

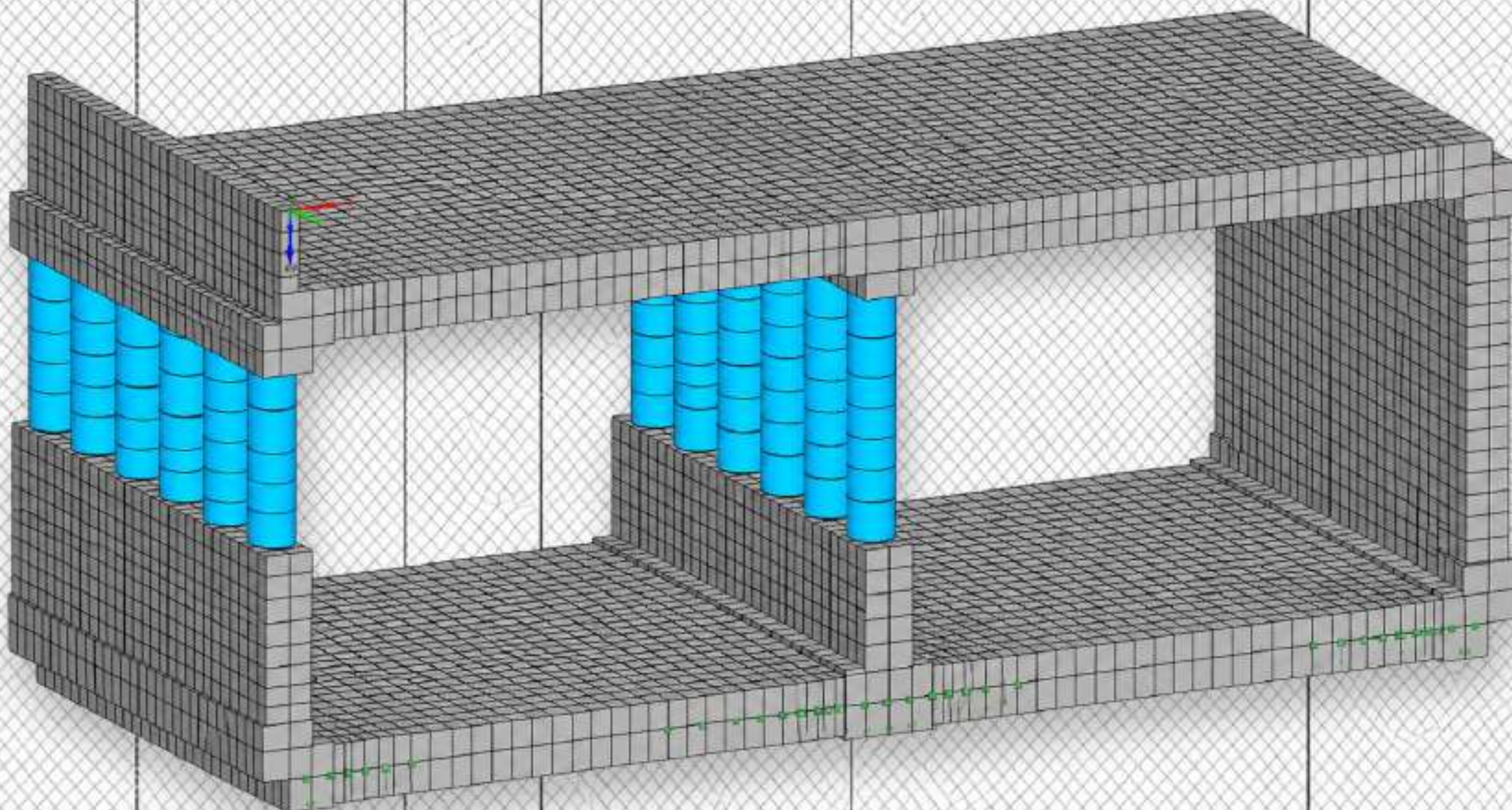
DESIGN OF LARGE SPAN CUT & COVER – LANE COVER STRUCTURES USING THE CUT AND COVER CONSTRUCTION METHOD

ROAD INFRASTRUCTURE WORKS
IN DEEP CUT EXCAVATION AREAS

Technical cross-section drawing of a drainage structure, likely a culvert or bridge approach, showing various layers and dimensions.

Key Components and Dimensions:

- Topsoil:** 75mm THK.
- Granular Fill:** GRANULAR FILL COMPACTED TO 95% SPD (TYP.)
- Asphalt Surface Course:** 50mm THICK (TYP.)
- Concrete Box Culvert:** (SEE PLAN FOR SIZE AND REINFORCEMENT)
- Free Draining Granular Fill:** COMPACTED TO 95% SPD (TYP.)
- Retaining Wall:** (BY OTHERS) (SEE STRUCTURAL DRAWINGS)
- Weep Holes:** 150mm Ø, WEEP HOLE AT 3000mm O.C. (TYP.)
- Dimensions:**
 - Horizontal dimensions: 500, 3500 MIN., 1500 MIN., 600, 2400, 900mm, MIN., R/W.
 - Vertical dimensions: 300, 1800, 300, 300 MIN.
 - Gradients: 3%, 1%, 3%.
 - Other labels: VARIES, 3%, 3%, 1%, 3%, 300 MIN.



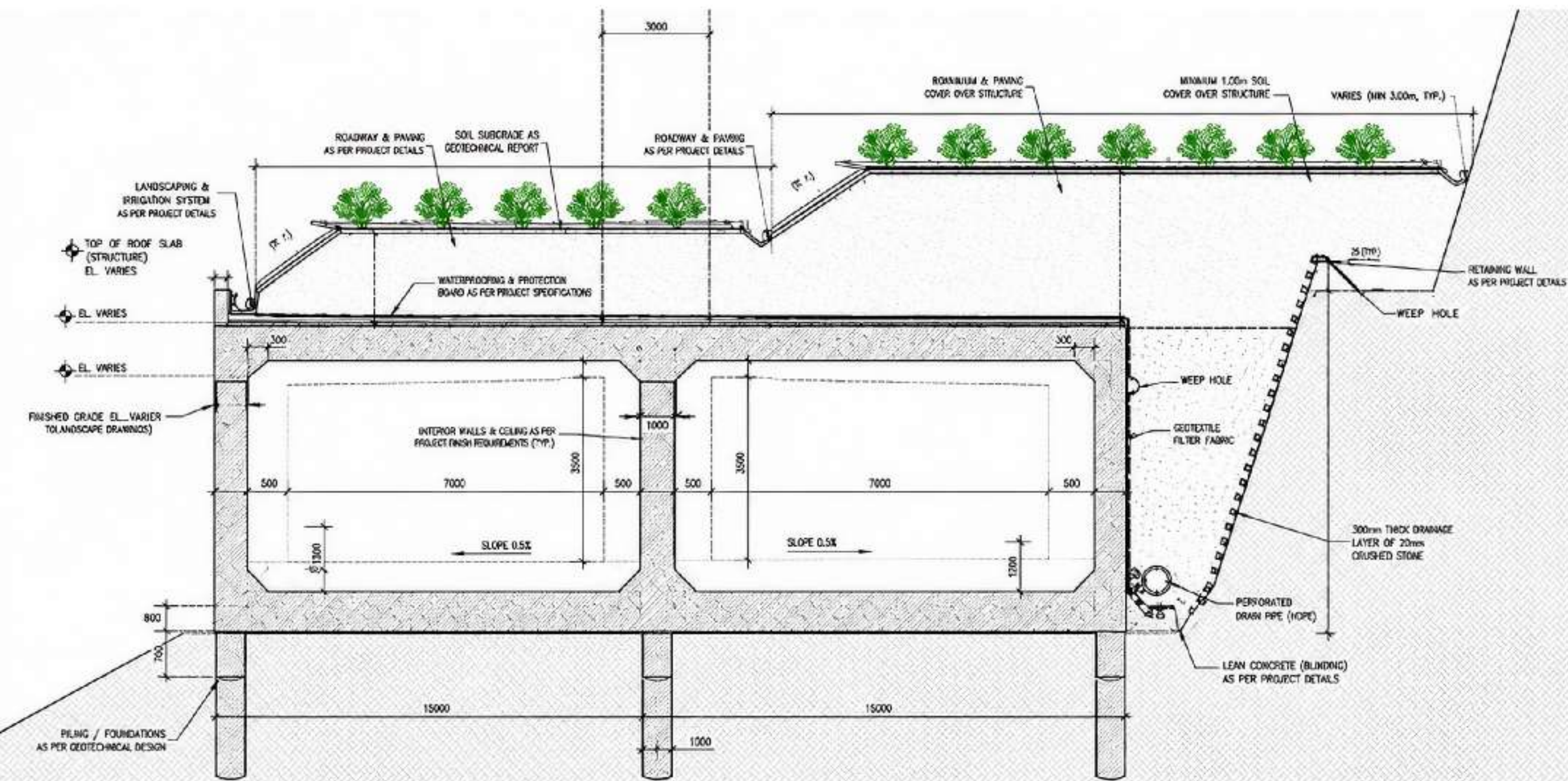
LANE COVER

SHALLOW FOUNDATION



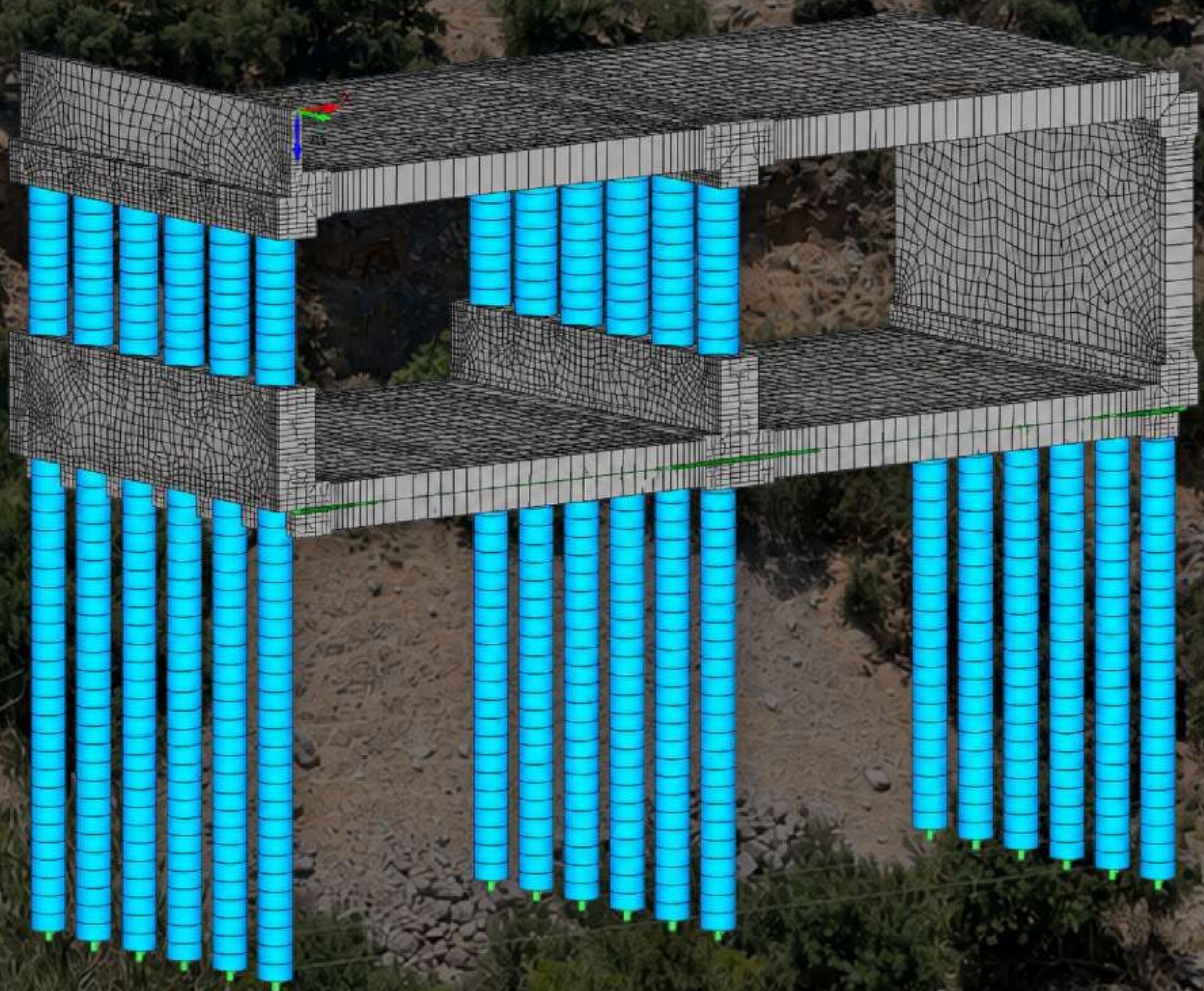
LANE COVER SECTION

DEEP FOUNDATION (PILES)



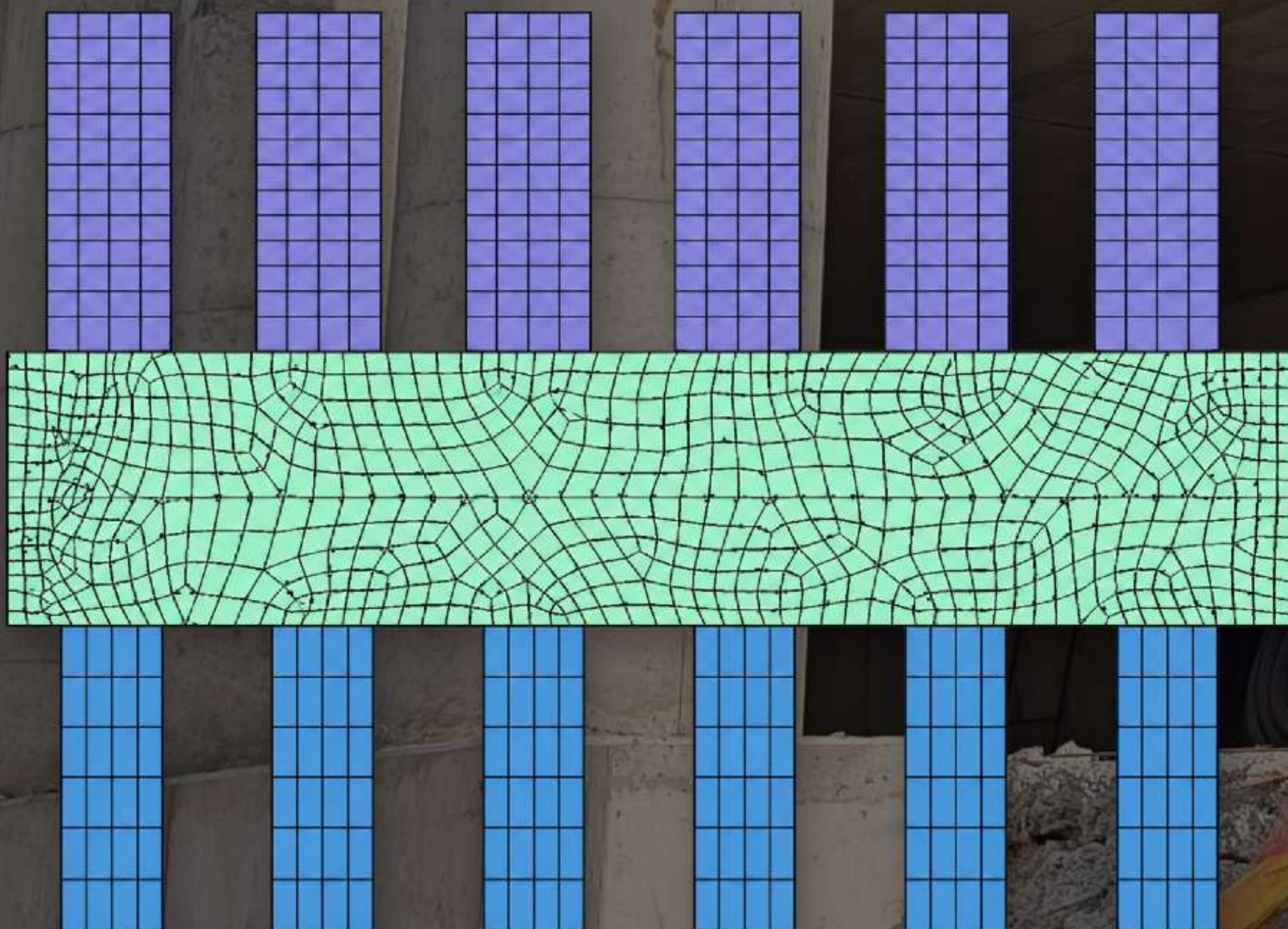
3D VISUALIZATION OF LANE COVER MODEL ANALYSIS

DEEP FOUNDATION (PILES)



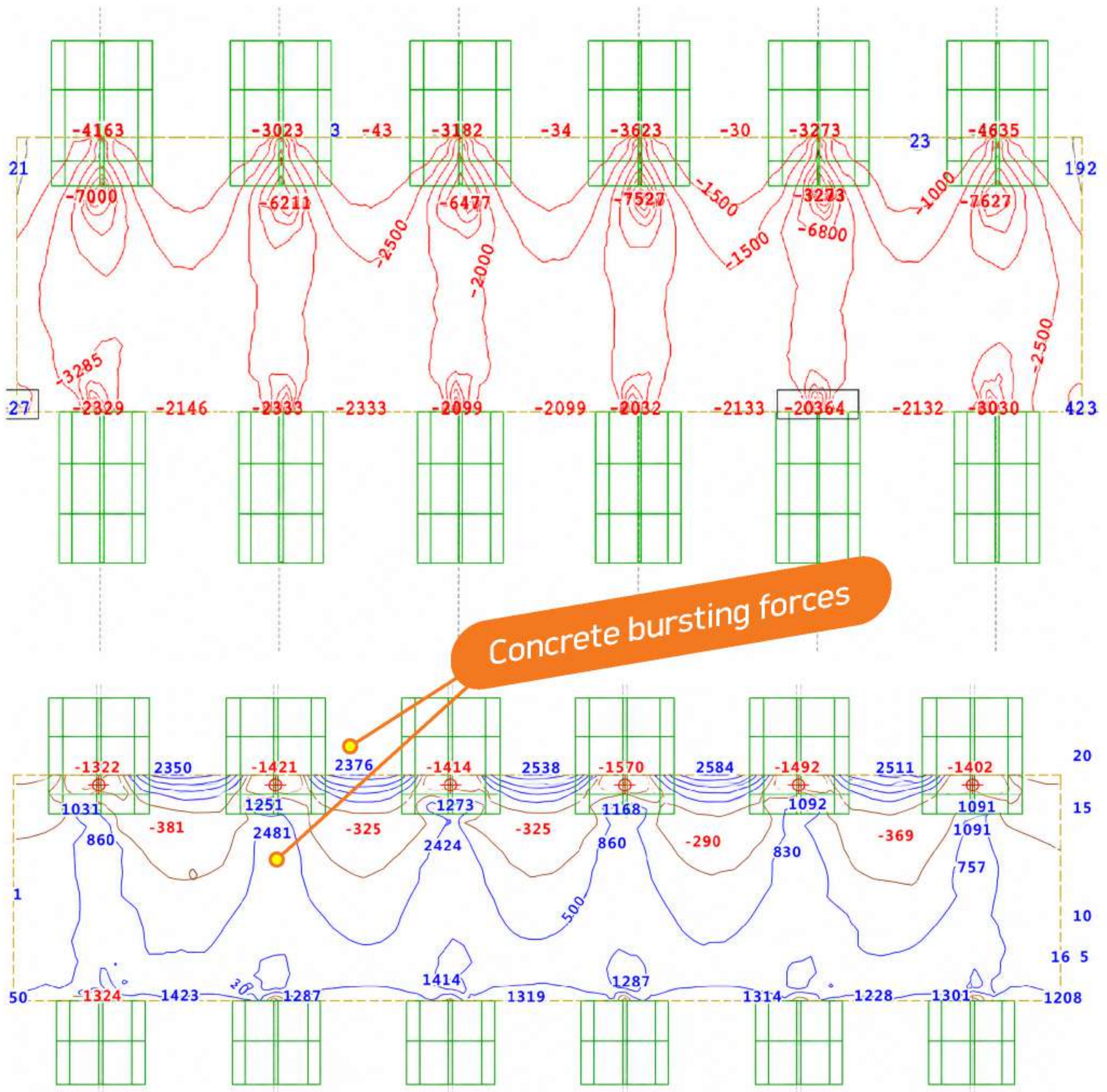
COLUMN-TO-PILE LOAD TRANSFER

VIA THE VERTICAL WALL

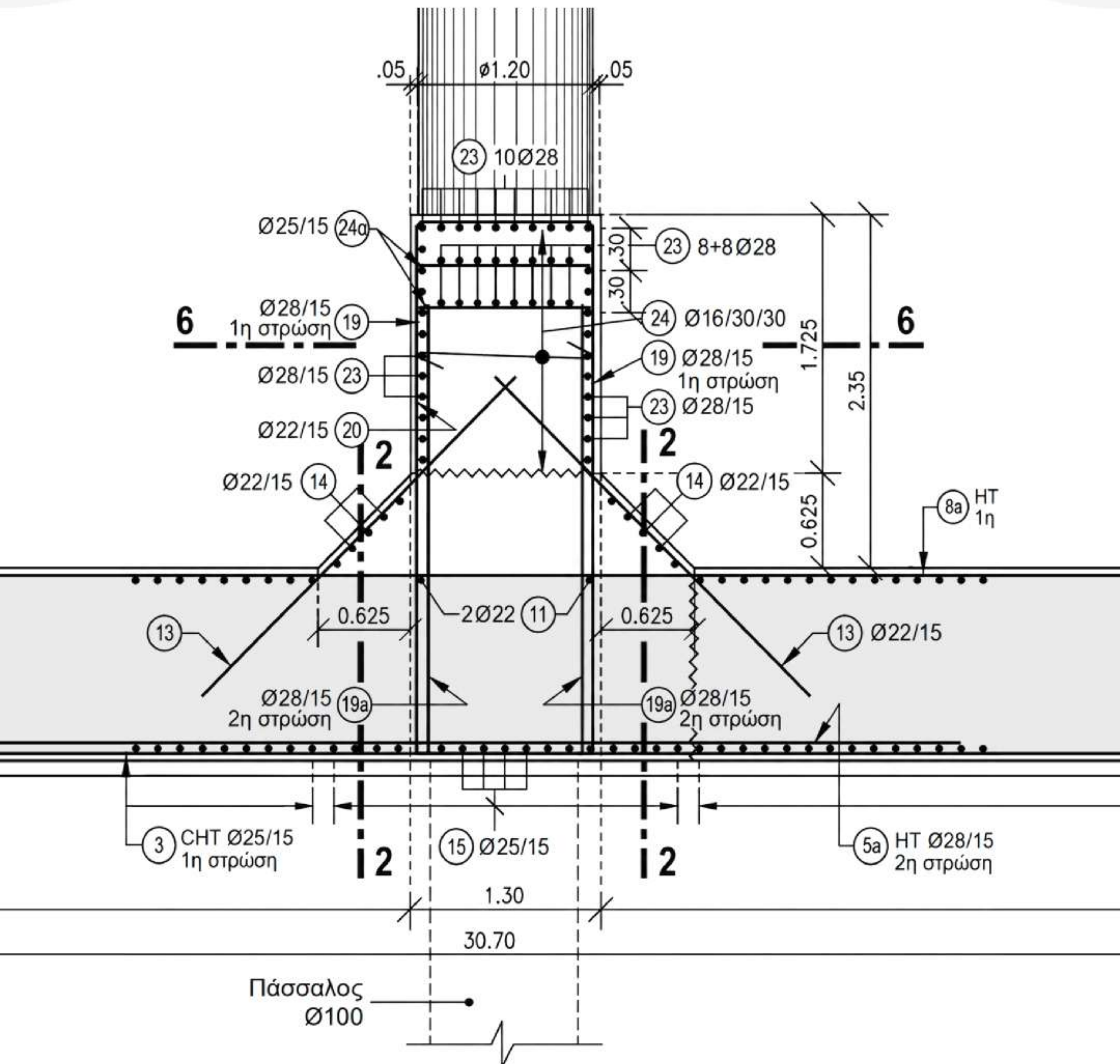


CONCRETE BURSTING FORCES

CRITICAL TENSILE ZONES WITHIN THE WALL



DEEP WALL WITH APPLIED BURSTING REINFORCEMENTS





Omikron
Kappa
Consulting

Engineering Complex
Infrastructure with Precision