



Glow worm cave experience

Masters of Light

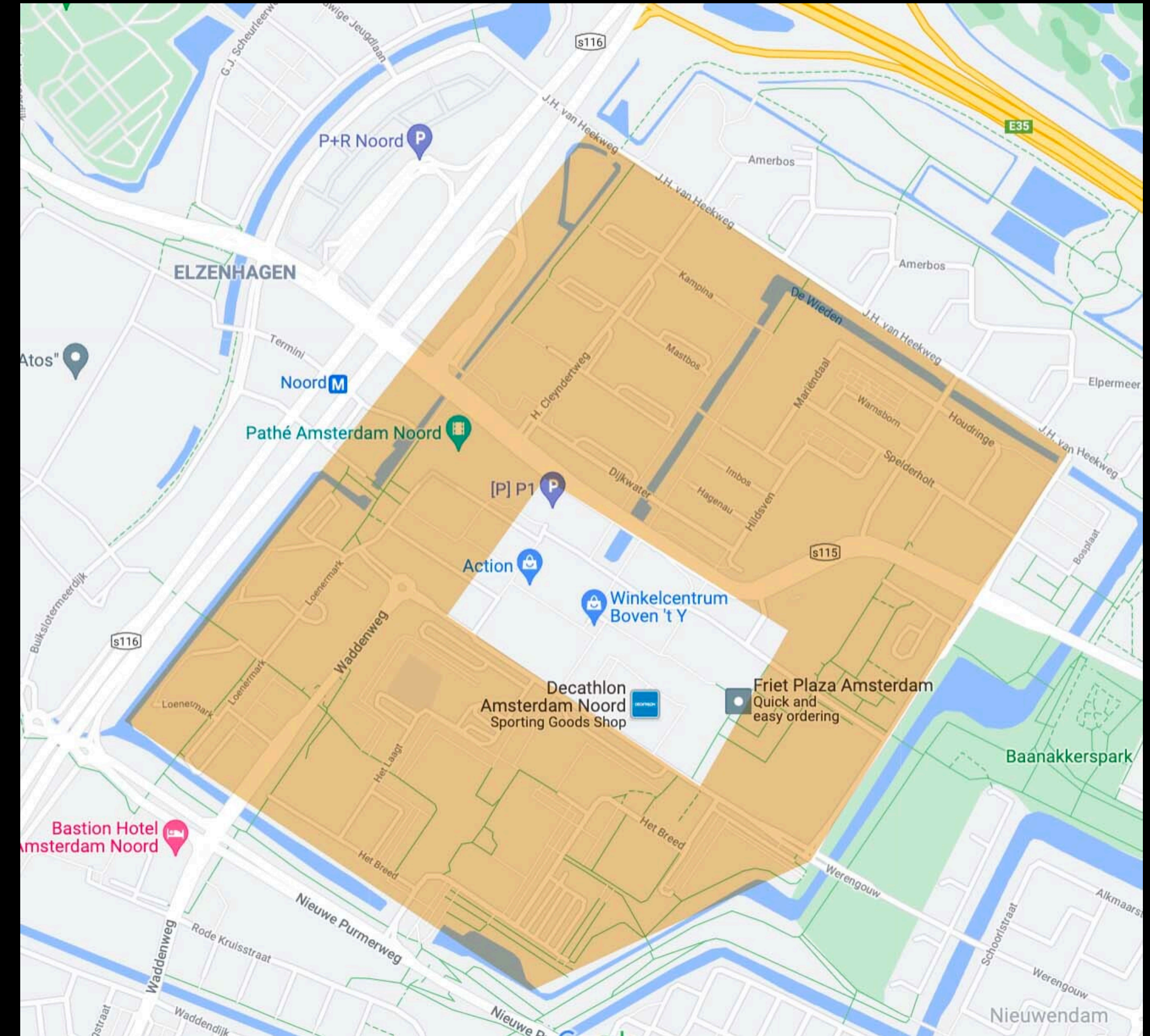
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Master Digital Design



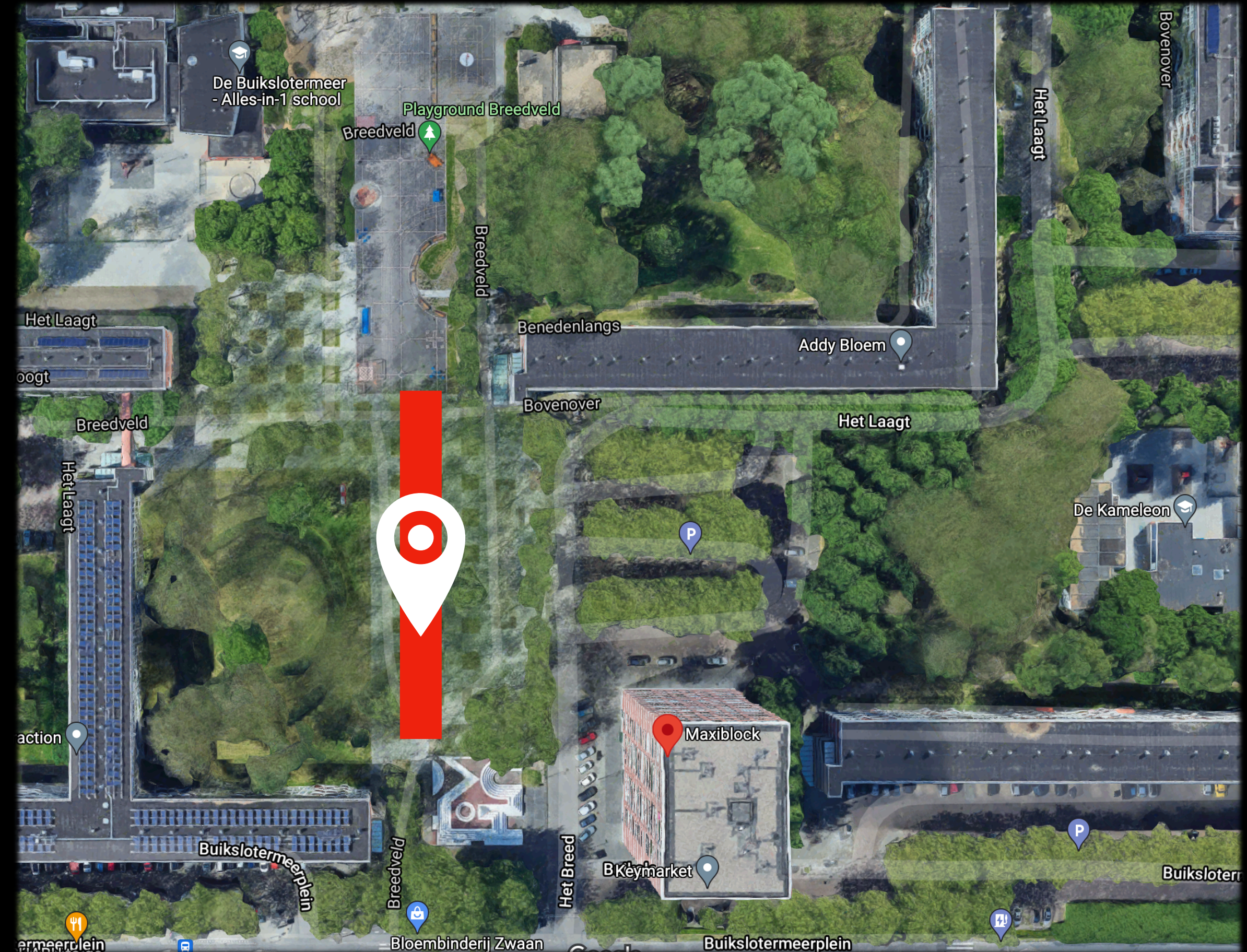
The site - Initial findings

- Location: Buikslotermeerplein
- Lack of ambient lighting
- Weak street lights
- Feeling of being unsafe
- No meeting/resting spots for people
- Tensed atmosphere
- Empty streets



Specific location

- The alley between the residential area and the Breedveld playground
- Higher amount of traffic (pedestrians)
- The residential area is divided from the main square
- A lot of potential to make the area more welcoming and friendly in order to encourage socialisation



Inspiration

The inspiration for the project emerged out of the theme of the challenge: The Glowing Nature. We were inspired by glowing worms found in New Zealand Waitomo caves. The *Arachnocampa luminosa* is a species of fungus gnat known to dwell in caves and on sheltered banks in native bush where humidity is high.

The larval stage and the imago produce a blue-green bioluminescence. These hungry maggots twinkle like the night sky to attract unsuspecting prey using slime covered webs. The light is visible in almost total darkness. The glowworms feed and grow until they transform into flies, mate and die.*



Concept

Currently, the site that we have been assigned with suffers of lack of ambiance lighting. Based on the concept of the glowworms we imagined to bring the mystical ambiance on our site using urban design elements such as arches.

The maggots' shape will become our design element together with the glowing feature turning regular urban elements into metamorphosed mystical objects to fit the purpose of the site.

In addition, light elements that would replicate the water feeling will bring the sensation of the humid environment specific to the glowworms to our design and designated spots.



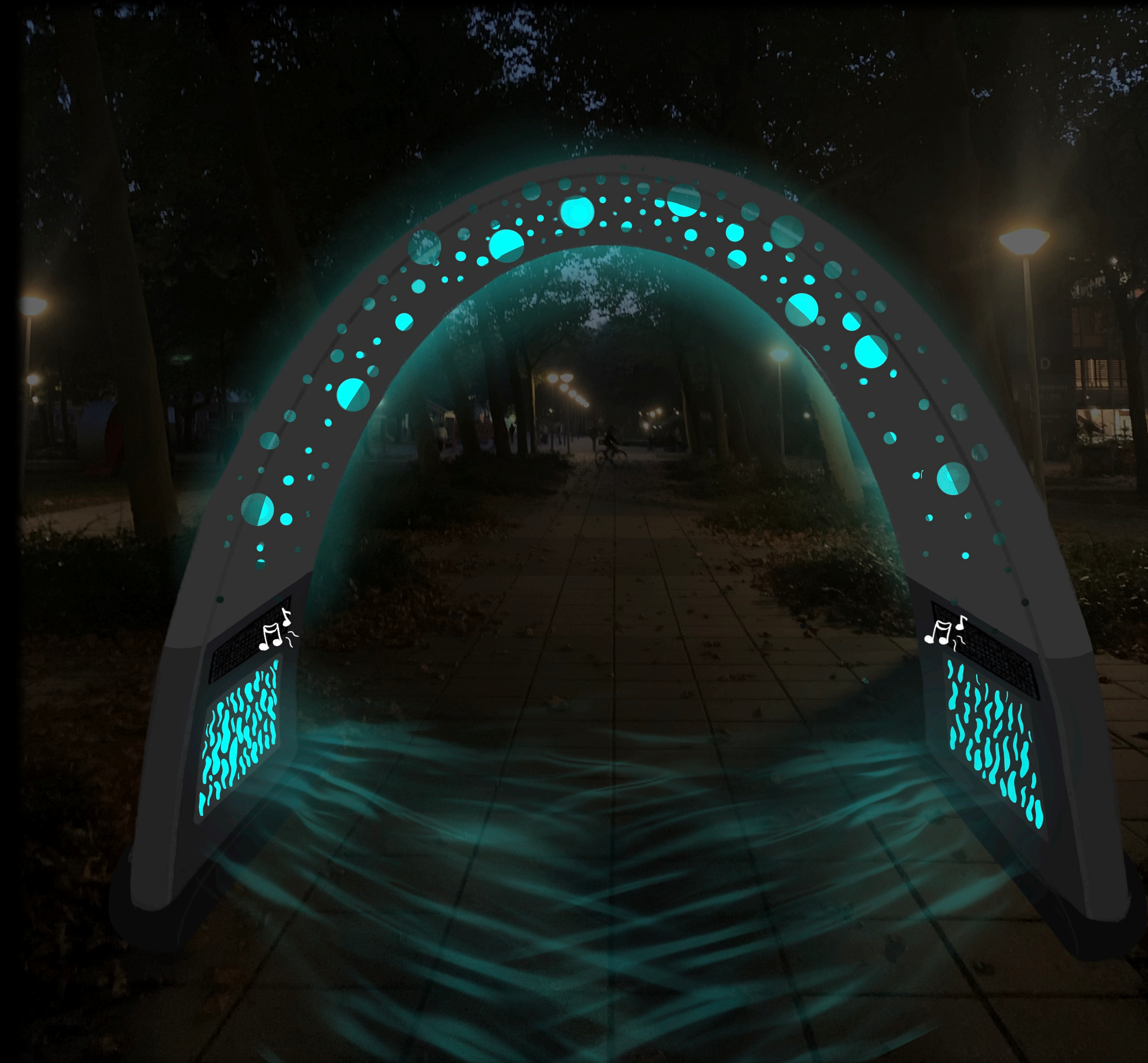


Design proposal - Glow worm arch

The concept of Glow worm arch provides a unique experience through the use of ambient lighting and music. The lights are sensitive to daylight, in order to avoid undesired light pollution (lights are turned off during the day and dimmed at night).

When a person approaches the installation, the lights get stronger and the music turns on. We aim to achieve this by using proximity sensors. To imitate water, which is an important part of the experience, we plan to use cut-outs resembling the water pattern or a rippled plexiglass.

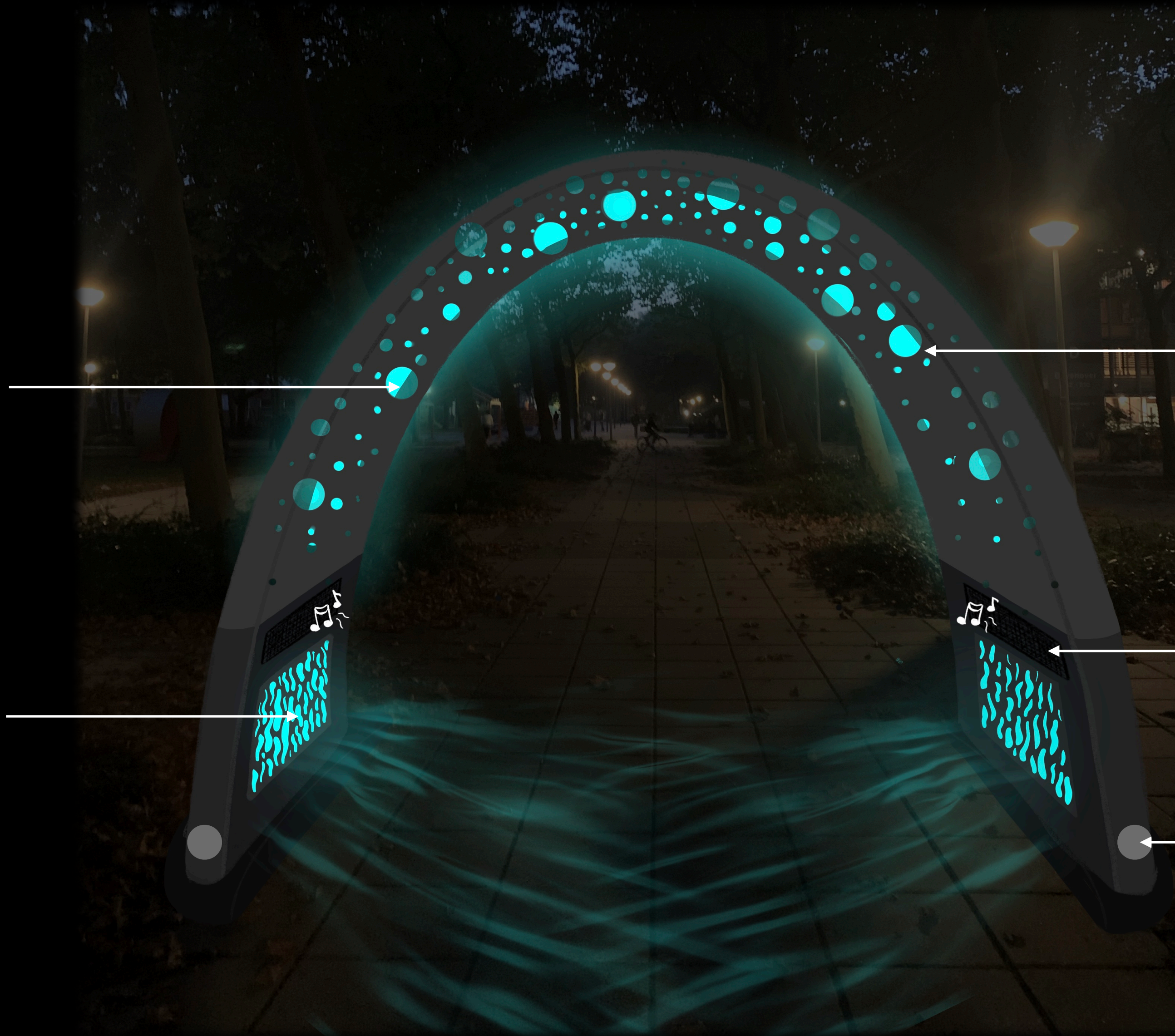
To protect the arch from vandalism, we plan to anchor it to the ground and make it very robust. It also shouldn't disturb the ecological life around, that's why we chose a location which isn't completely dark but has soft lighting around.



Design proposal - Glow worm arch

Neon LED strip light

Cut-outs resembling
the water pattern



Metal sheet cover
with circular cut-outs

Music speaker

Proximity sensors

Feelings & Ambiance

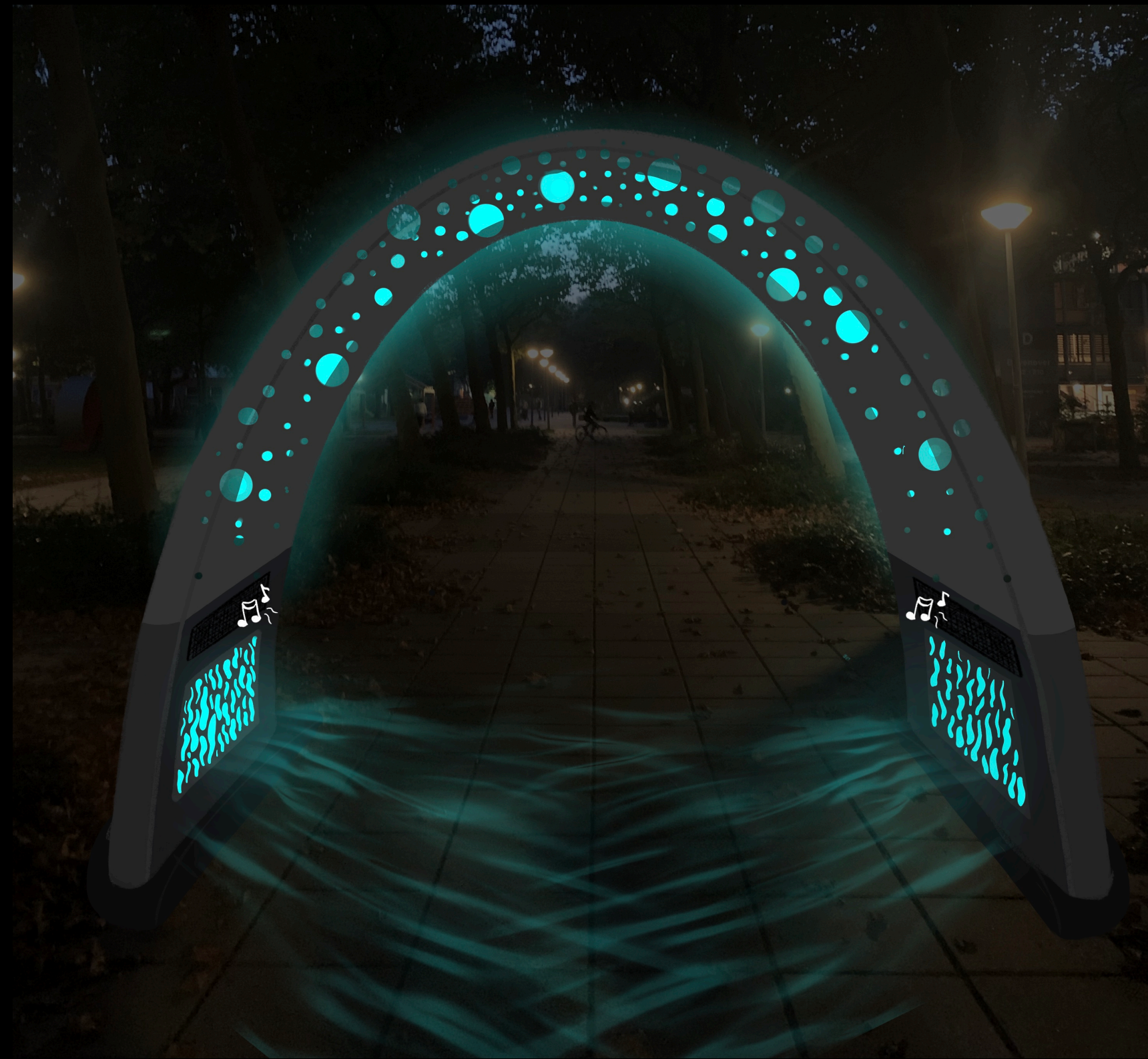
- Magical & ethereal
- Peaceful - stress free
- Stillness of body and mind
- Natural experience
- Mystical music
- Accompanies people throughout the night
- Improves the overall atmosphere



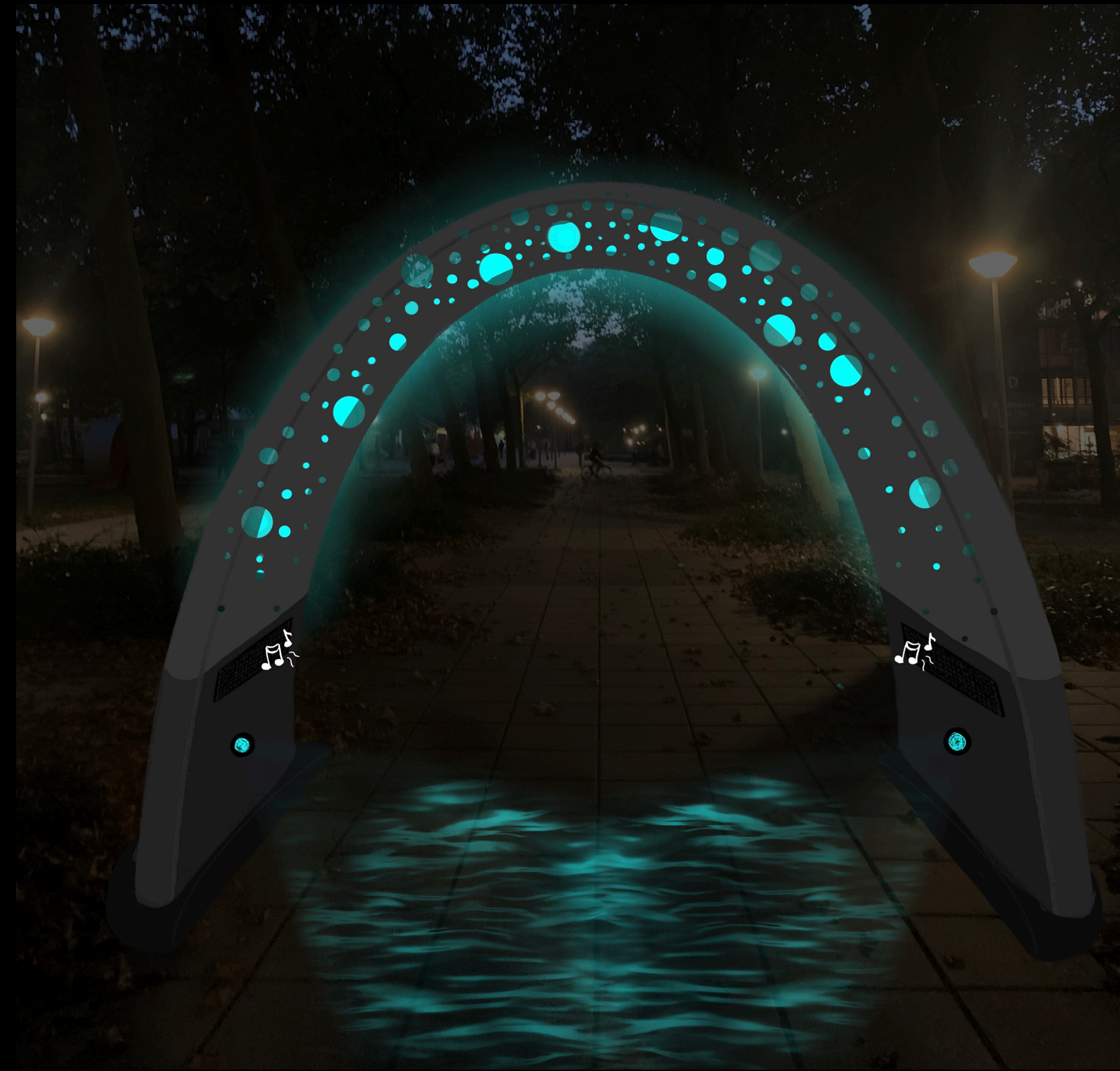
Music

- Bringing the mystical atmosphere to life
- Immersive experience enhanced by music
- Natural sounds - cave, water dripping
- Variety of samples
- 432 Hz - stress-relieving music used for meditation and sleep
- Proximity sensors triggering the sound

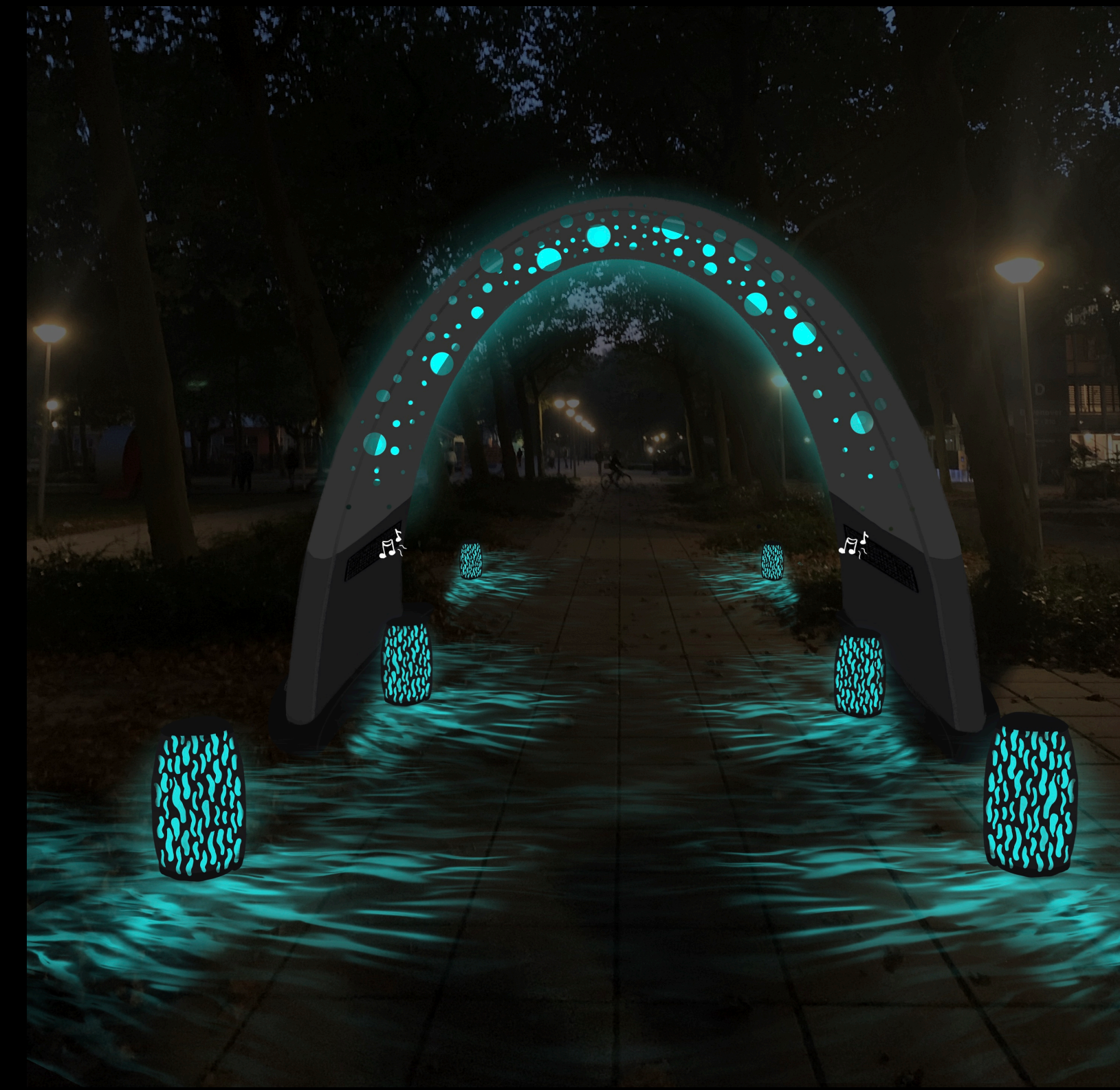
Exploration through variety of sketches



A Cut-out pattern resembling water



B Small projectors for the water pattern

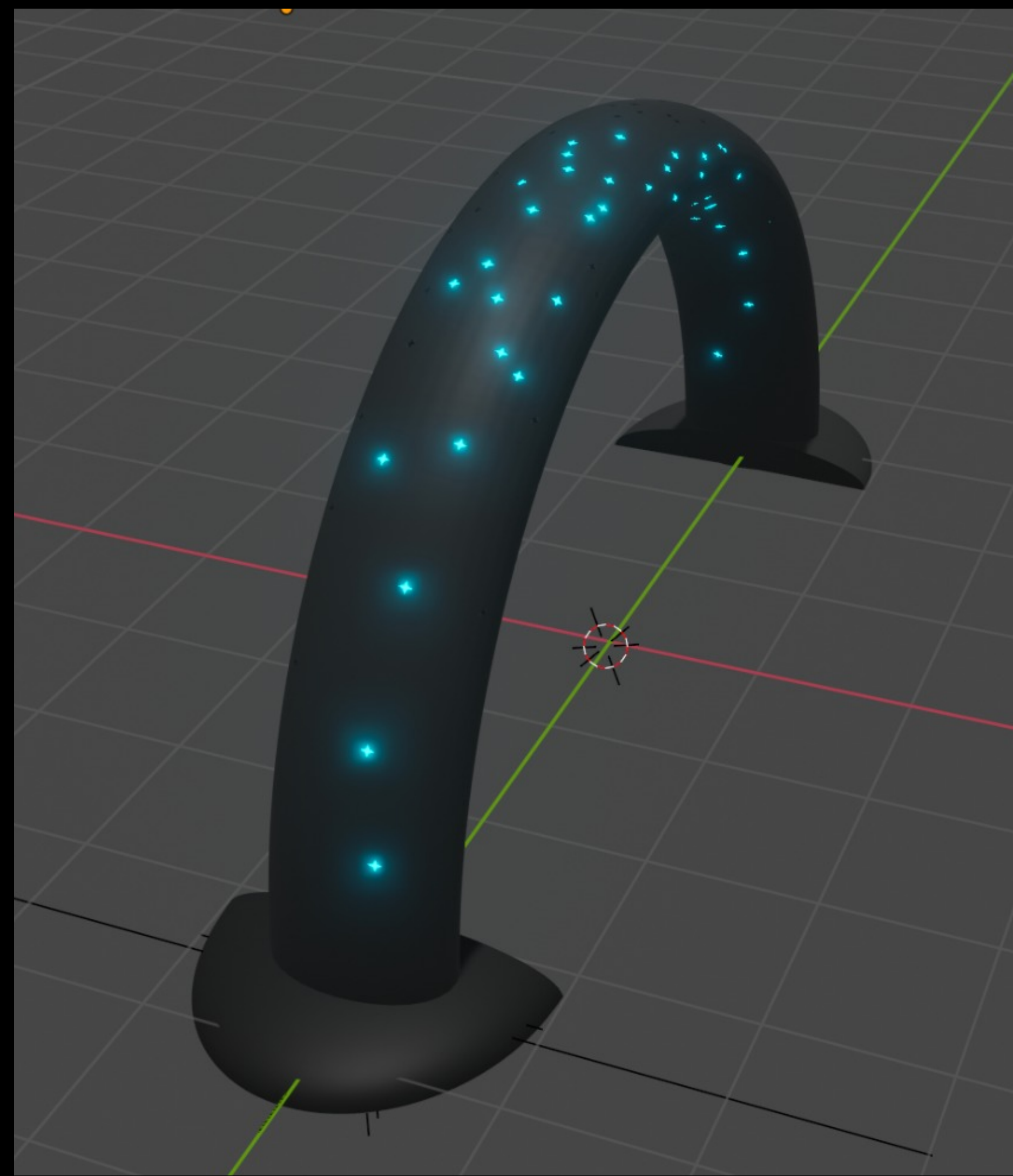
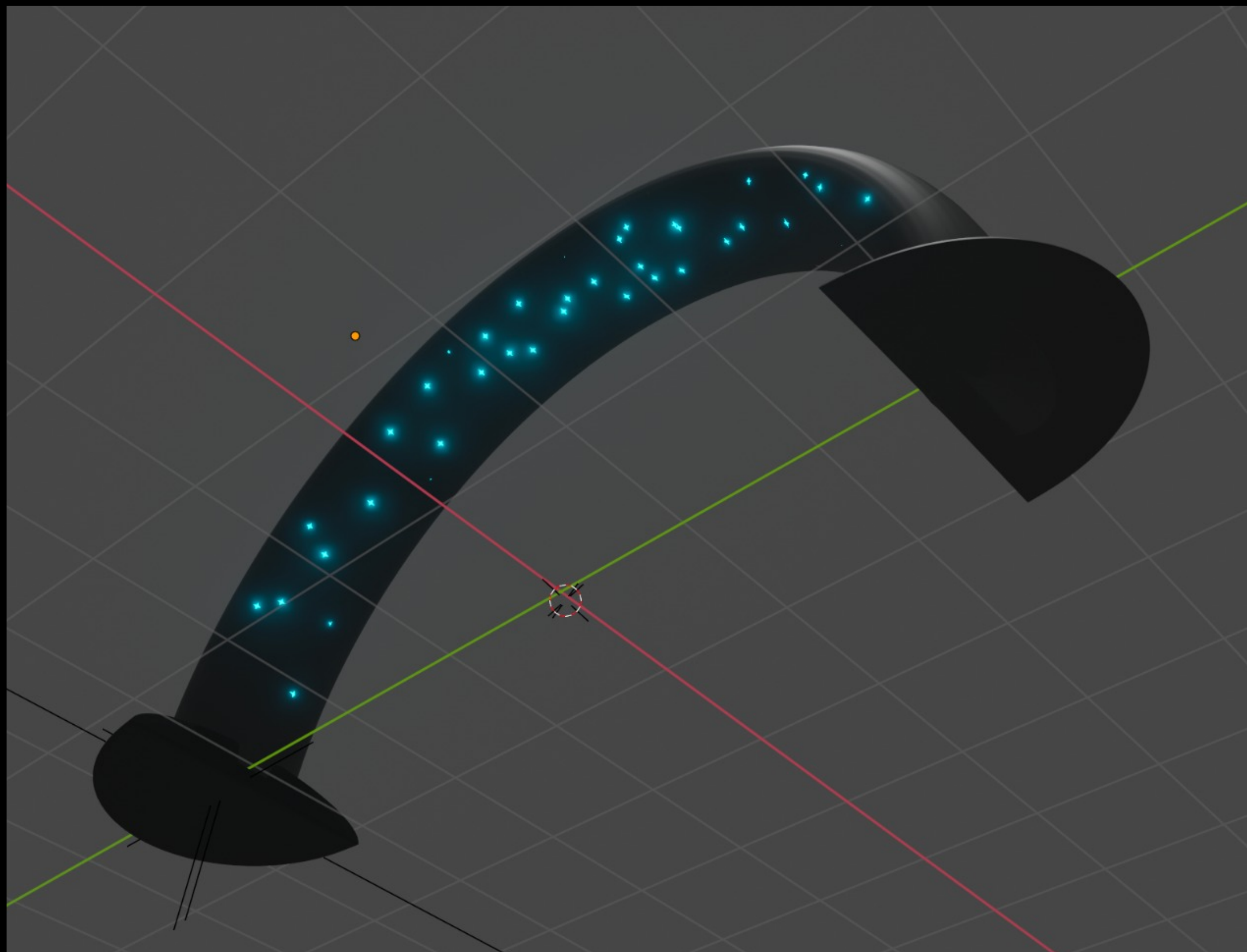


C Cut-out lanterns lighting the path

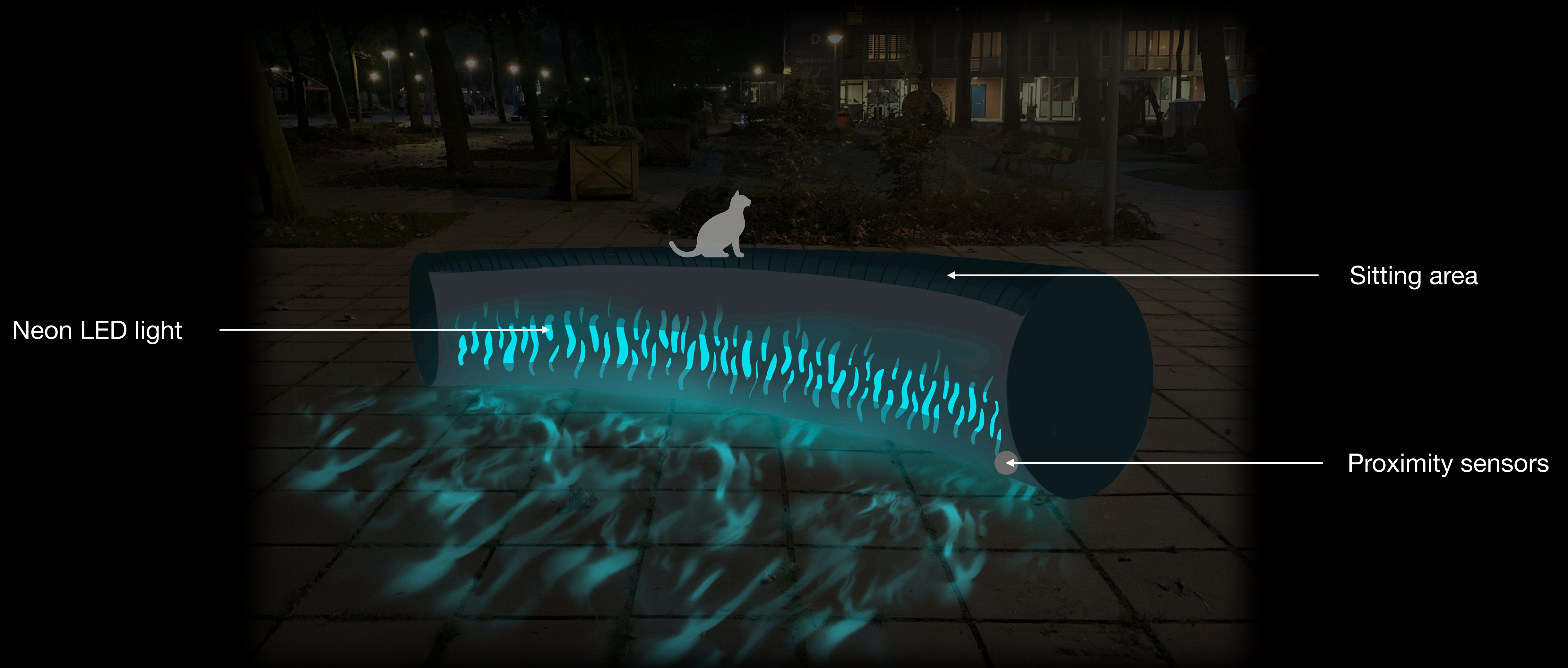
3D render exploration



3D render exploration



Variation of the main concept - Glow worm bench



Technical aspects

Materials

- Metal sheet cover (aluminium), punched/cut-out
- Aluminum-based structure (technical hatches to ensure assembly)
- The installation will be strongly anchored into the ground, in order to avoid vandalism
- The installation should be kid friendly as well (no sharp edges, adequate size for the cut-outs)
- Rippled plexiglass to create the water effect

Light source

- Neon LED strip(s)
- Matte plexiglass cylindrical profile molded into a U-shape

Power source

- Solar panels on top of the arch

Physical aspects

Shape

- U-shape arch

Safety

- Vandalism-proof / impact resistant
- Weather-proof
- Children-friendly

Dimensions

- Height: 3,2 meters
- Width: 5,8 meters

Placement

- Areas with lack of street light or poor lighting
- Areas with a potential for resting spots for people

Sustainability and sensitivity

- Use of dimmed lights and proximity sensors to avoid light pollution
- Finding sustainable ways of getting the materials
- Recycled materials instead of raw
- Second hand shops and markets
- Solar energy used for certain features to obtain the perfect balance between gained and used energy
- Green energy to ensure sustainable production of the construction elements



Thank you!