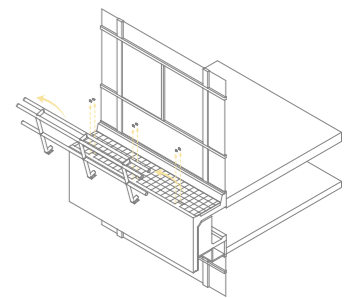
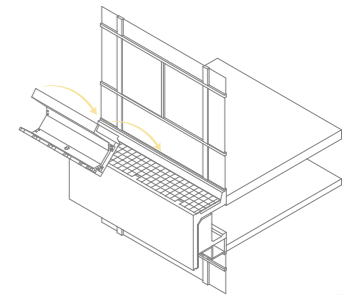


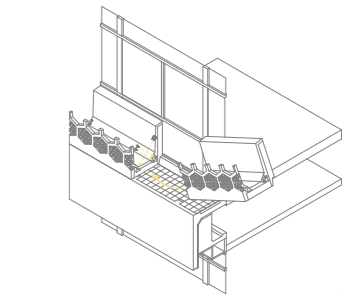
INSTALLATION



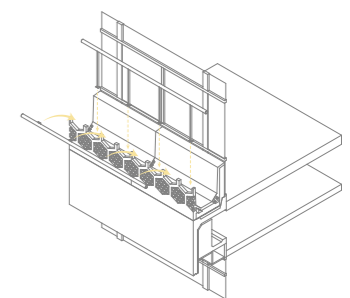
1. TAKING OUT THE OLD RAILING



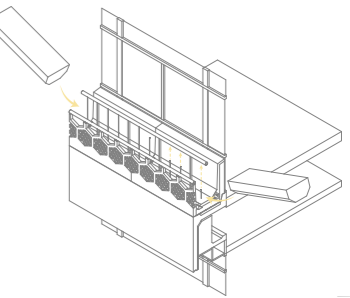
2. PLACING THE PLANTER ELEMENT



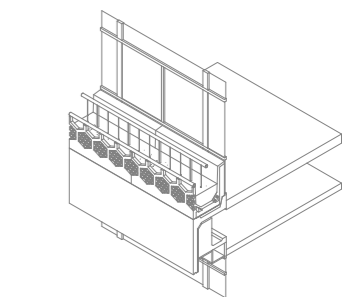
3. CONNECTING THE ELEMENTS



4. MOUNTING THE RAILING AND WATER PIPE CONNECTION



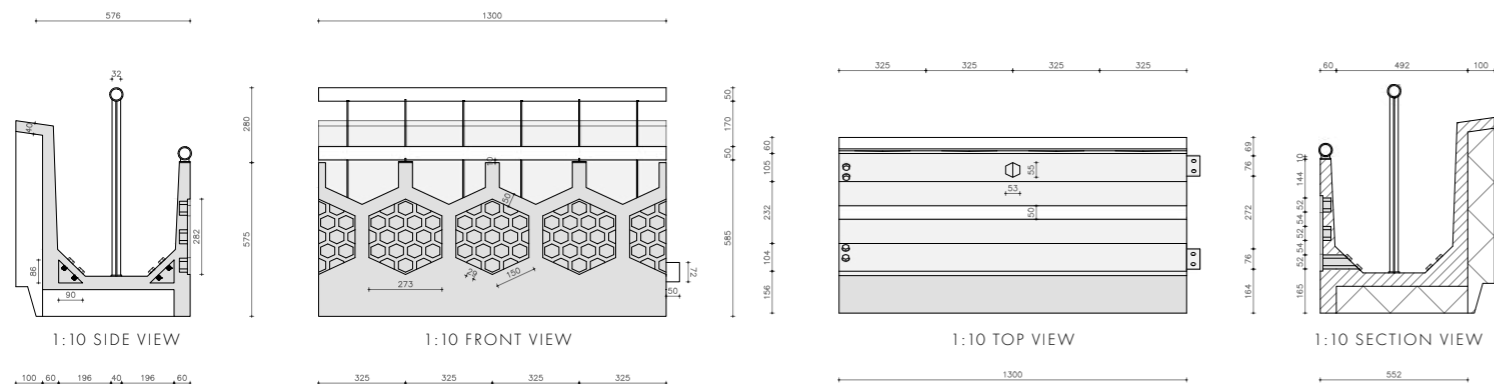
5. FILLING IN THE SOIL



6. READY TO GROW PLANTS

XP386 XP386

XPlant S



1. HEXAGONAL STRUCTURE AS BEE HOTELS

2. RAILING AS IRRIGATION SYSTEM

3. STRONG INSULATION-CONCRETE CONNECTION

This innovative product was specifically designed for the civil engineering building at the Technical University of Delft originally constructed in the 1960s. Currently, this building experiences significant thermal inefficiencies due to its uninsulated facade resulting in substantial heat loss during winter and excessive interior heat during summer making it difficult to maintain a comfortable working environment. The primary purpose of this product is to enhance the building's insulation capabilities while simultaneously introducing greenery and diverse plant species to promote biodiversity. The product integrates multiple functionalities to optimize the effectiveness of a single facade intervention. Key objectives include mitigating the existing thermal bridge augmenting the facade with

vegetation and fostering biodiversity. Designed for ease of installation the planter features a plug-in system tailored for the facade of the civil engineering building. It preserves the aesthetic integrity of the original facade through its complementary design elements. The planter's yellow railing doubles as an integrated watering system for the plants and aesthetically enhances the civil engineering facade. Additionally, the front panel's hexagonal structure not only serves as a bee hotel but also includes an open hexagon that functions as a water drainage system. The structure itself is cast in concrete reinforced with steel incorporating concrete-filled grooves that seamlessly connect XPS insulation panels making them an integral part of the assembly.

DETAILS

HEXAGONAL STRUCTURE

The front panel of the planter is crafted to be both aesthetically appealing and functional. Consequently, it integrates two additional features. The hexagonal design imparts a new, playful rhythm to the facade, while simultaneously these apertures can accommodate bamboo sticks, transforming the spaces into a bee hotel that provides essential habitat for bees, thereby benefiting the surrounding vegetation as well. Each hexagonal segment includes an open conduit for the drainage system, facilitating the dispersal of excess water to the front without compromising the insulation integrity.

IRRIGATION SYSTEM

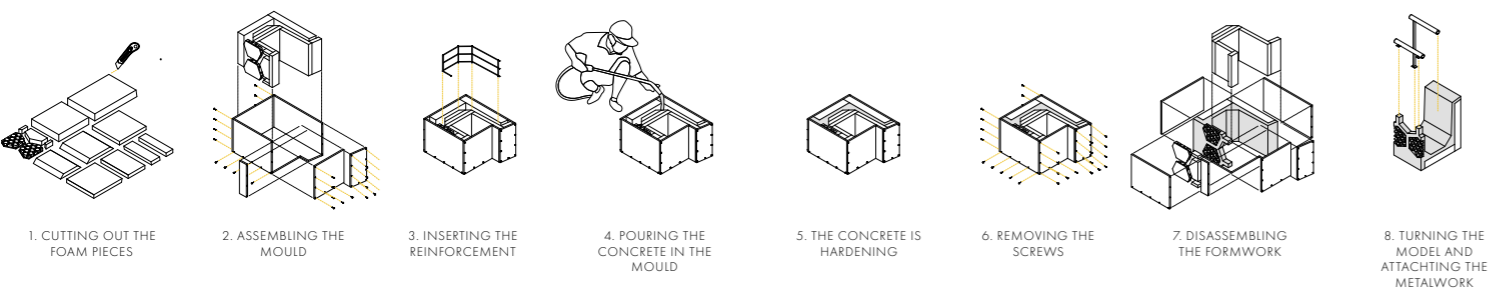
The distinctive yellow railing on the civil engineering building's facade plays a pivotal role in its visual identity. With the installation of the planter, the narrow balcony ceases to be functional, rendering the original railing obsolete. However, the new water piping is specifically designed to mimic the appearance of the former railing. Moreover, this setup allows for the vertical growth of plants along the structure.

INSULATION-CONCRETE CONNECTION

The construction process involves pouring concrete into formwork that includes the insulation. To enhance the adhesion between the concrete and the insulation, small notches are incised into the insulation. Additionally, the stability of the concrete is augmented by the inclusion of reinforcement.



4. FRAGMENT OF THE PRODUCT IN 1:1



1. CUTTING OUT THE FOAM PIECES

2. ASSEMBLING THE MOULD

3. INSERTING THE REINFORCEMENT

4. POURING THE CONCRETE IN THE MOULD

5. THE CONCRETE IS HARDENING

6. REMOVING THE SCREWS

7. DISASSEMBLING THE FORMWORK

8. TURNING THE MODEL AND ATTACHING THE METALWORK