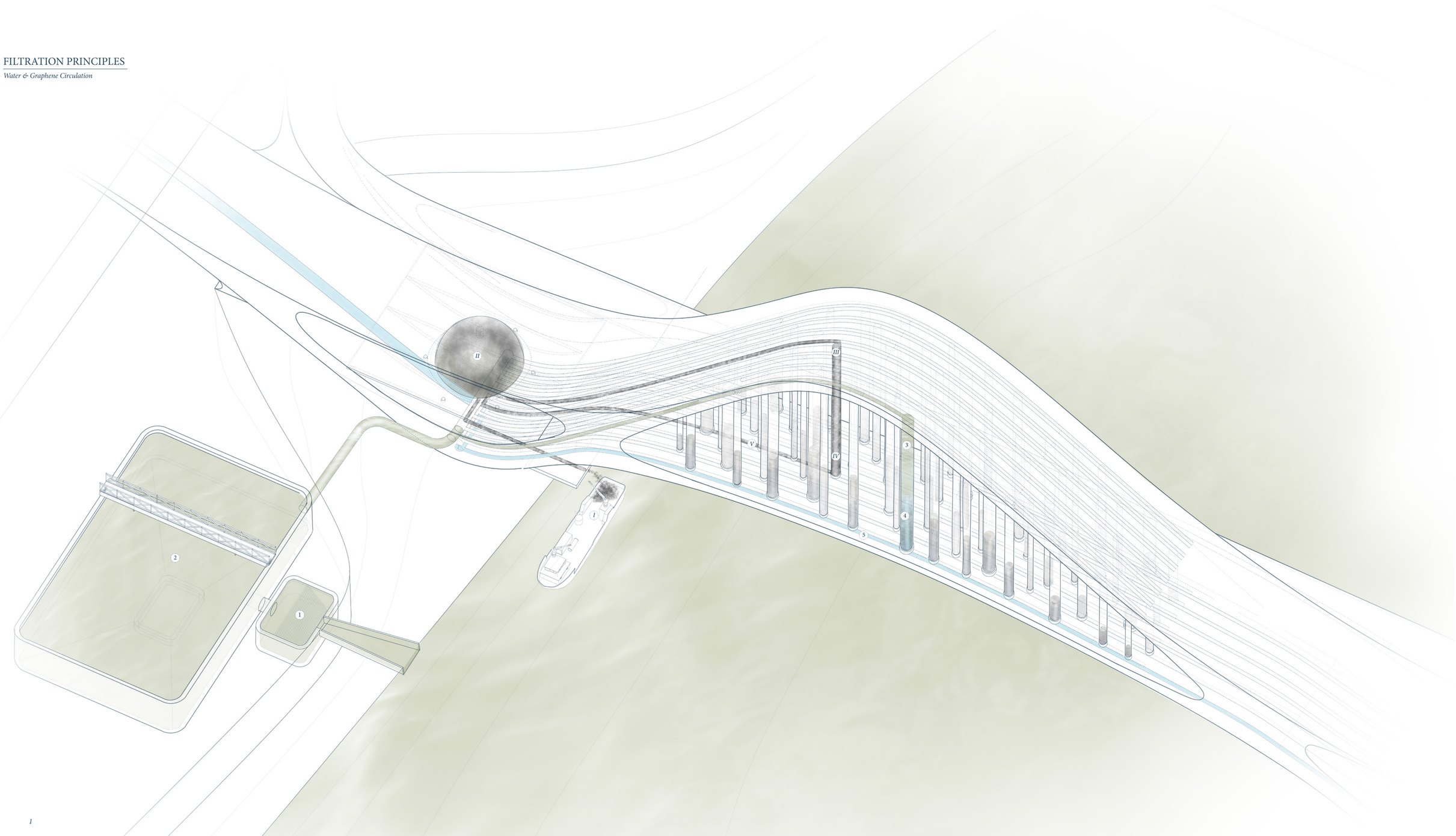
FILTRATION PRINCIPLES

Water & Graphene Circulation



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WATER CIRCULATION

1. COURSE SCREENING

big trash
solid deberis

2. SEDIMENTATION & SKIMMING

big particles
sludge
oils

3. UV TREATMENT

bacteria
pathogens

4. GRAPHENE COATED SAND

heavy metals
salinity level
dyes
total dissolved solids

5. ULTRACLEAN WATER

After the multistage filtration process, the water is suitable for drinking. It is pumped to surrounding districts, supplying around 100 l per person daily, and to the bridge facilities

OUT

GRAPHENE CIRCULATION

I. SAND DELIVERY

The sand is delivered from the local sand mines by boats and stored below the graphene center.

II. GRAPHENE COATING

The sand is coated with graphene - a novel filtration material.

III. WATER FILTRATION

The graphene coated sand is transported to filtration pipes, where the water filtration takes place.

IV. GRAPHENE RECYCLING

After reduction of its adsorption capacity, it is recycled by backwashing supported with ultrasound.

IV. GRAPHENE RENEWAL

When it cannot be recycled again, it is transported back to the graphene center, where it is coated with a new layer of graphene.