

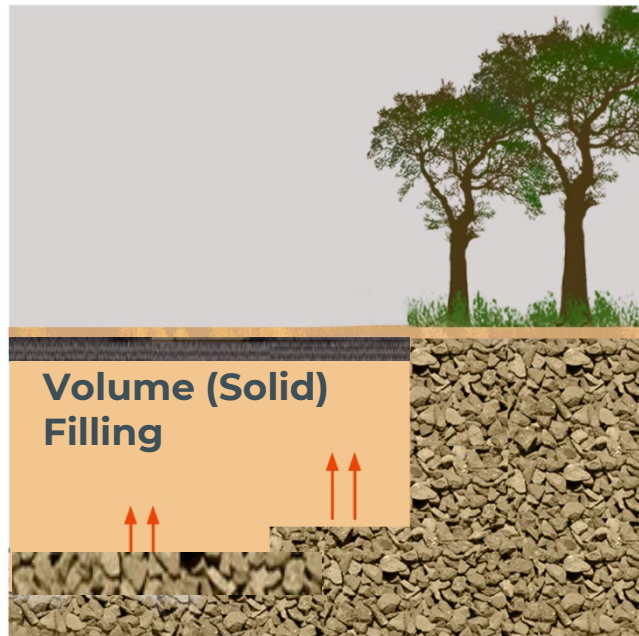
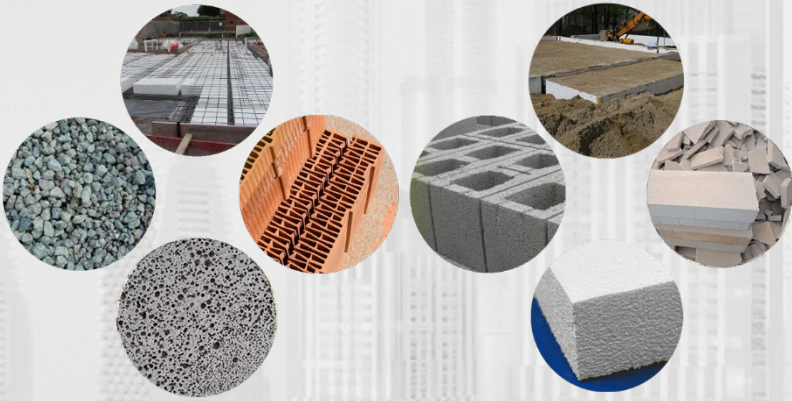


eFill

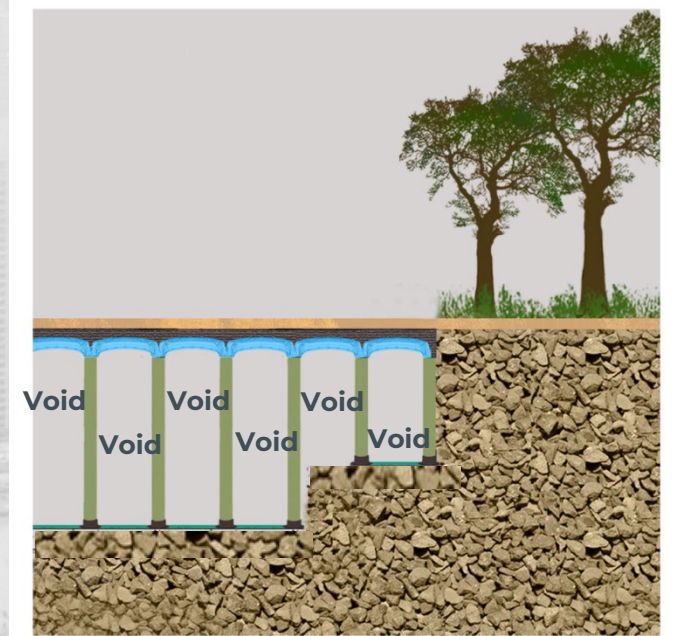
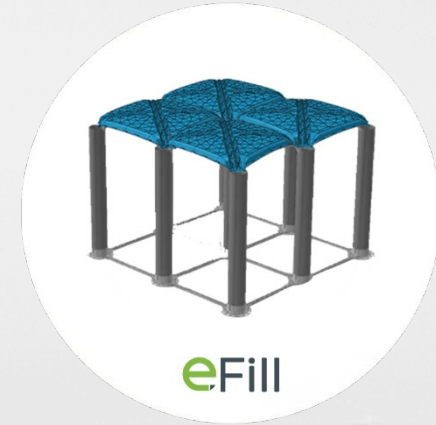
Voided Filling System

eFill Voiced Filling System

Volume (Solid) Filling



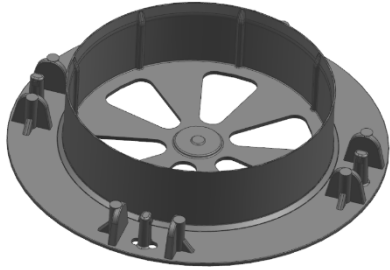
Voiced Filling



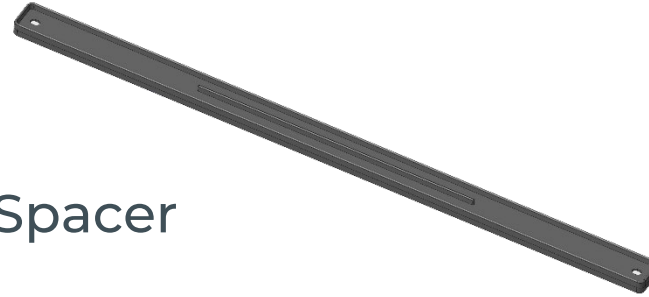


eFill Components

Base



Spacer



Edge-Piece

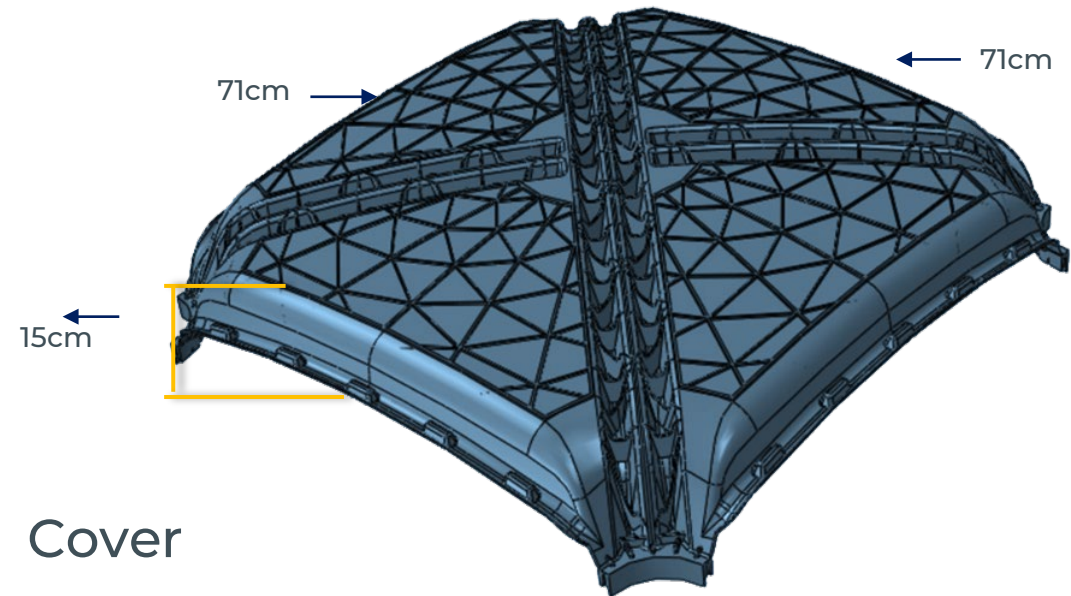


Pipe

From 0 cm to 285 cm



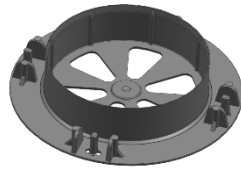
Cover





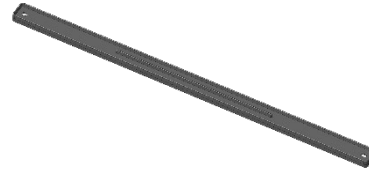
eFill Components Assembly

Step 1:



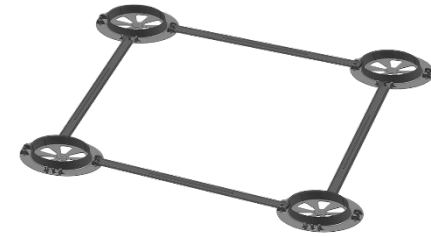
Base

+



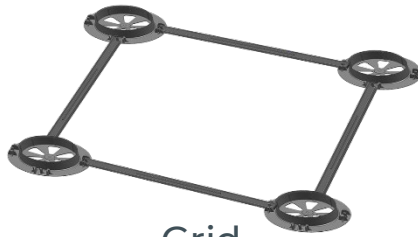
Spacer

=



Grid

Step 2:



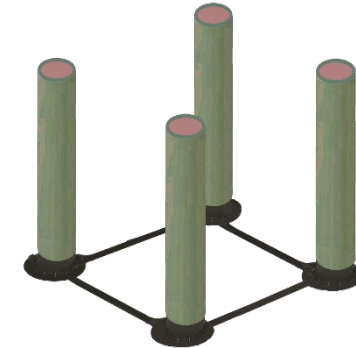
Grid

+



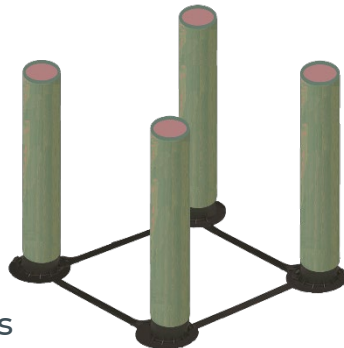
Pipe

=

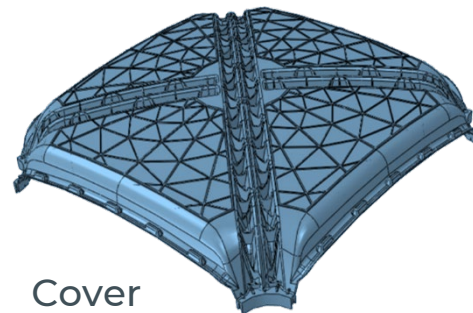


Grid with Pipes

Step 3:



+



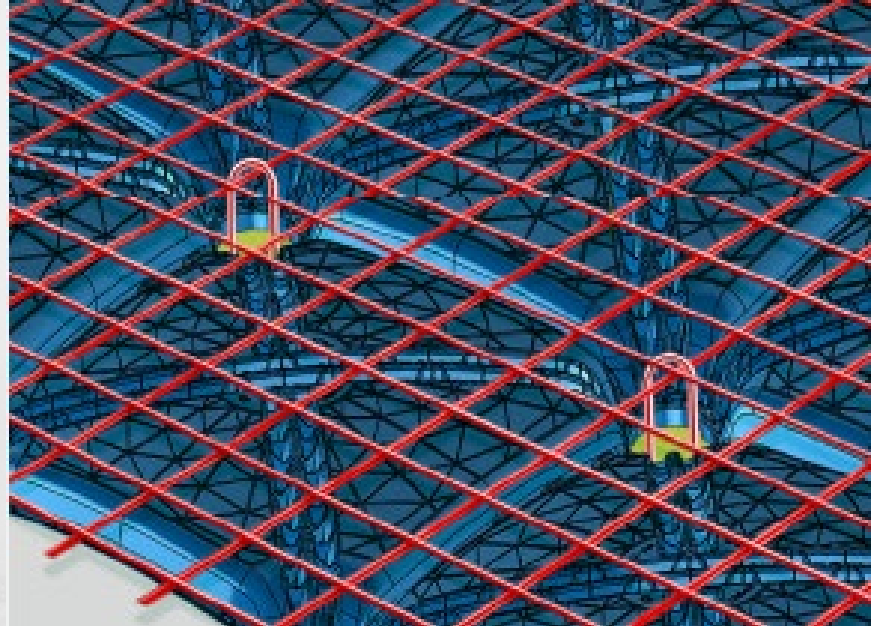
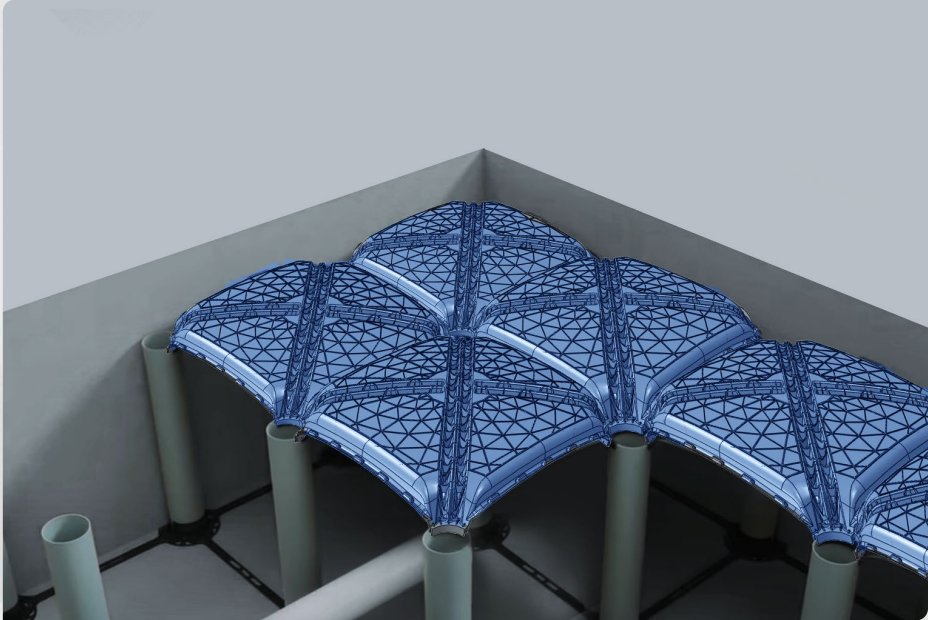
Cover

=



eFill Voided Filling System

eFill in Action

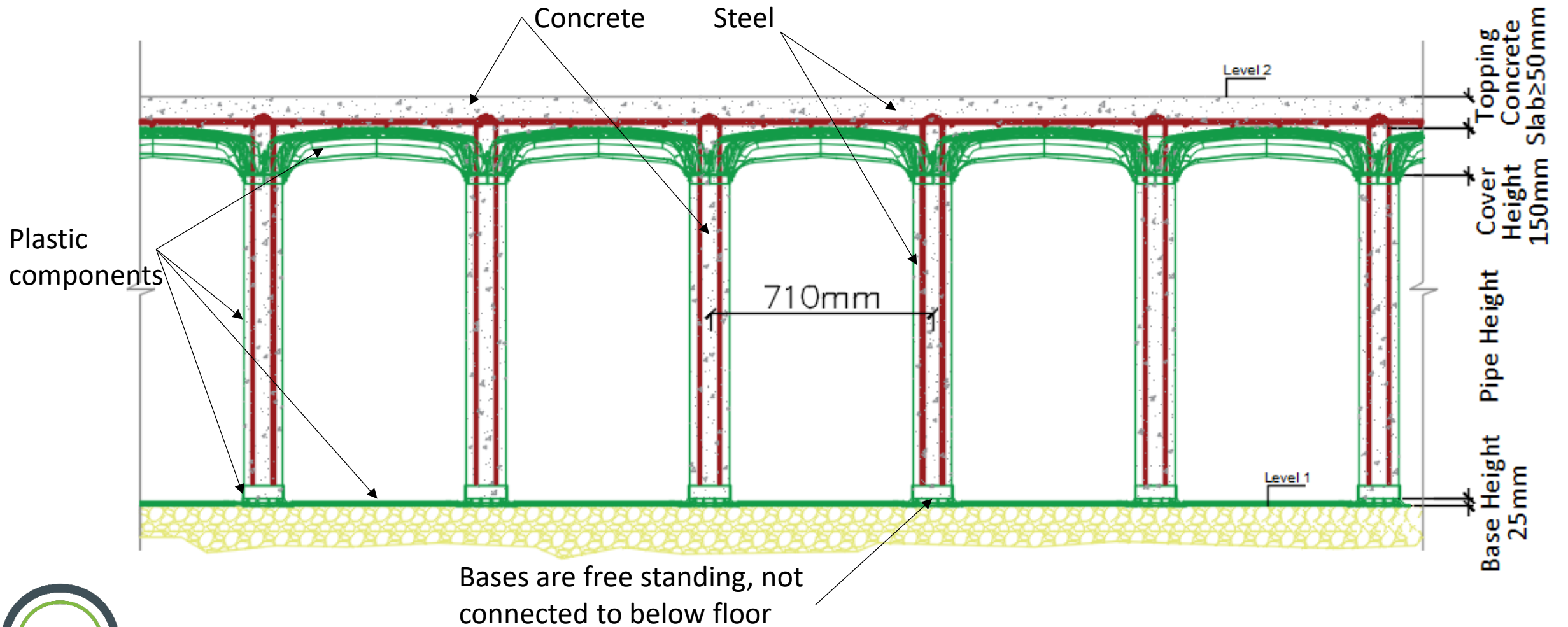


Instead of using traditional, heavier, expensive materials with limited work accessibility (e.g. sand, gravel, foam concrete, or polystyrene);

**Adjustable heights
from 15 to 300 cm**

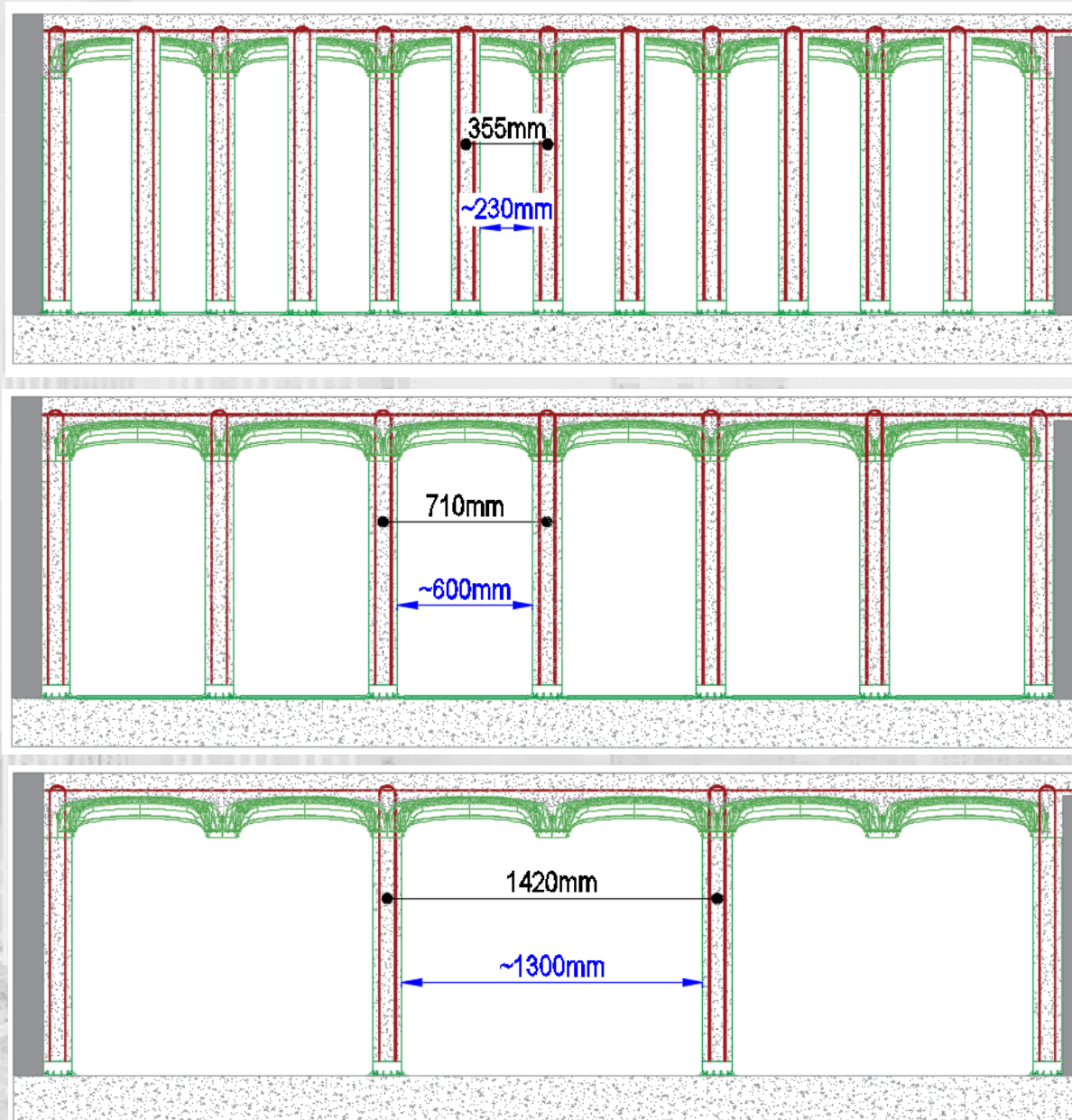


eFill Section



eFill With different spans between columns

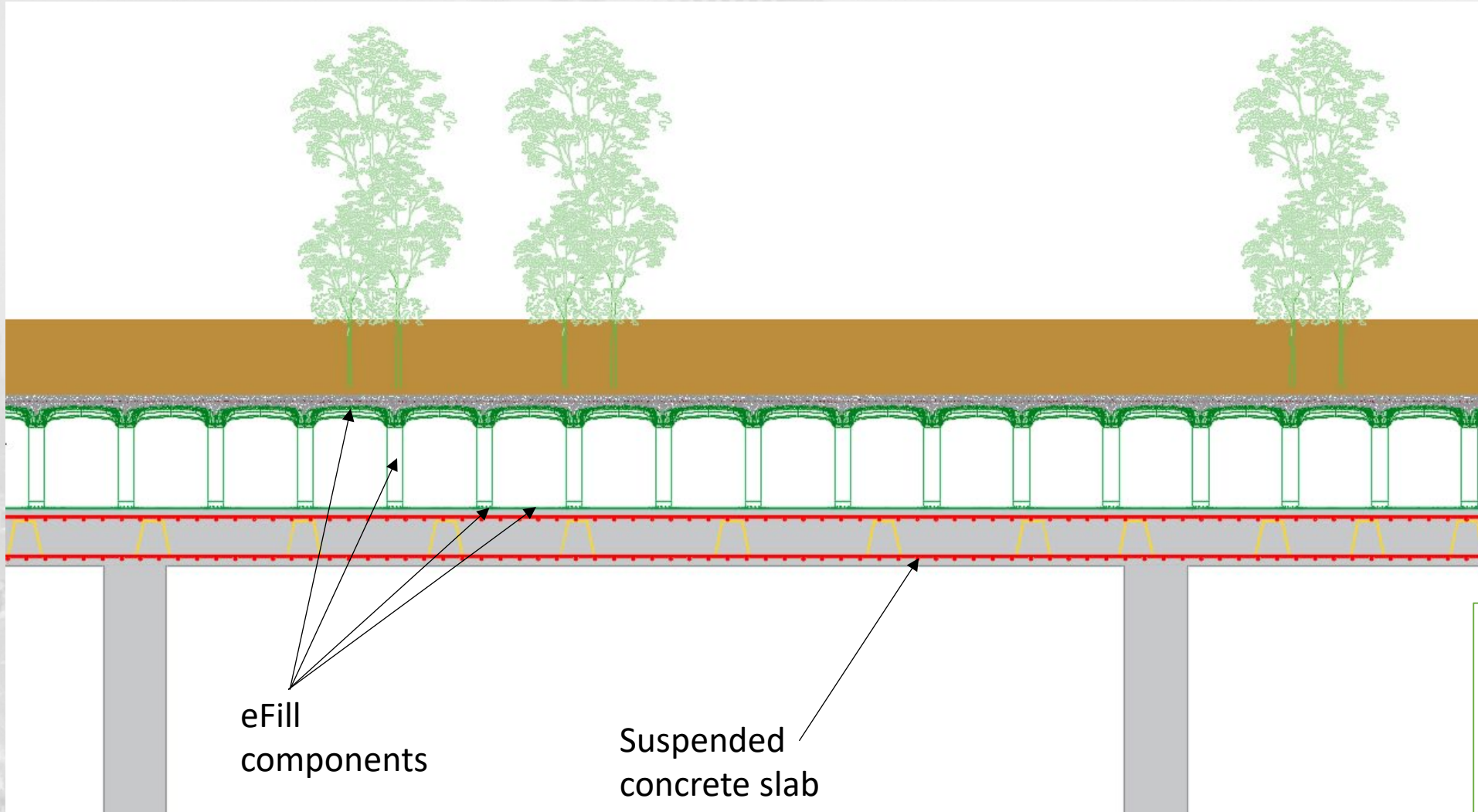
Standard Case →



eFill Applications

- Landscape Fillings with Maintenance doors
- Under & Around Swimming Pools
- Between Inverted Beam, Tie Beams, upstands & sunken spots
- Slab on Grade Alternative
- Isolated Footings Fillings
- Sharp Slopes Solution
- Steps, Ramps & Auditoriums
- Tree Box for Parks
- Grey Water Tank
- Filling between shoring & retaining walls





eFill replaces soil filling placed on suspended concrete slabs.

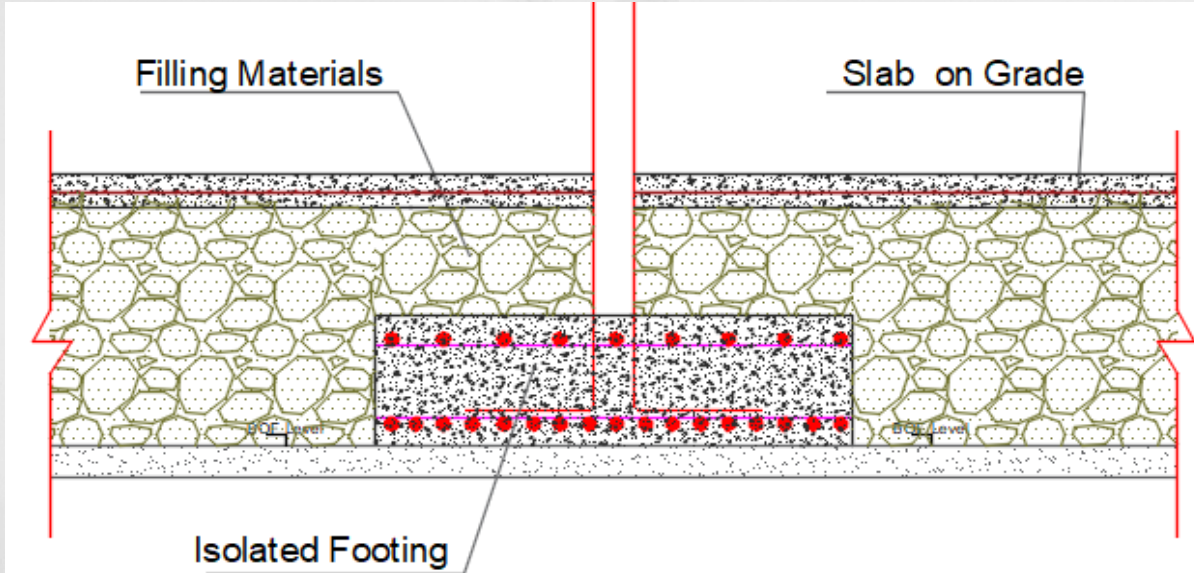
Park Trees Soil Protection



Heavy Loads

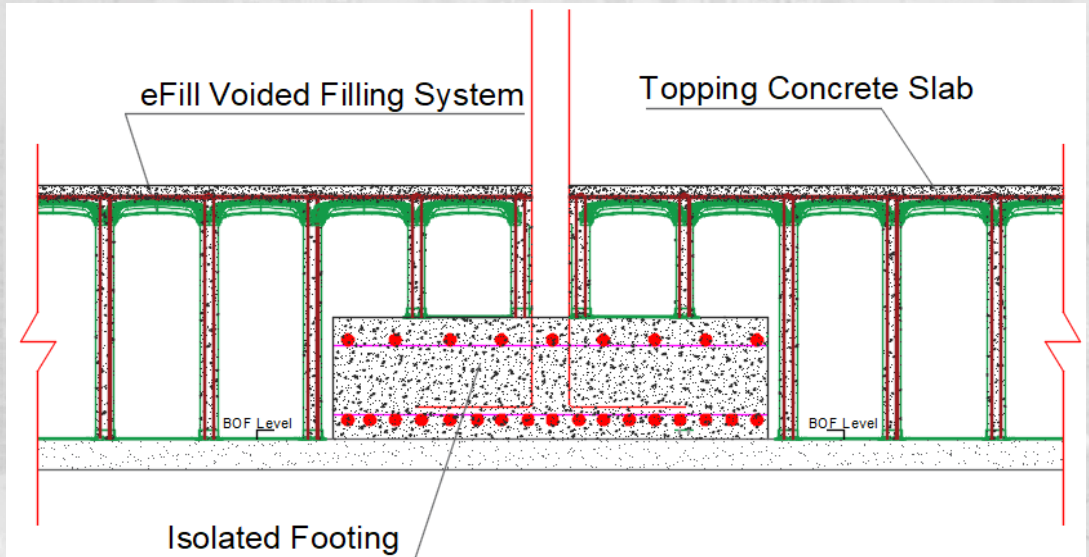


“Isolated Footings” & “Slab on Grade”

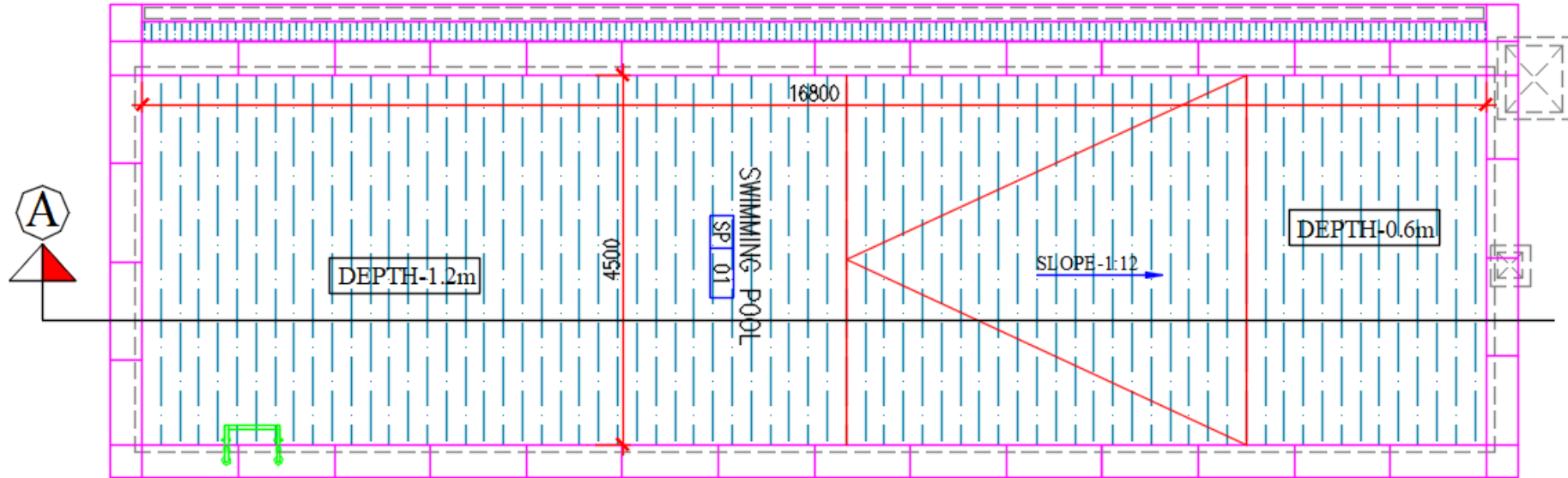


Traditional Filling Materials, around and top of isolated footing, topped with (10cm-15cm) slab on grade, including 1- layer or 2-layers of steel mesh.

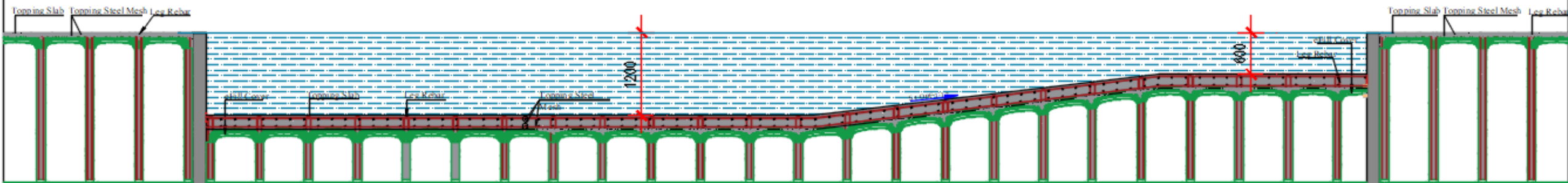
eFill Voided Filling System Solution, placed around and top of isolated footing, consists of mini reinforced concrete structure; columns & Slab. Slab acts as slab on grade. with high loadbearing capacity, no settlement risk, easy MEP works through the voids between columns. Fast, clean, economic, reliable and flexible.



Swimming Pools: Under & Around

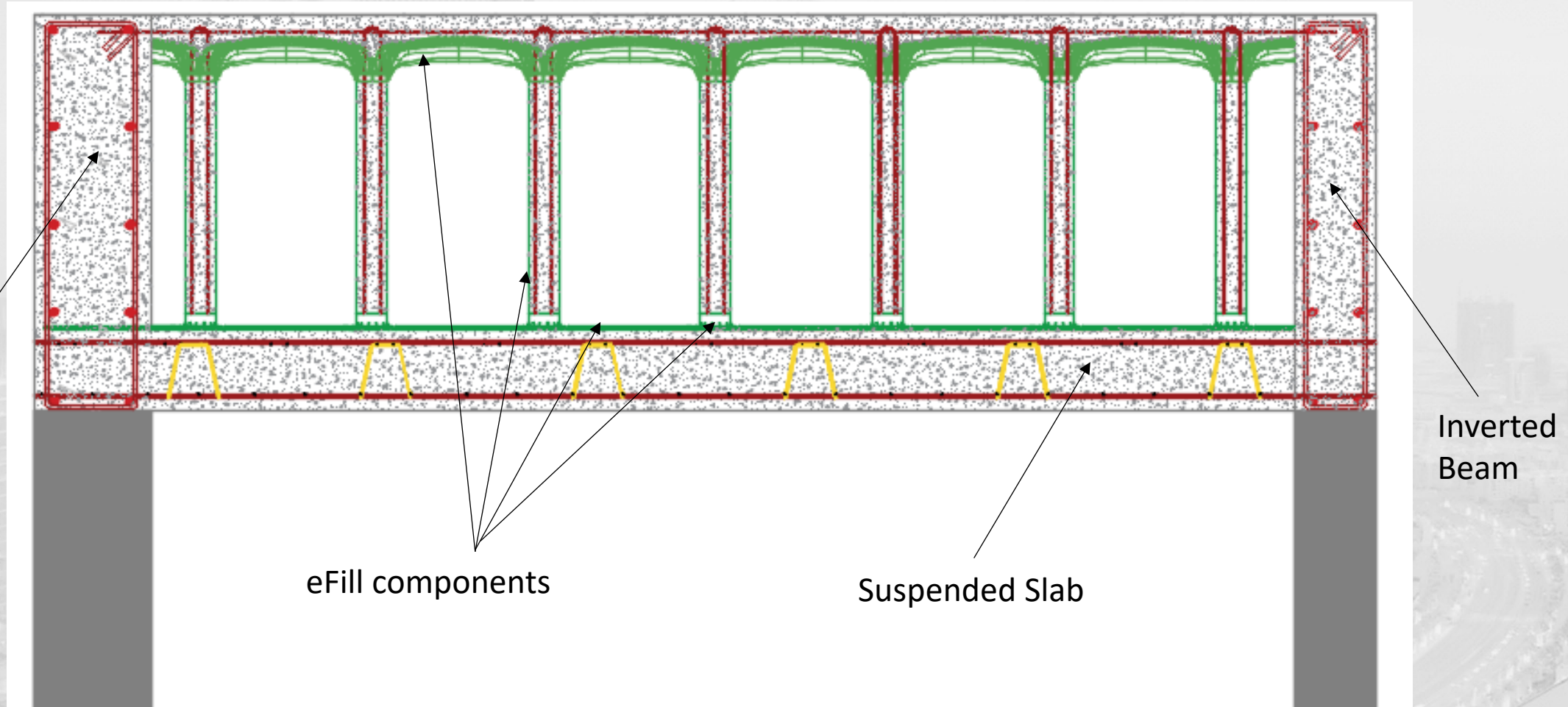


Swimming Pool Plan

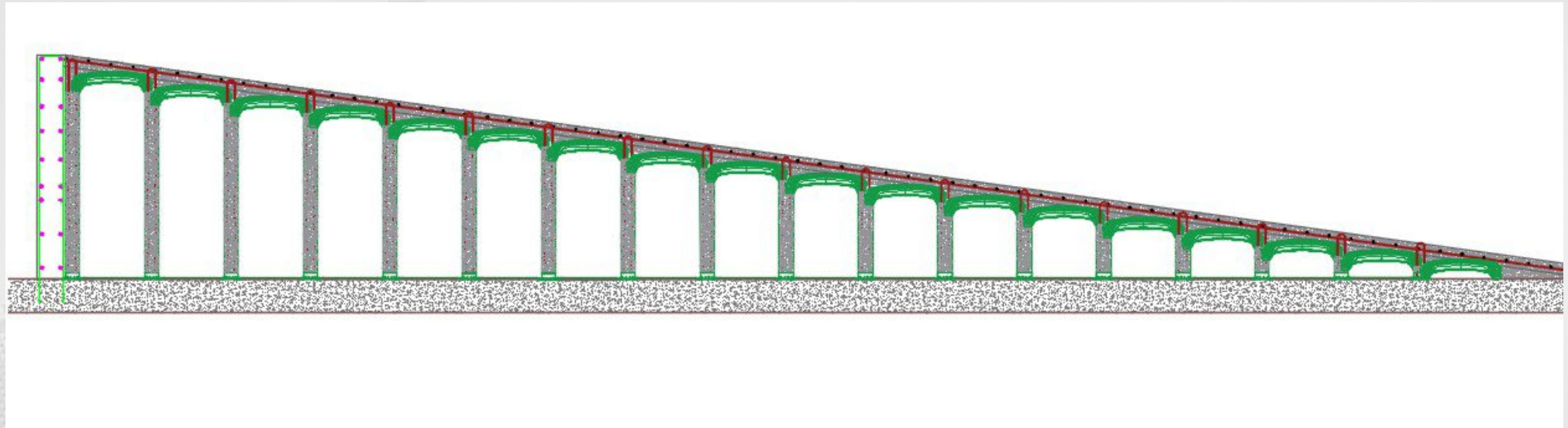


Section (A) in Swimming Pool

eFill between inverted beams, upstand beams, tie beams,....



Ramps, Stairs & Auditoriums





Access Door/Hatch for future accessibility or maintenance



An aerial, grayscale photograph of a city skyline, featuring the Burj Khalifa as the central, tallest skyscraper. The image is used as a background for a presentation slide.

eFill at Site





Grid Distribution



Pipes Installation

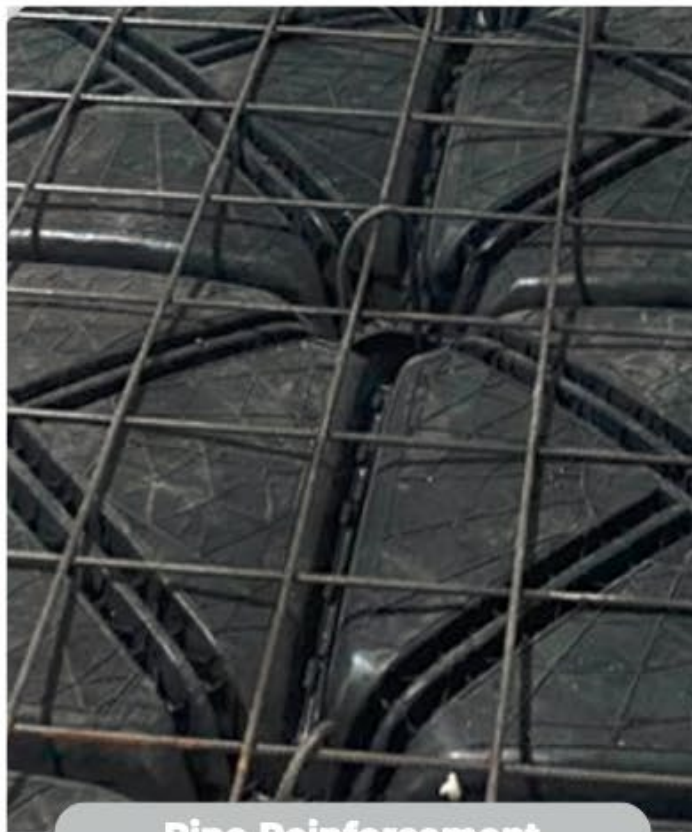


Cover Layout

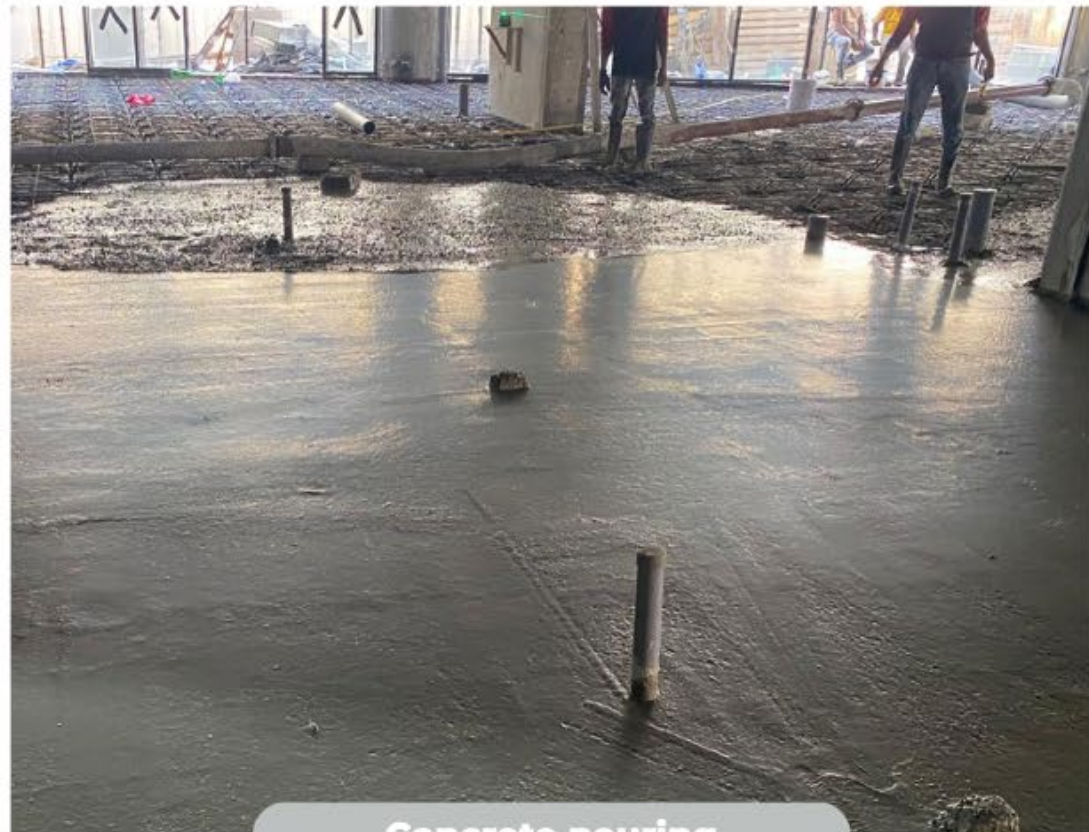




Steel Mesh



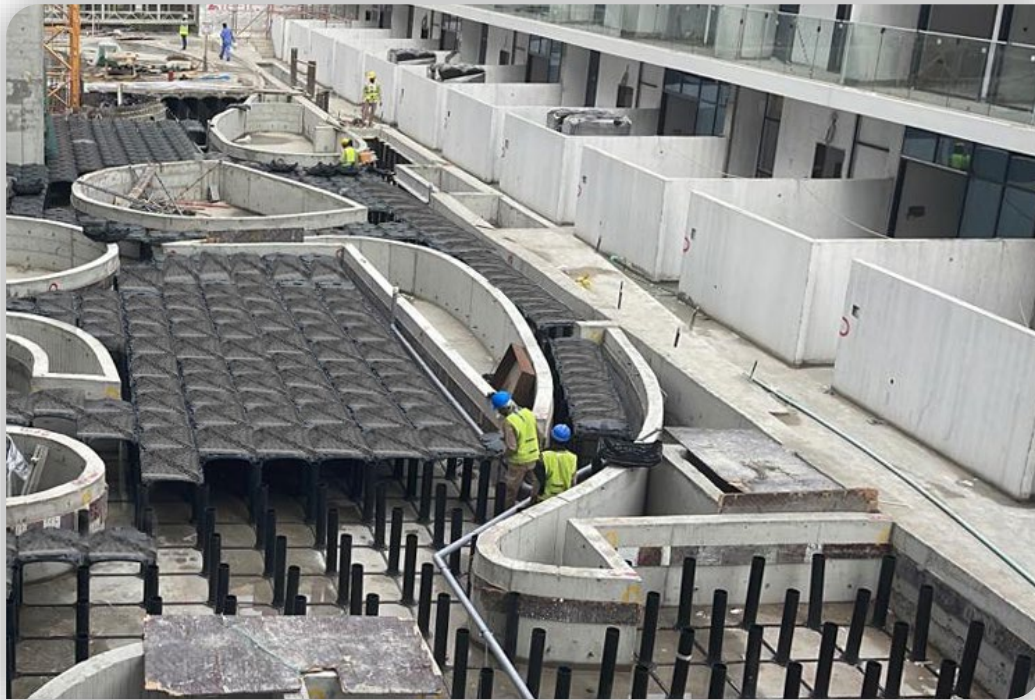
Pipe Reinforcement



Concrete pouring

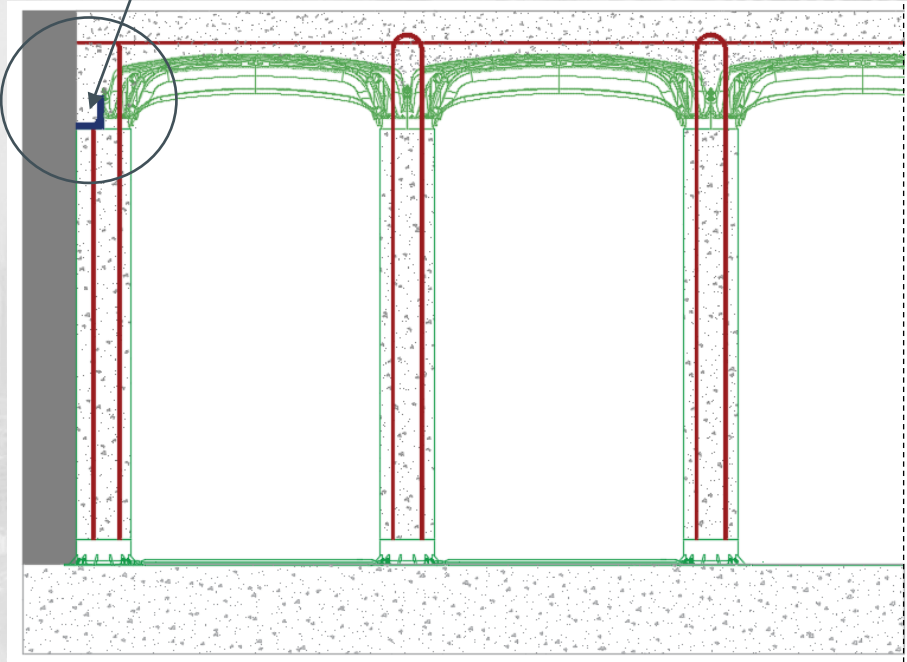




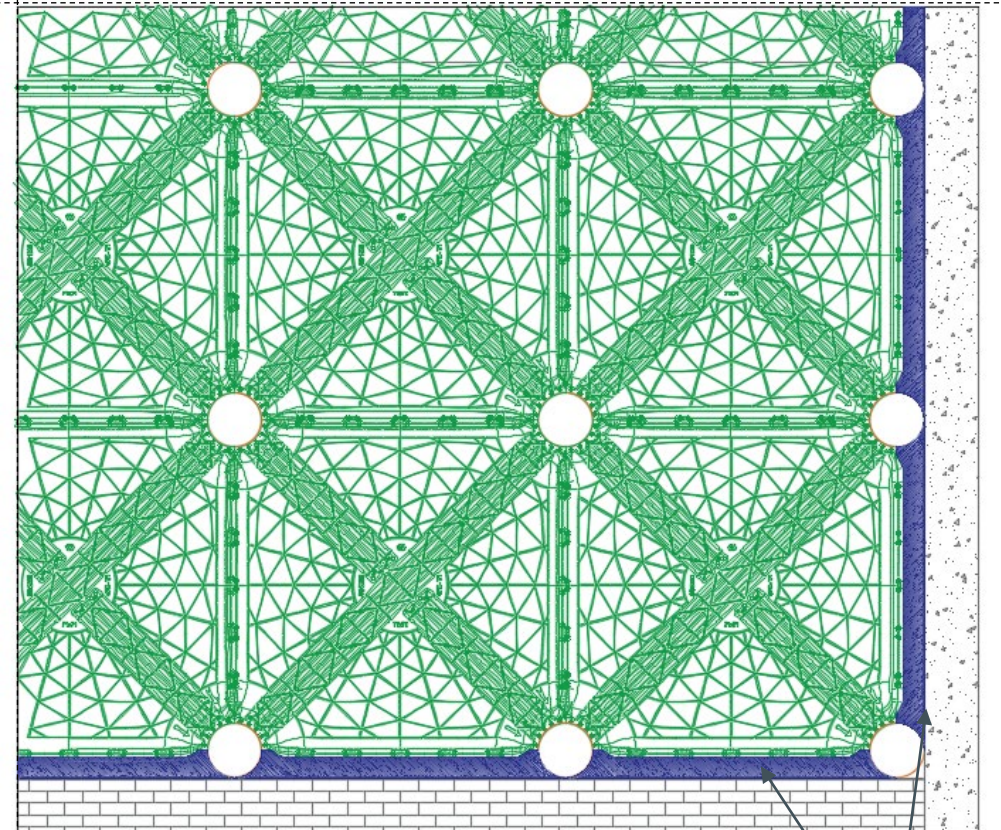


Edge -Piece at Beginnings

Edge -Piece



Section

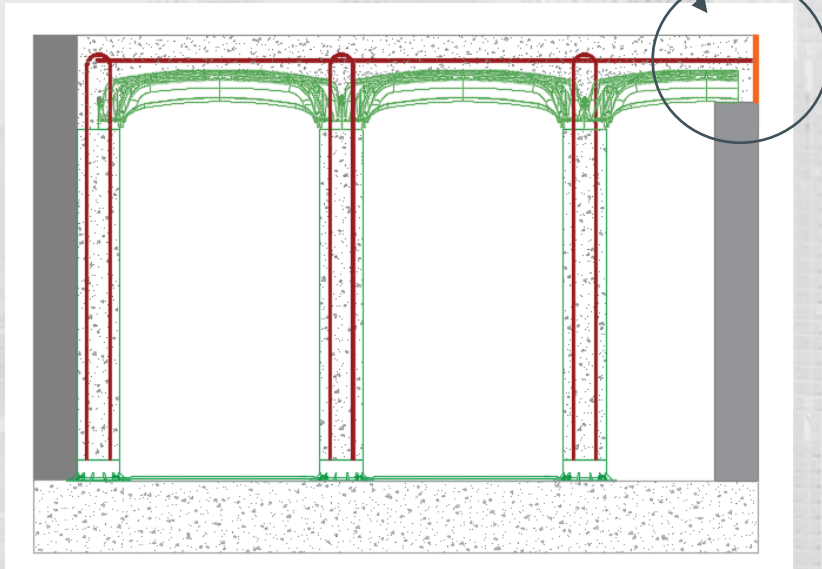


Plan

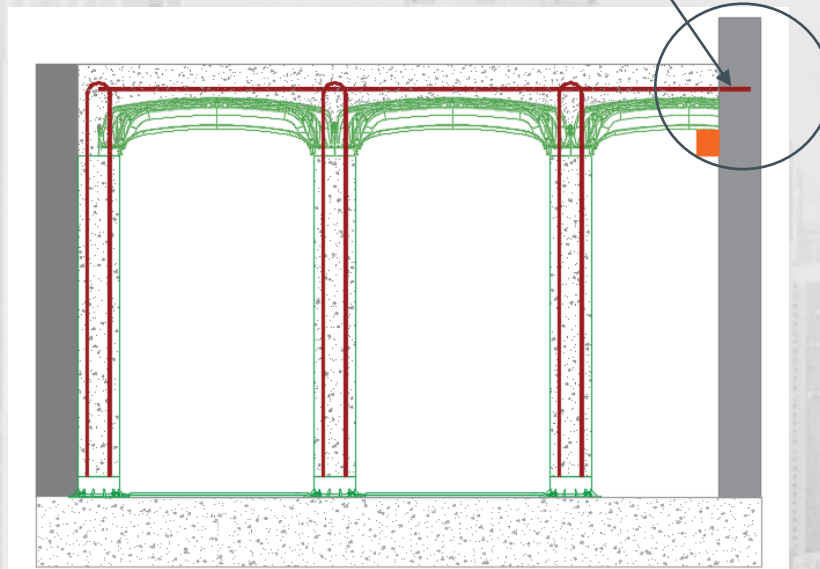
Edge -Piece

Cut pieces at Endings

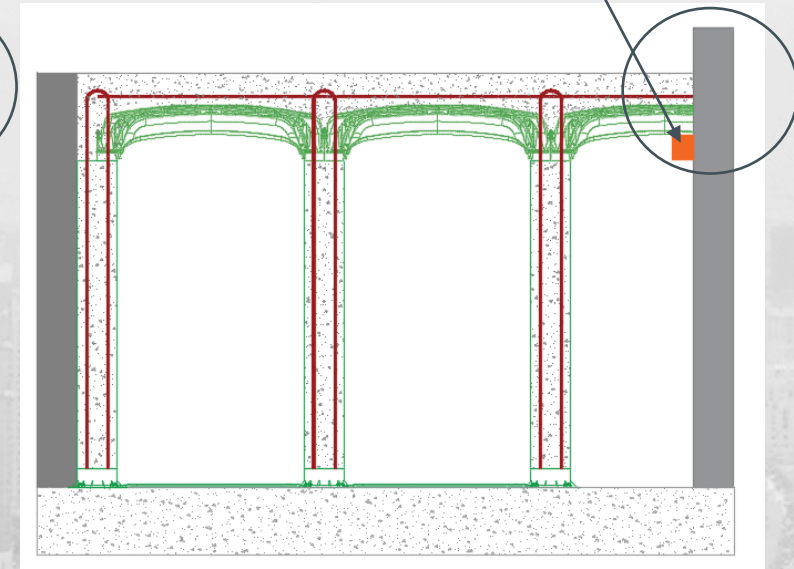
Ending lays on top of an upstand



eFill topping steel is inserted into wall recess and the cover lays on a bracket



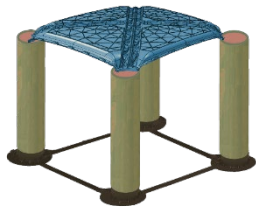
Ending lays on brackets



Environmental Benefits

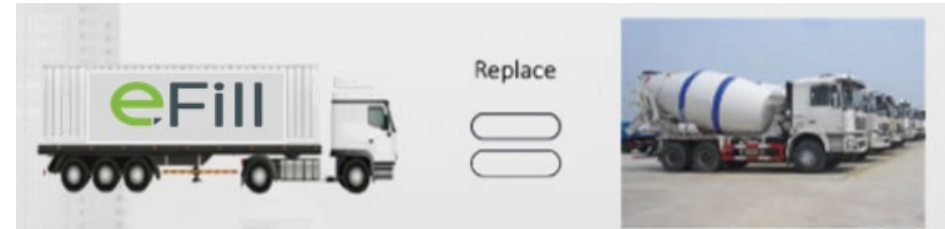
Less Plastic Pollution

eFill is made from recycled plastic materials collected from city landfills.



Less Traffic

Delivery of one 40feet container of eFill System (1m height), replaces in average the delivery of 30 of volume, solid materials trucks.



Less CO2



Releases



Production of 1 m³ of concrete releases 210 kg of CO₂ into the air



Comparing to traditional filling solutions

1. Structural Reliability, **mini reinforced concrete structure**, columns & slab.
2. **No settlements** comparing to traditional filling solutions
3. Very **high loadbearing** capacity.
4. **Light weight** solution.
5. **MEP** installation sequence & future maintenance, cheaper, faster, and flexible with approx. 60cm clear distance between eFill legs
6. **Thermal & Acoustic** Insulation are improved due to voids.



cont'd

- 7- **Future changes** are relatively much easier and cheaper than other filling materials.
- 8- Accessibility to voided room is possible through an optional **maintenance hatch**.
- 9- **Time** saving, fast and easy installation.
- 10- Easy filling **heights control** at site, by controlling pipes height cutting
- 11- Optimized transportation & **Storage**, 1 truck of eFill replaces 50 trucks of alternative filling materials.
- 12- **Environmental** value; components made from recycled plastic. Construction materials are optimized.

- a. eFill is an **Emirati product** and it is **produced locally in Dubai**, i.e. materials available upon request
- b. eFill cover has **superior outline curvature** and optimized by FE **punching shear capacity** handling; eFill has:
 - 1. Noticeably **Increased load-bearing** capacity with the same concrete topping.
 - 2. eFill consumes **11.5% to 18.3% less concrete** even with the same concrete topping thickness.
 - 3. Cover dimensions are **71*71cm**, with only **2 legs** per m²
 - 4. eFill consumes up to **50% less** Steel Reinforcement in Pipes.
 - 5. eFill requires up to **50% less** Installation Time & Labor.
 - 6. Approx. **60cm** voided working space between legs for **services** installation & maintenance
- c. **PI** design liability policy is included.
- d. Product & public **liability** policy is included.
- e. project long **Design** and calculations service.
- f. **Supervision** at site.





CMe References



Gardenia Residence Dubai Hills, Dubai, UAE



Seven Hotel and Apartments, Dubai, UAE



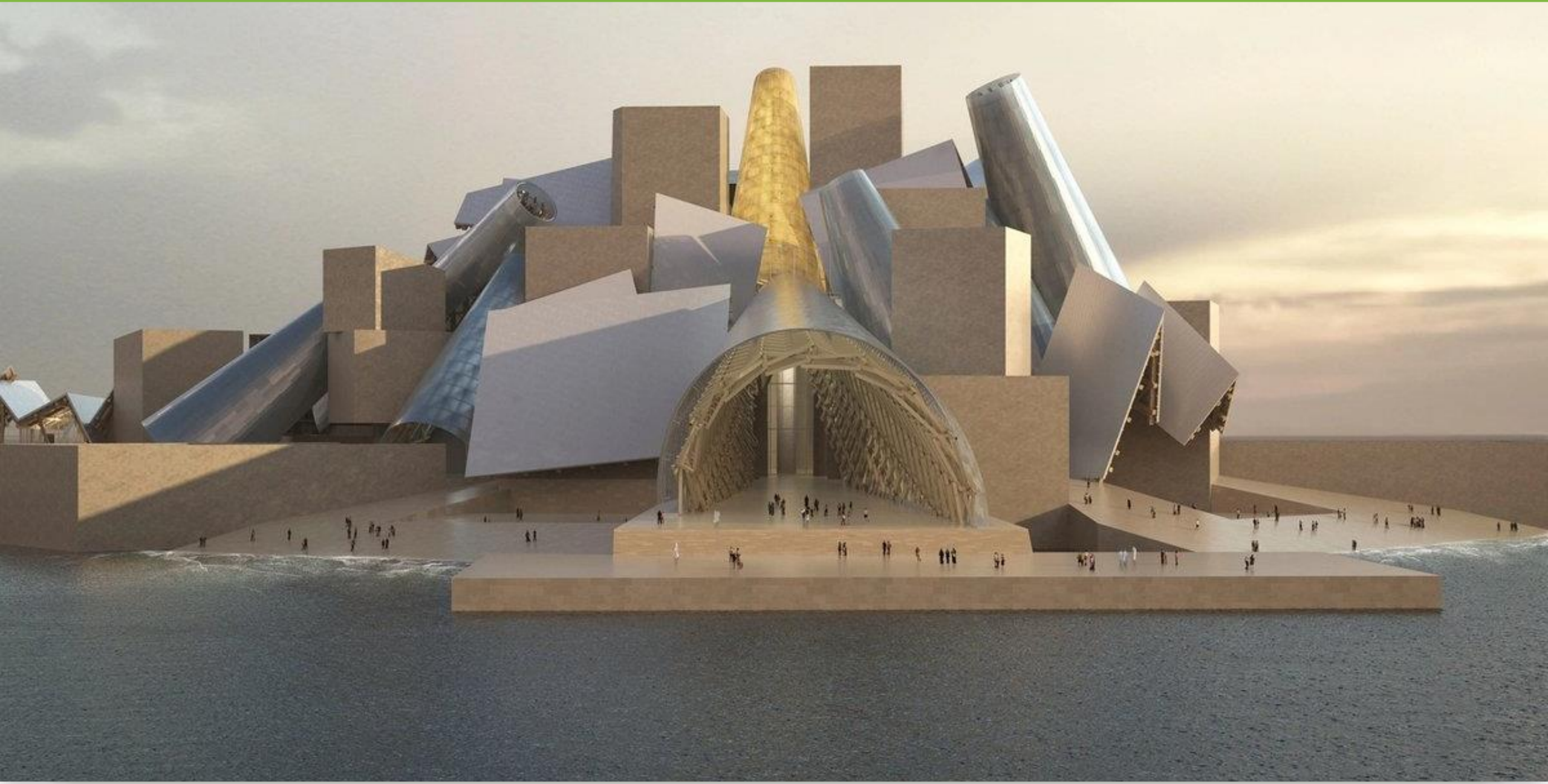
UPTOWN DUBAI Phase 1, Dubai, UAE



Global Gateway Residential Development, Abu Dhabi, UAE



Guggenheim Abu Dhabi Museum, Abu Dhabi, UAE



The Address Harbour Point, Dubai, UAE



Hareb Building, Dubai, UAE



Sobha Creek Vistas Reserve, Dubai, UAE



Residence Building (2B+G+9TYP) Meydan One, Dubai, UAE

An architectural rendering of a modern high-rise residence building. The building features a mix of brown brickwork and large glass panels. It has multiple floors with balconies enclosed in blue-tinted glass. The ground floor is a retail strip with large glass windows and doors, displaying various storefronts including 'Versace' and 'Armani'. Several palm trees are planted along the sidewalk in front of the building. In the background, other modern buildings and a clear blue sky are visible. The overall style is contemporary and urban.

The Gate, Abu Dhabi, UAE



EXPO 2020 Thematic Districts, Dubai, UAE



The Imperial Residence, Dubai, UAE



Safi Apartment Buildings, Dubai, UAE



The Address Residences Dubai Opera A2 & A3, Dubai, UAE



Bahrain Pavilion EXPO 2020, Dubai, UAE



Sobha One Park Avenue, Dubai, UAE



Sobha Hartland Greens, Dubai, UAE



Zahra Apartment Buildings, Dubai, UAE





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THANK YOU