide habitat. Central to the new park will be multiple solutions that act as a retention basin during floods. Additionally, further in the front towards the river steps and elevated stone stairs act as dikes and additional. These nature-based solutions act as (1) flood protection measures, (2) promote species diversity by offering habitats, (3) offer the urban population green spaces that can be used for leisure activities and relaxation, (4) help combat heatwaves and pollution and (5) contribute to climate change and sustainable and equitable post disaster action.




Dr. von Ehrenwallsche Klinik


River Ahr


Destroyed Community Gardens


Mounds of Construction Materials

Example Images of New Spaces

The inspirational images demonstrate how new places could work aesthetically and functionally. The details on the right show how interventions might be constructed.


Boardwalk (Turenscape, 2015)

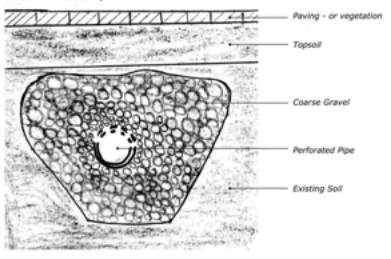

Flower Meadow (Urbicus, 2014)


Playground (WATG, 2016)

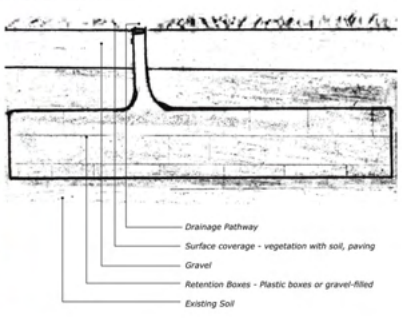

Steps leading to Ahr (Felixx, 2022)


Dyke System (Felixx, 2022)

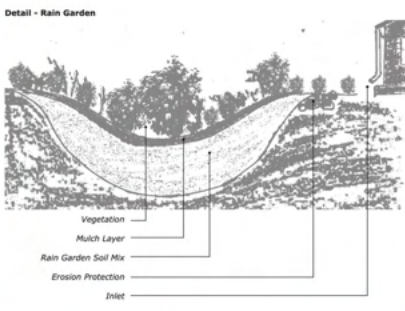
Detail - Perforated Pipe



Detail - Retention Box

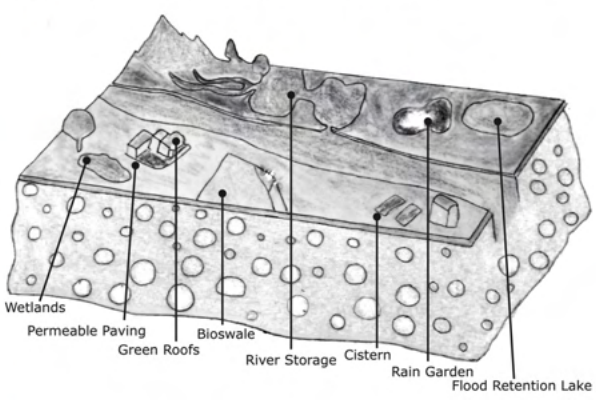


Detail - Rain Garden



Post-flood Design

July 2021 floods in Bad Neuenahr-Ahrweiler demonstrated the veracity of floods and the damage they can cause. The floods have offered an opportunity to initiate a strategic transformation process and strengthen disaster resilience. Bad Neuenahr-Ahrweiler is situated in a floodplain, and post-disaster planning should accept and acknowledge that making room for water is paramount and unavoidable. Making room for water is an opportunity to generate a positive relationship between natural processes, plants, animals, birds and people.



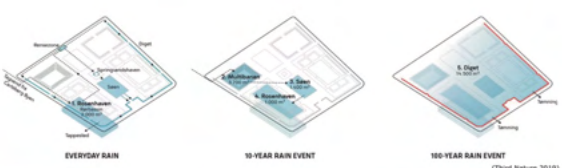
Blue-Green Infrastructure

Cities are designed so that rainwater is kept and absorbed where it falls through sustainable urban drainage systems leased from its green infrastructure. Blue Green sponge measures to water-sensitive urban design facilities flood-resilient liveable urban landscapes incorporating habitats and ecology provide both recreational spaces for humans and habitats.

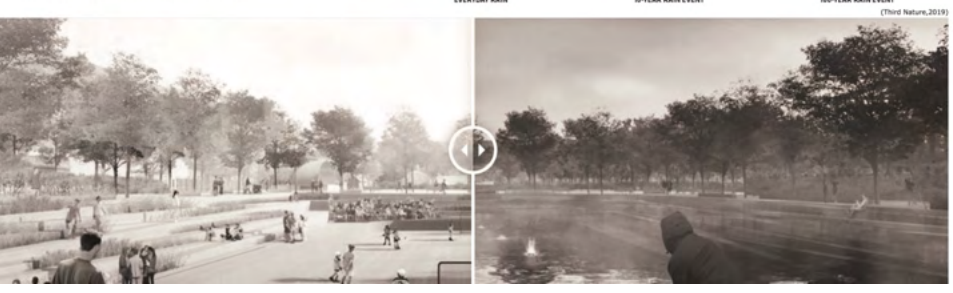
Case Study - Enghaveparken, Copenhagen

The Enghaveparken was designed to gain a double landscape depending on the weather. During heavy rains, gardens get transformed into floodable ponds, and the flowerbeds fill with water and wait to drain until the storm runoff subsides. Landscaping directs stormwater down into large underground water storage tanks.

The solutions hold back the water and simultaneously create new living, sensory and recreative opportunities for everyday life and in the event of flooding. It is a green breathing space for people and animals; urban nature is for everyone with different possibilities.



(Third Nature,2019)



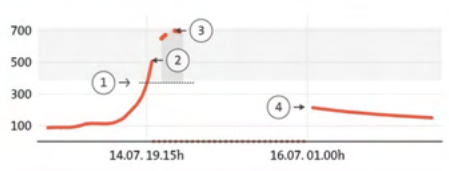
(DLRZKI, 2021)

Introduction Bad Neuenahr-Ahrweiler, Germany

The area under investigation at Bad Neuenahr-Ahrweiler was totally flooded. Pre and post-flood images show the scale of damage. What have the pieces of evidence that have been gathered taught us about what happened, what is happening, and what ought to happen for the landscape after the disaster? Incorporating forward-thinking concepts into its urban development in a contemporary and environmentally responsible way is one of the city's most significant challenges.


Bad Neuenahr Ahrweiler - Pre-flood
(Image Google Earth, 2021)


Bad Neuenahr Ahrweiler - Post-flood
(Image Google Earth, 2021)



Flood timing data graph

1) Historical high of June 2nd, 2016 exceeded

2) Level measurement aborts

3) Estimated high on the night of July 14-15

SWRdata, 2021