

USERS OF SILNICA VALLEY PARK

USER



FAMILIES



CHILDREN



MOTHERS WITH CHILDREN



STUDENTS



OLDER PEOPLE



COUPLES IN LOVE



ATHLETES



ANIMALS

PURPOSE OF STAYING



WALKS WITH CHILDREN



FUN ON THE PLAYGROUND: SLIDE, SWINGS, SANDPIT, FUN WITH PEERS



SOCIAL GATHERING



READING BOOKS LISTENING TO THE MUSIC



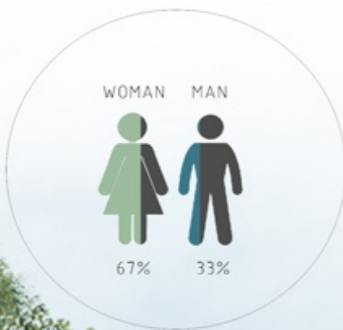
PLACE FOR REST



PLACE FOR SPORTS: CYCLING, SKATING, RIDING A SCOOTER, SKATEBOARDING, RUNNING, NORDIC-WALKING



WALK WITH A PET

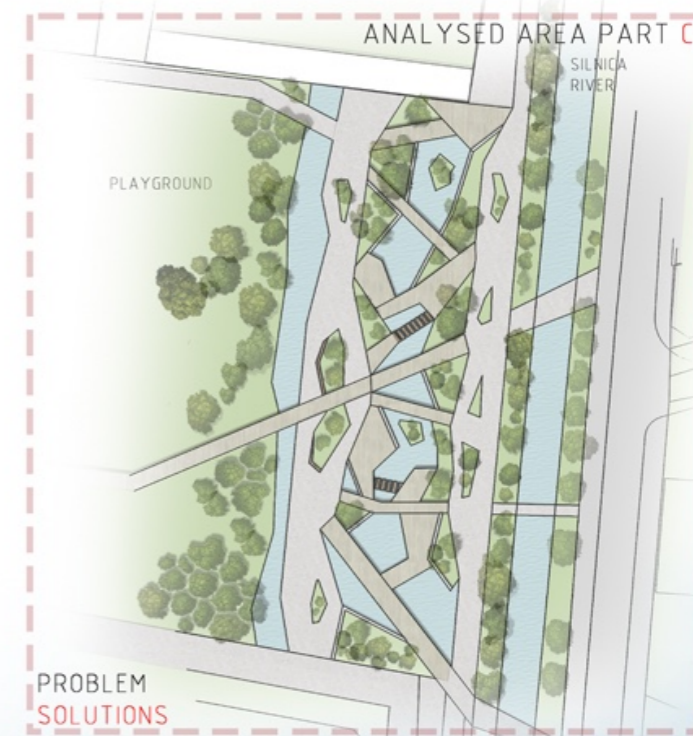


NO FUNCTIONAL PROGRAM

CHANGES

NEW FUNCTIONAL PROGRAM

ANALYSED AREA PART C



PROBLEM SOLUTIONS

Country / City Poland

University / School Kielce University of Technology

Academic year 2017/2018

Title of the project Project of green and blue infrastructure. Reconstruction of the Silnica valley in Kielce

Authors Angelika Barańska, Karolina Ciba, Karolina Karbowniczek, Adrianna Kuś





PERFORMATIVE NATURE

Barcelona International Landscape Architecture Biennial

September 2018 **Barcelona**

SCHOOL PRIZE

X International Landscape Architecture Biennial

Máster d'Arquitectura del Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain

TECHNICAL DOSSIER

Title of the project Project of green and blue infrastructure. Reconstruction of the Silnica valley in Kielce
Authors Angelika Barańska, Karolina Ciba, Karolina Karbowniczek, Adrianna Kuś
Title of the course Architecture
Academic year 2017-2018
Teaching Staff Magdalena Wojnowska-Heciak
Department/Section/Program of belonging
University/School Kielce University of Technology

Written statement, short description of the project in English, no more than 250 words

Nowadays major problems in cities include rivers' flooding, flash floods and the lack of proper rainwater infiltration. On average circa 42% city centres' area is built-up with impermeable paving. Therefore, the theme of the project is green and blue infrastructure reconstruction of the Silnica valley in Kielce, Poland. Silnica is a small, regulated river flowing through dense urban area. Partially it flows under the streets of the city center. During a heavy rain, flash floods occur. The aim of the project covers an increase of the river biodiversity by introducing diverse vegetation. Unfriendly surroundings and river banks will be adapted to the needs of users. Infiltration of water will be improved. Also, solutions such as: pervious paving, rain gardens and bioswales will be adopted. The planned development has new uses related to the location of the place and the potential visitor. Geometric shapes are designed in the city center, while in the further part of the city the river has an organic line and restored natural shape.

For further information

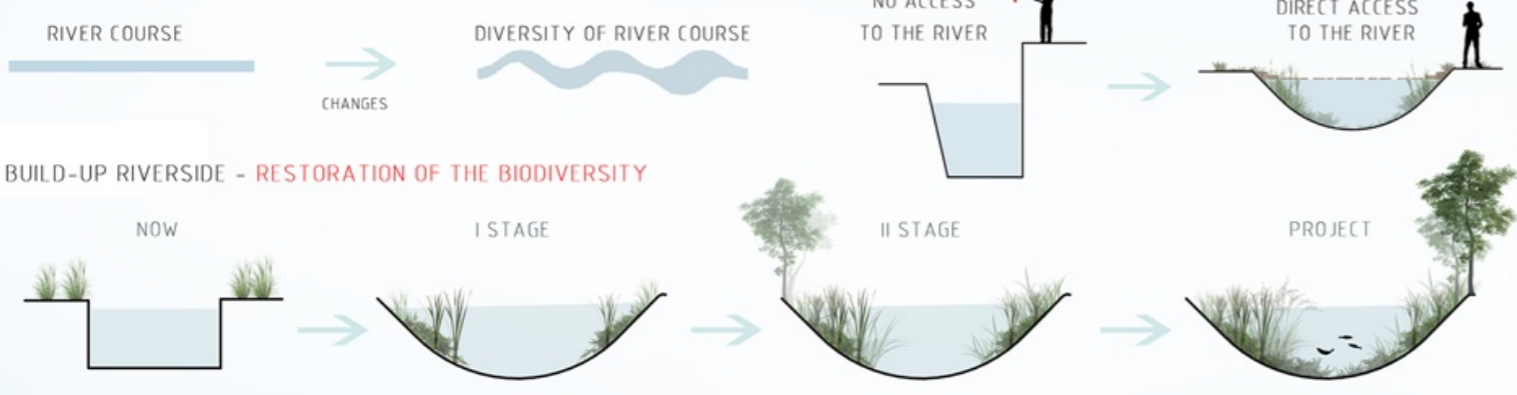
Máster d'Arquitectura del Paisatge -DUOT - UPC

T: + 34 93 401 64 11 / +34 93 552 0842

Contact via email at: biennial.paisatge@upc.edu

Consult the web page <http://landscape.coac.net/>

HOW TO CHANGE THIS?
WHAT CAN WE DO TO PREVENT FLOODS?



PLANTS USED IN PROJECT
MEADOW ZONE

-  GERMAN IRIS
IRIS SIBIRICA
-  VIRGINIA SPIDERWORT
TRADESCANTIA VIRGINIANA
-  YELLOW LOOSESTRIFE
LYSIMACHIA VULGARIS
-  BLUE BUGLE
AJUGA REPTANS

MORTGAGE ZONE

-  MARSH MARIGOLD
CALTHA PALUSTRIS
-  PURPLE LOOSESTRIFE
LYTHRUM SALICARIA
-  GREATER SPEARWORT
RANUNCULUS LINGUA
-  WATER VIOLET
HOTTONIA PALUSTRIS
-  BOG ARUM
CALLA PALUSTRIS

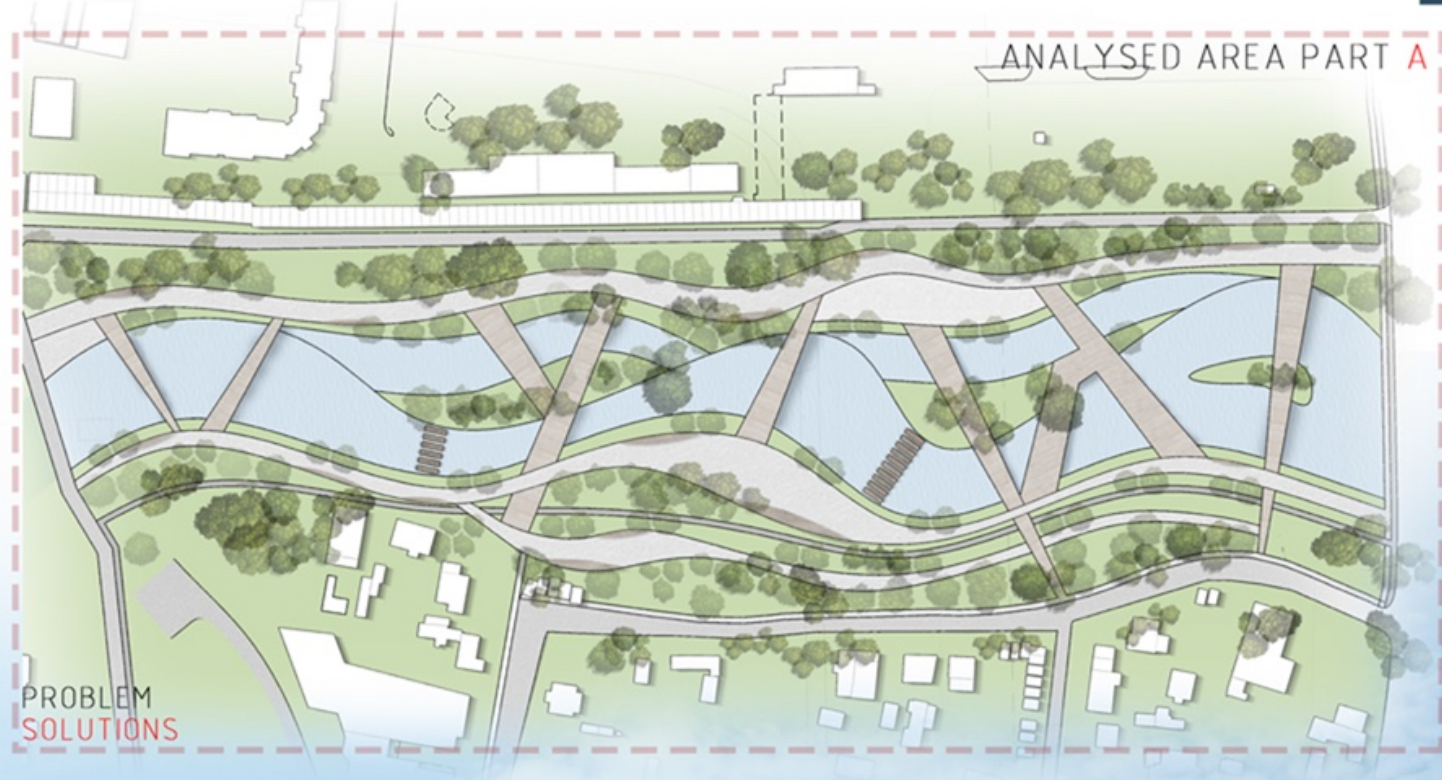
WATER TREATMENT AREA (RUSHES)

-  LESSER BULRUSH
TYPHA ANGUSTIFOLIA
-  JUNCUS DES MARECAGES
JUNCUS TENAGEIA EHRH
-  BRANCHED BUR-REED
SPARGANIUM ANGLICUM
-  YELLOW IRIS
IRIS PSEUDACORUS
-  BUCKBEAN
HEPATICUM ACUTIFOLIUM

DEEP WATER ZONE

-  YELLOW WATER-LILY
NELUMBO LUTEA
-  EUROPEAN WHITE WATERLILY
NELUMBO ALBA
-  AMERICAN WATERWEED
ELODEA CANADENSIS

TECHNICAL SOLUTIONS



LOCALIZATION EARTH



POLAND



ŚWIĘTOKRZYSKIE VOIVODESHIP



KIELCE CITY



UNDERGROUND RIVERS IN KIELCE



GREENERY ANALYSIS IN KIELCE

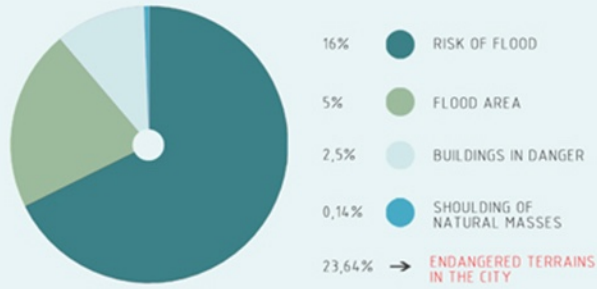


- WHAT IS THE REASON OF FLOOD?
- RAINS
 - MELTING OF SNOW
 - DECOMPOSED SPACE
 - BAD SEWAGE
 - ACCIDENT
 - NO WATER TANKS
 - CONGESTION

ANALYSIS OF AREA AROUND RIVER SILNICA



INDICATORS COVERING ISSUES RELATED TO FLOOD PROTECTION

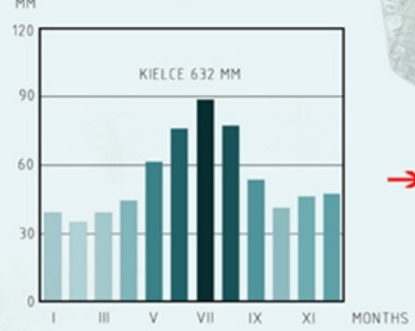


SILNICA RIVER → TOTAL SURFACE: 51,1 KM LENGTH: 17,4 KM

LEGEND:

- MARSHES
- RESTRICTED GREENERY AREA
- DESIGNED GREENERY AREA
- DEGRADATE GREENERY
- FLOOD AREA

ANNUAL ANALYSIS OF PRECIPITATION



→ THE LARGEST DANGER OF FLOOD IS IN JULY



PASSAGE UNDER BRIDGE



LOW WATER LEVEL



FOOTBRIDGE BY THE RIVER SILNICA

RAIN SEASON



MIDDLE WATER LEVEL

HIGH WATER LEVEL

HOW SWAMPS ARE FORMED? →

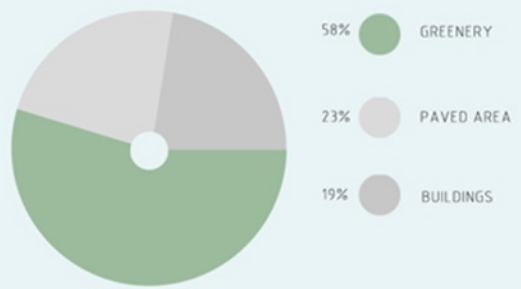
YEARS OF THE LAST FLOODS:

- 2016
- 2014
- 2013
- 2010
- 2009
- 2008

PARTICIPATION OF GREEN AREAS IN BIGGEST CITIES IN POLAND



CONCRETING CITY SCHEME



PARTICIPATION OF SOIL TYPE IN KIELCE

