

# Beyond the Retention Park

## Creating a flood resilient landscape and inclusive public open space

### Background

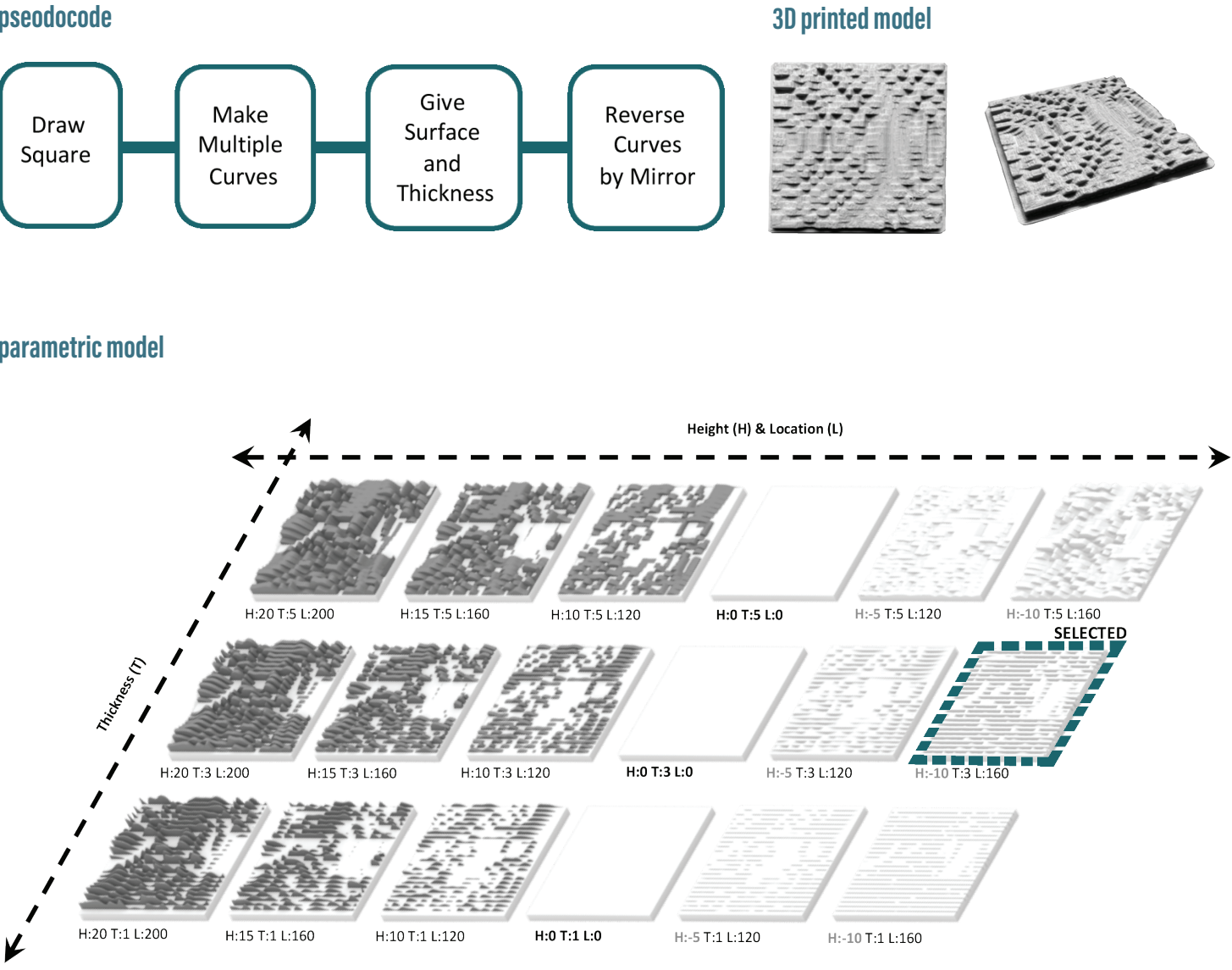
When it comes to landscape design, the site and context are crucial elements that greatly influence the outcome. However, there are many cases where sites are completely fabricated, generic, or even unknown, which can discourage intuitive design ideas. While site analysis is essential in any project, it is important to remember that design ideas are not limited to what can be found on the site alone.

In Landscape Form and Space Design Studio, we take a unique approach to design. We eliminate sites and programs at the outset of the project and focus on investigating design processes initiated by interesting patterns resulting from human or natural action. This approach empowers students to think critically and to work on unsettled ideas and explore potential design proposals through analytical and physical processes, unencumbered by the constraints of existing site conditions. The result is truly innovative design solutions that push the boundaries of conventional thinking.

### Methodology

Throughout the studio learning, students engaged in various activities such as lectures, discussions, workshops, pinups, individual critiques, and presentation reviews to enhance the learning and understanding of the design process. This studio is conducted into four modules, as follow:

- A. Exploration of Patterns (Exposing to various patterns that resulted from human and/or natural actions. Analyzing and restructuring the patterns by handsketch an then developing it into mock up 3D models with simple and reusable materials)
- B. Form-generating Algorithms (Introducing different algorithms that generate forms and shapes. Encouraging students to think critically and experiment with unconventional ideas to develop conceptual, creative, and intellectual frameworks for the designs by building and controlling the parametric algorithm)
- C. Site-Driven Algorithms (Incorporating site and context into the designs. Exploring on how the discovered patterns can be applied to specific sites and contexts, generating unique and innovative designs)
- D. Computational Design Project (Developing complex and intricate designs using advanced computational tools and techniques).



The next step after analyzing the form and space is to imagine and sketch it in the context of the landscape project. This process involves considering the project at various scales, from the small to the large scale.



- 15. viewing platform
- 16. lazy hammock
- 17. exploring garden
- 18. bridge
- 19. swings lounge
- 20. wet garden
- 21. wet terrace
- 22. skate park
- 23. palm picnic

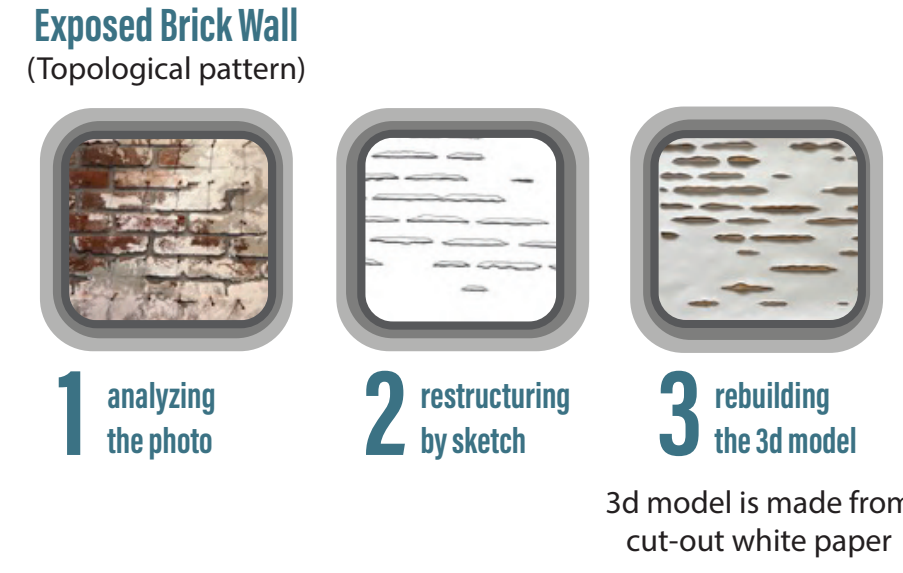


- 24. viewing dock
- 25. bridge
- 26. pergola with seating
- 27. relaxing garden
- 28. herb and flower garden
- 29. flowering corridor

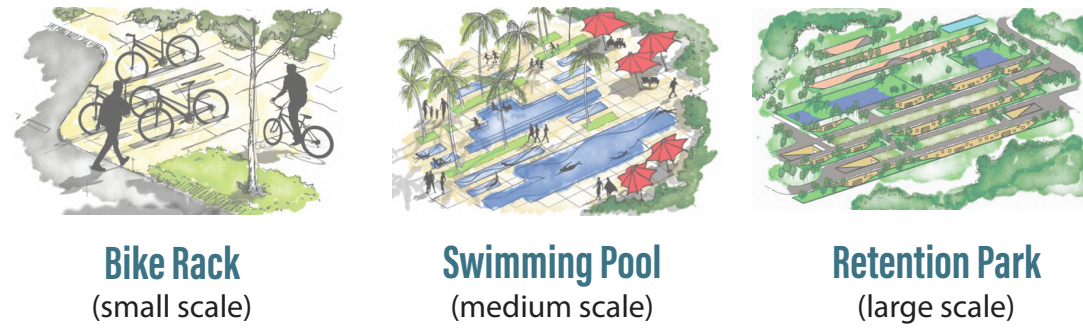
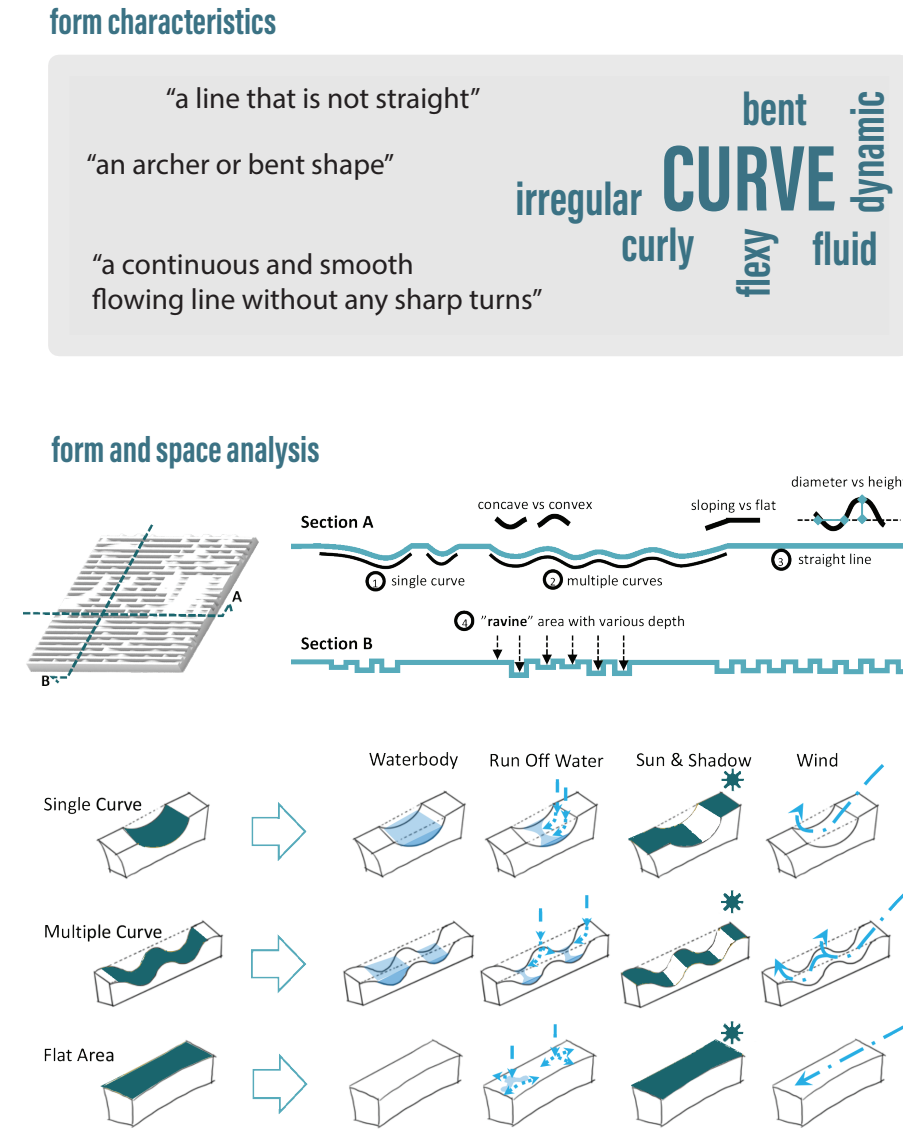


- 30. floating deck with pontoon
- 31. viewing deck
- 32. water recreation zone
- 33. exhibition garden
- 34. tunnel
- 35. sunken deck
- 36. aquatic garden

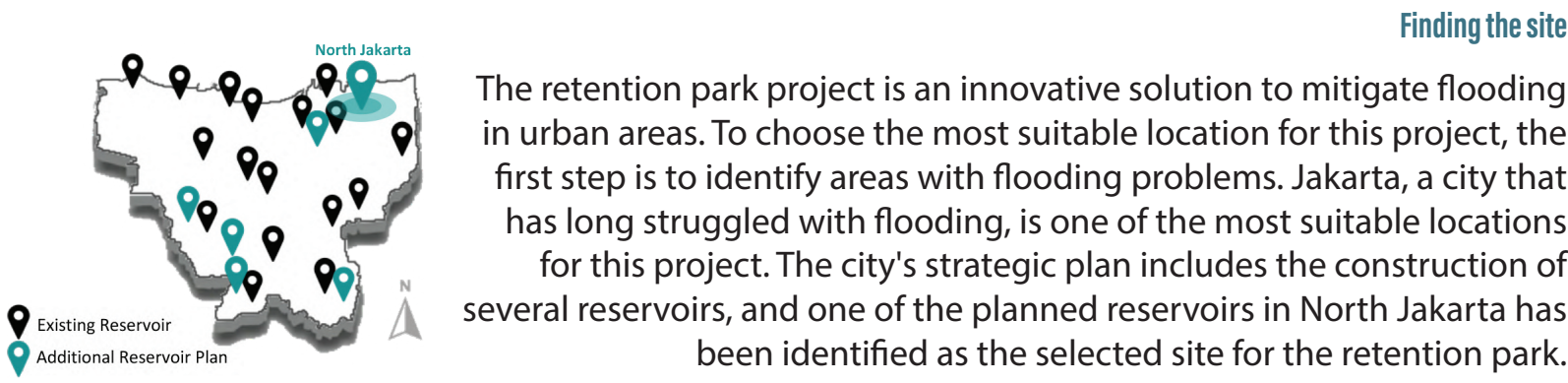
### A. Exploration of Patterns



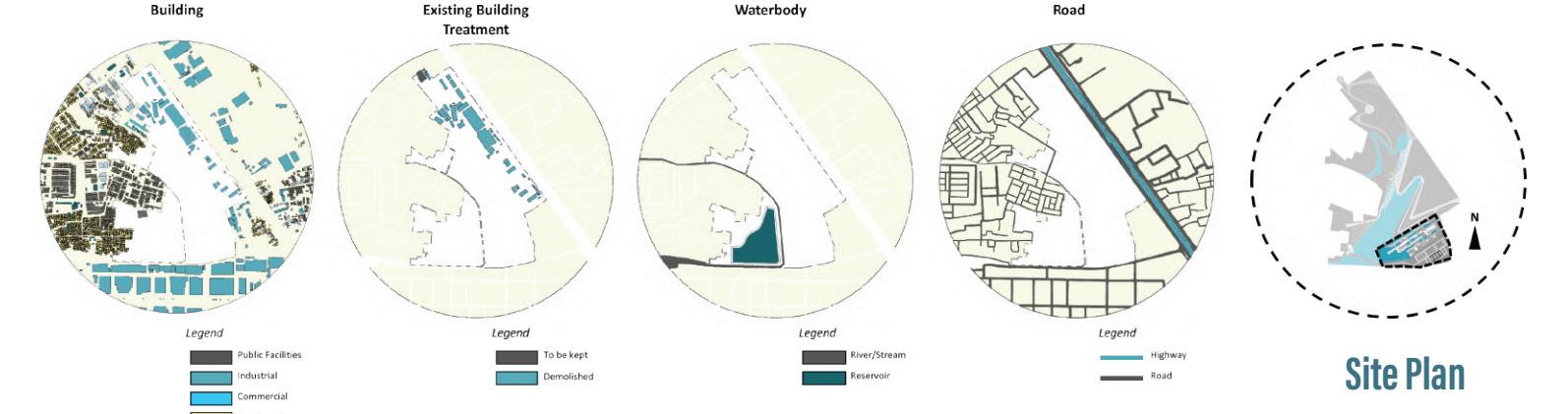
### B. Form-generating Algorithms



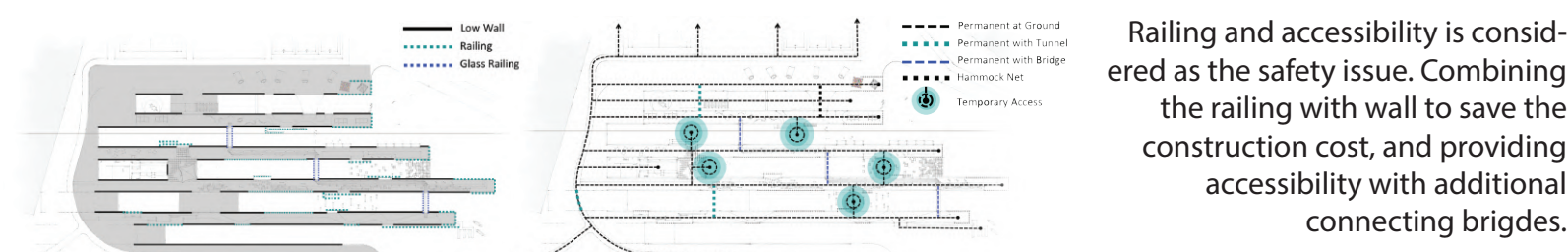
### C. Site-Driven Algorithms



This site has been carefully chosen due to its high potential for reducing the impacts of flooding, while also addressing other urban problems in the area. By implementing this retention park project, we can make significant progress towards creating a more resilient and sustainable city.



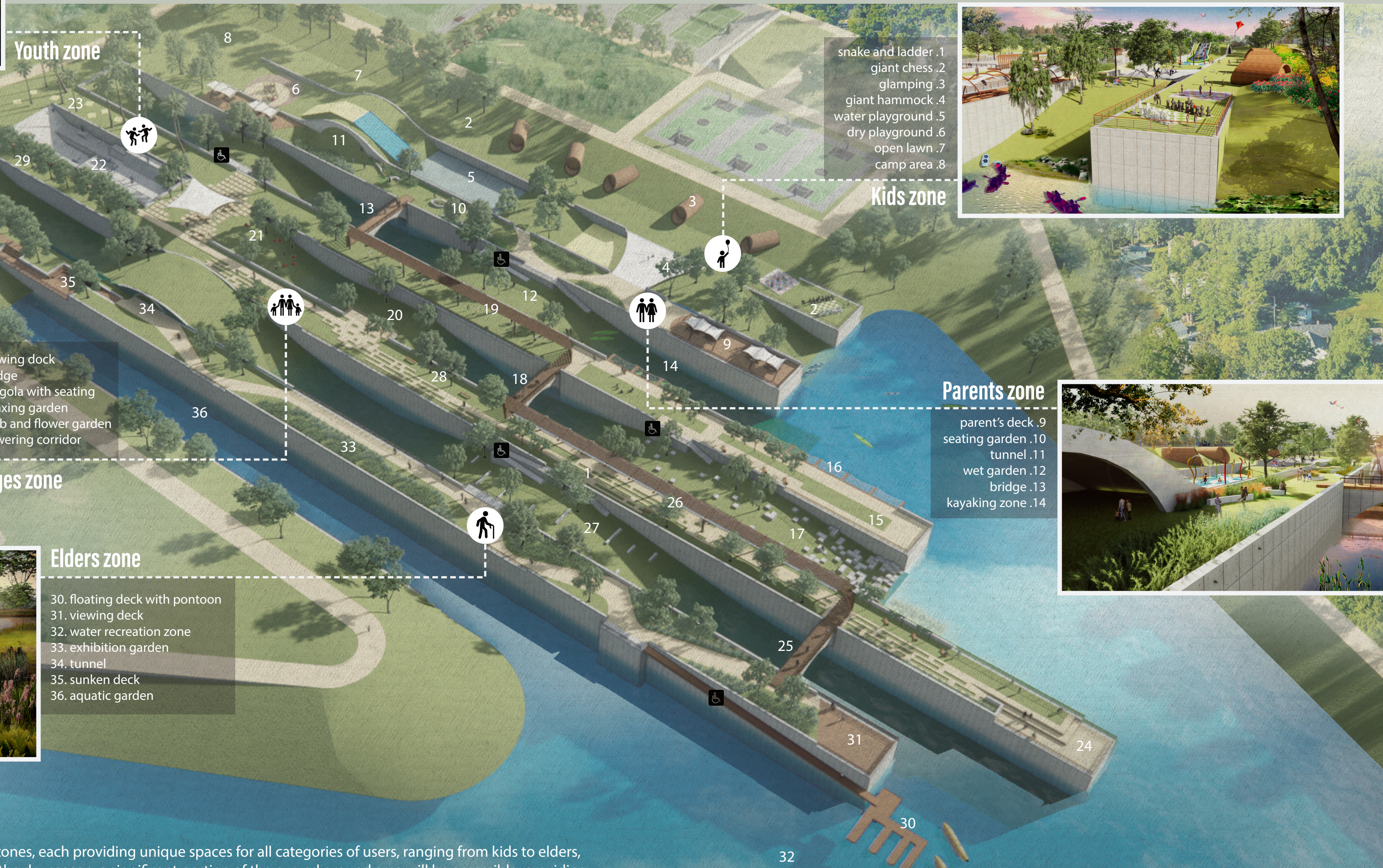
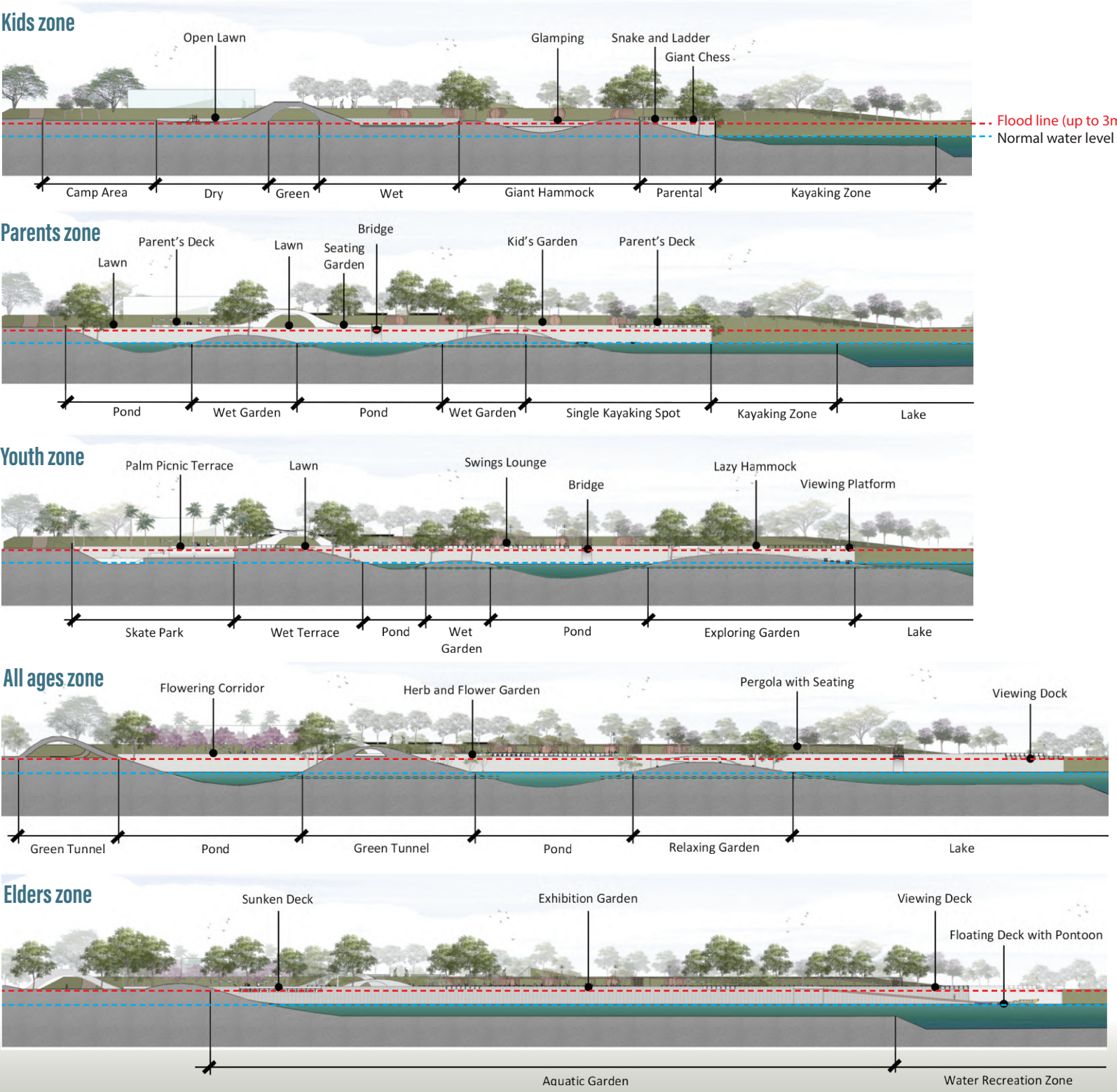
### D. Computational Design Project (Design Concept)



### Landscape resilient concept

In designing the retention park, the water level is the primary consideration. The proposed retention park is designed to have a 4-meter difference from the top of the retained grounds to the normal water level, which mostly occurs during the summer season. However, during the rainy season, the water level is expected to rise up to 3 meters, which will water the curved dry area.

This design aims to mitigate flooding problems by allowing the retention park to hold and retain water during the rainy season, effectively preventing the water from overflowing and causing flooding in the surrounding areas. The park's unique design also ensures that the park remains functional even during the dry season by retaining a small amount of water, thus providing a source of water for the surrounding plants and vegetation.



### Inclusive Public open space

The retention park has been divided into 5 different zones, each providing unique spaces for all categories of users, ranging from kids to elders, with ramps as well, for the wheel-chair users. During the dry season, a significant portion of the curved ground area will be accessible, providing ample space for gathering activities and natural exploration. This is an ideal time for users to come together and enjoy the park's beauty and serenity. Additionally, this accessibility allows for greater opportunities for social interaction and community building. The park's design creates an inclusive and welcoming space that brings people together and fosters a sense of connection with nature.