



Natural environmental protection solutions

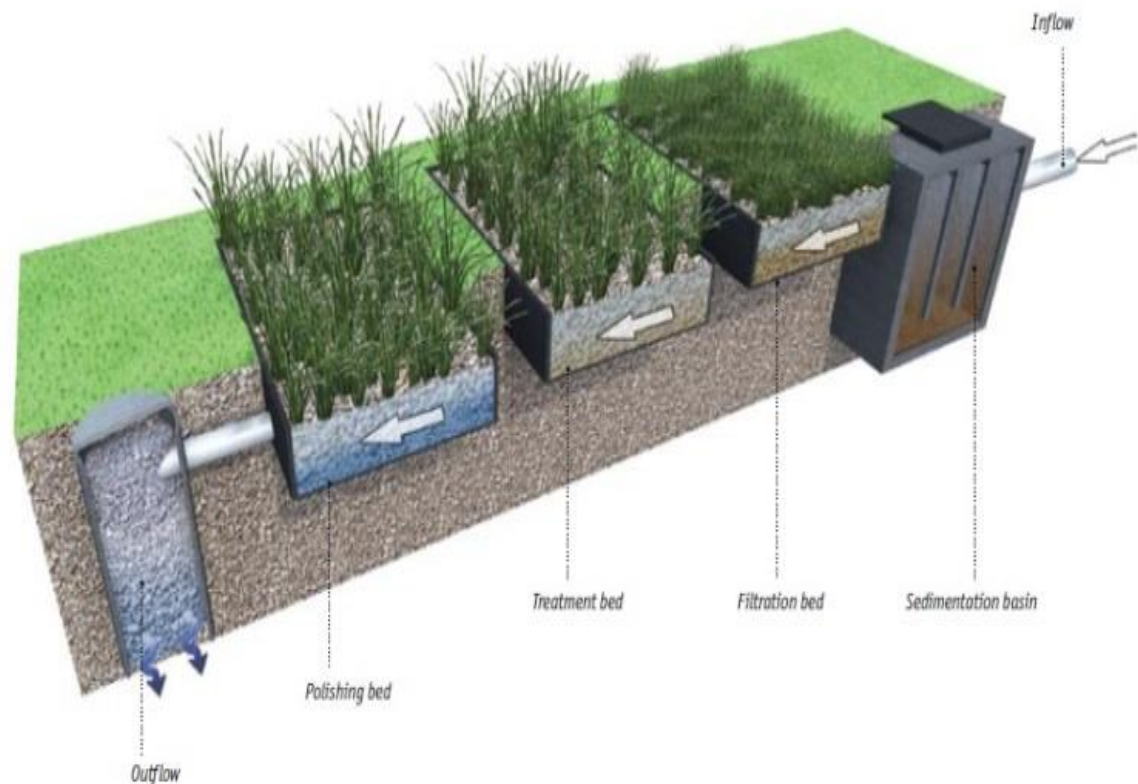
**II. Slovenia - Kosovo Business Conference
June 07, 2016**

**Kosovo investments & development and
project finance possibilities**

1. Constructed wetlands

Different types of wastewater:

- municipal and industrial wastewater,
- landfill leachate,
- storm water,
- agricultural runoff, ...



CONSTRUCTION PHASES



CONSTRUCTION PHASES



CW EXAMPLES



Bazga, 500 PE
Investment app.
120.000 €



Sodinci, 1.100 PE
Investment app. 200.000 €



Mountain Razor, 70 PE
Altitude=1300m



Vojnik, 5 PE
Investment app.
3.000€



Advantages ☺

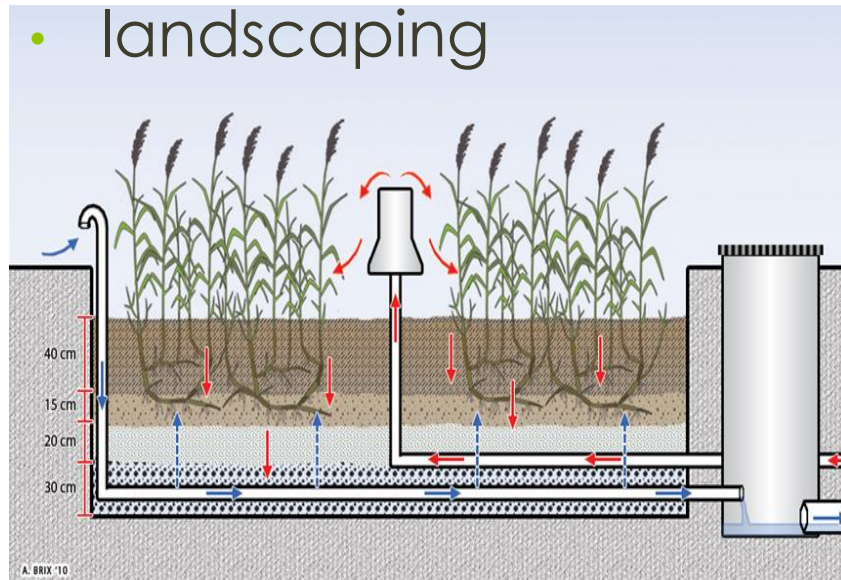
- High treatment **efficiency**
- **No electricity** and machine elements (terrain)
- **Simple construction** involving **local** subcontractors
- **Low maintenance** costs
- **Adaptability**; simple enlargement
- Multipurpose **use of treated water**
- ...

Disadvantages ☹

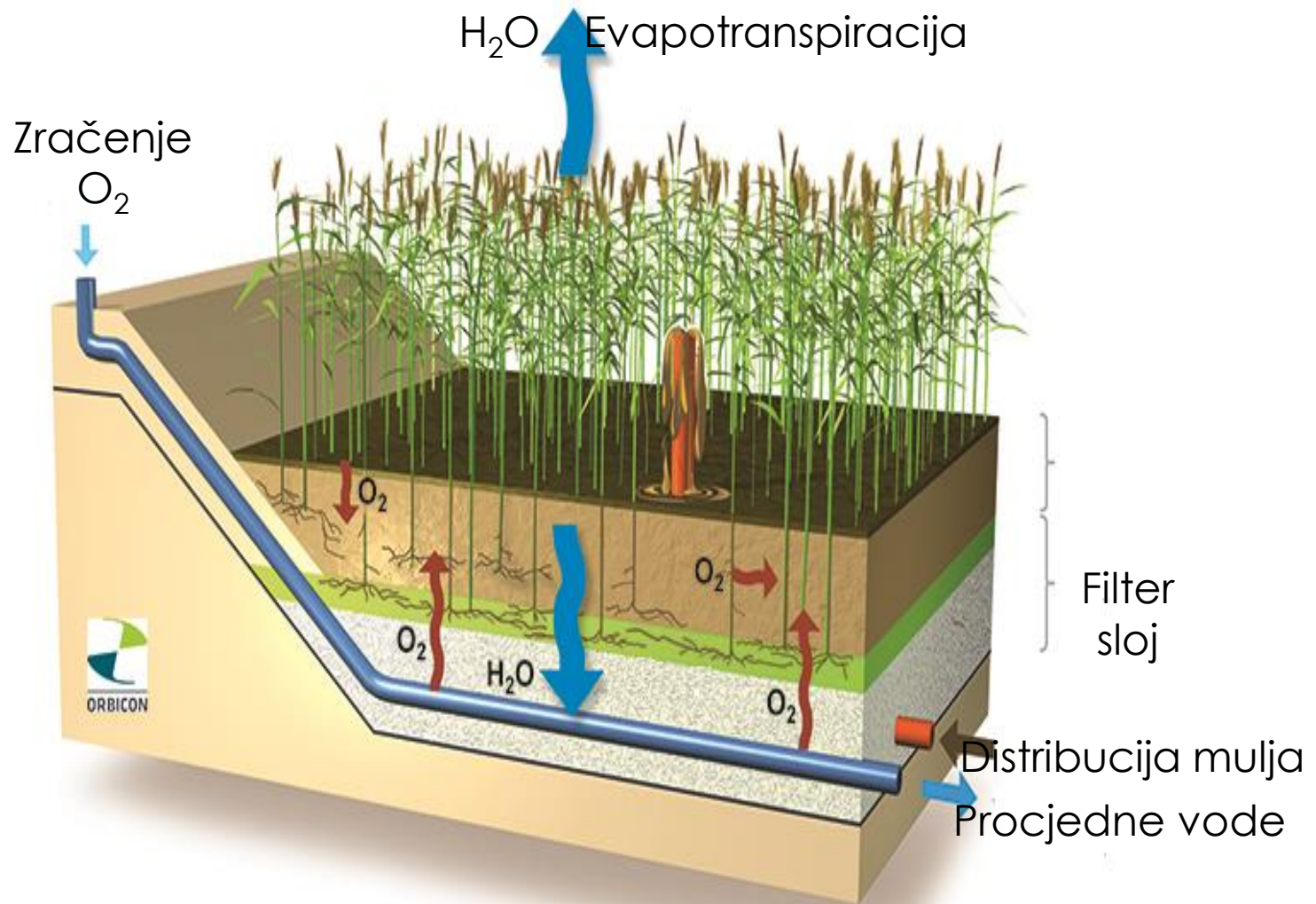
- Relatively larger surface area needed
- Expert design and monitoring (not DIY)

2. Sludge treatment with reed beds

- ◉ Reliable technology for drying and mineralisation of sludge
- ◉ The sludge is finally used in:
 - agriculture
 - landscaping



Processes in the reed bed



Case study

WWTP 23.000 (PE):

- Annual quantity of unprocessed sludge
17.000-20.000 m³

- Annual costs:**

- Sludge dehydration
- Power
- Transport of sludge to incineration
- Incineration

100.000 €/y

- Reed beds:**

- Area of 12.000 m²

600.000 €

- Construction costs** →

Advantages ☺



since 1994

- **Efficient quantity reduction:**

- Final product contains 25-35% TSS
- Volume reduction up to 95%
- 30% less organic material

- Lower transport costs

- **No chemical additives**

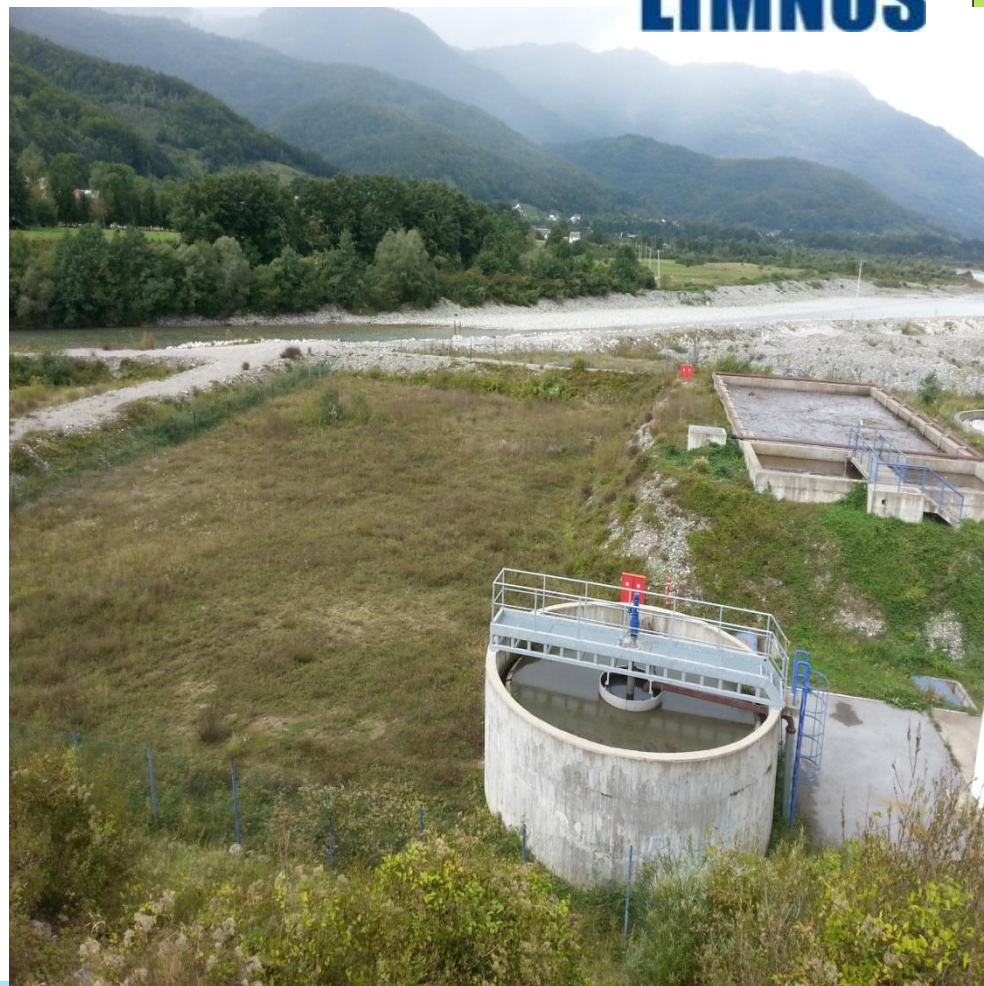
- **Lower operating costs**



References Limnos

MOJKOVAC - Montenegro

- WWTP (2500 PE)
- Area: 900 m²

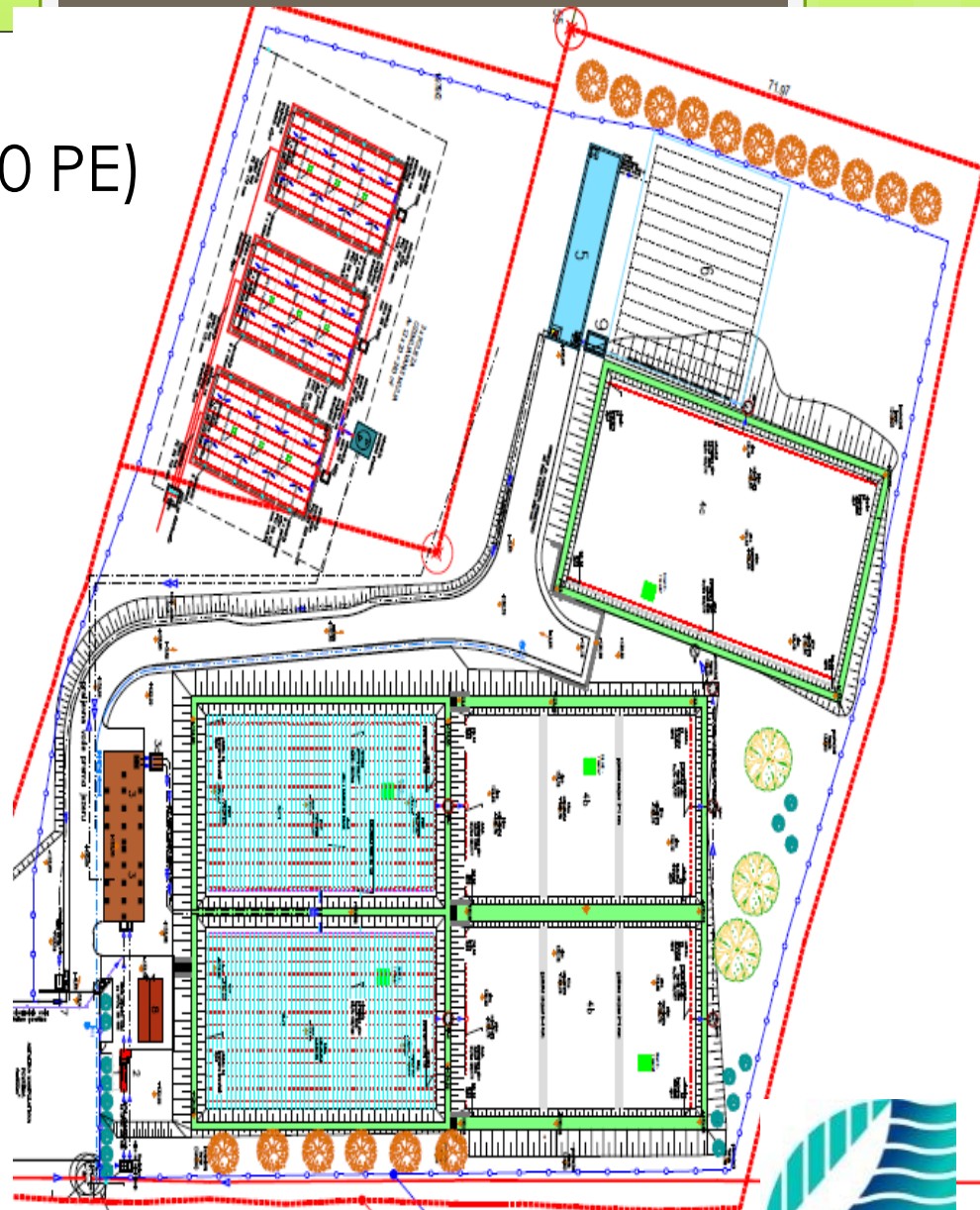
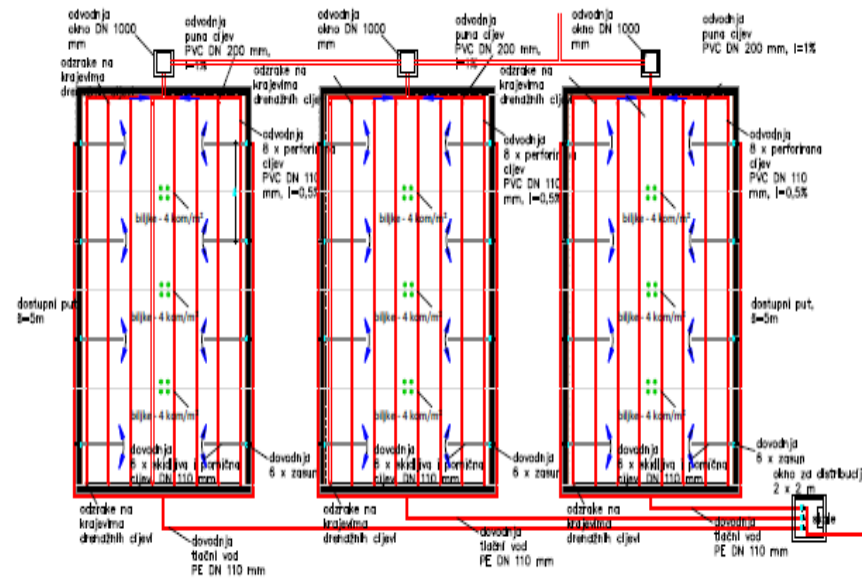


Sa prirodom do Čistog okoliša

KAŠTELIR - CROATIA

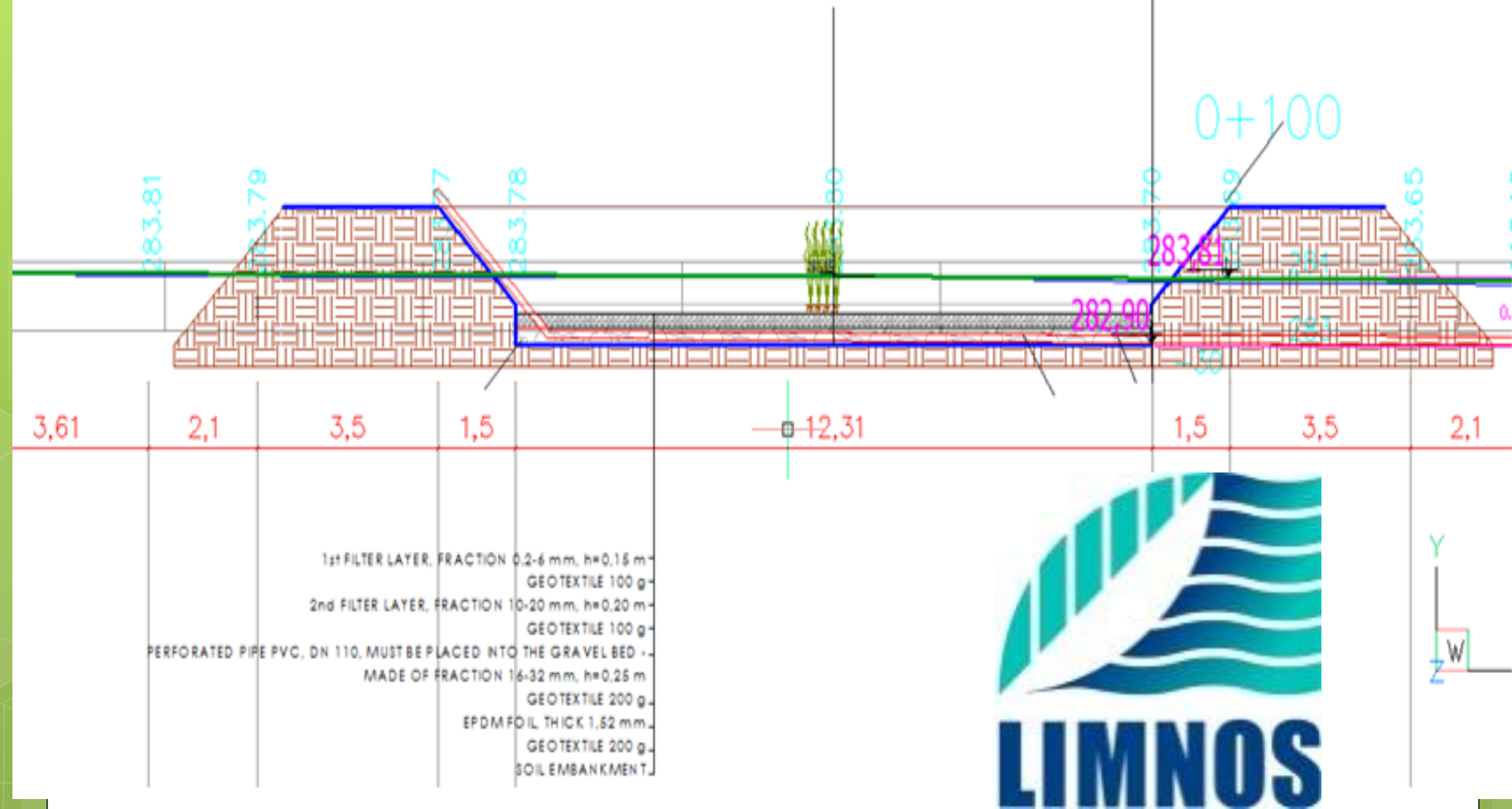
- Constructed wetland(2000 PE)
- Reed beds, area: 720 m²

3 x POLJE ZA
OZEMLJAVANJE MULJA
A= 12 x 20 = 240 m²



KARBINCI - MACEDONIA

- Constructed wetland (1100 PE)
- Reed bed area: 360 m²



Questions?
Happy to reply!

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