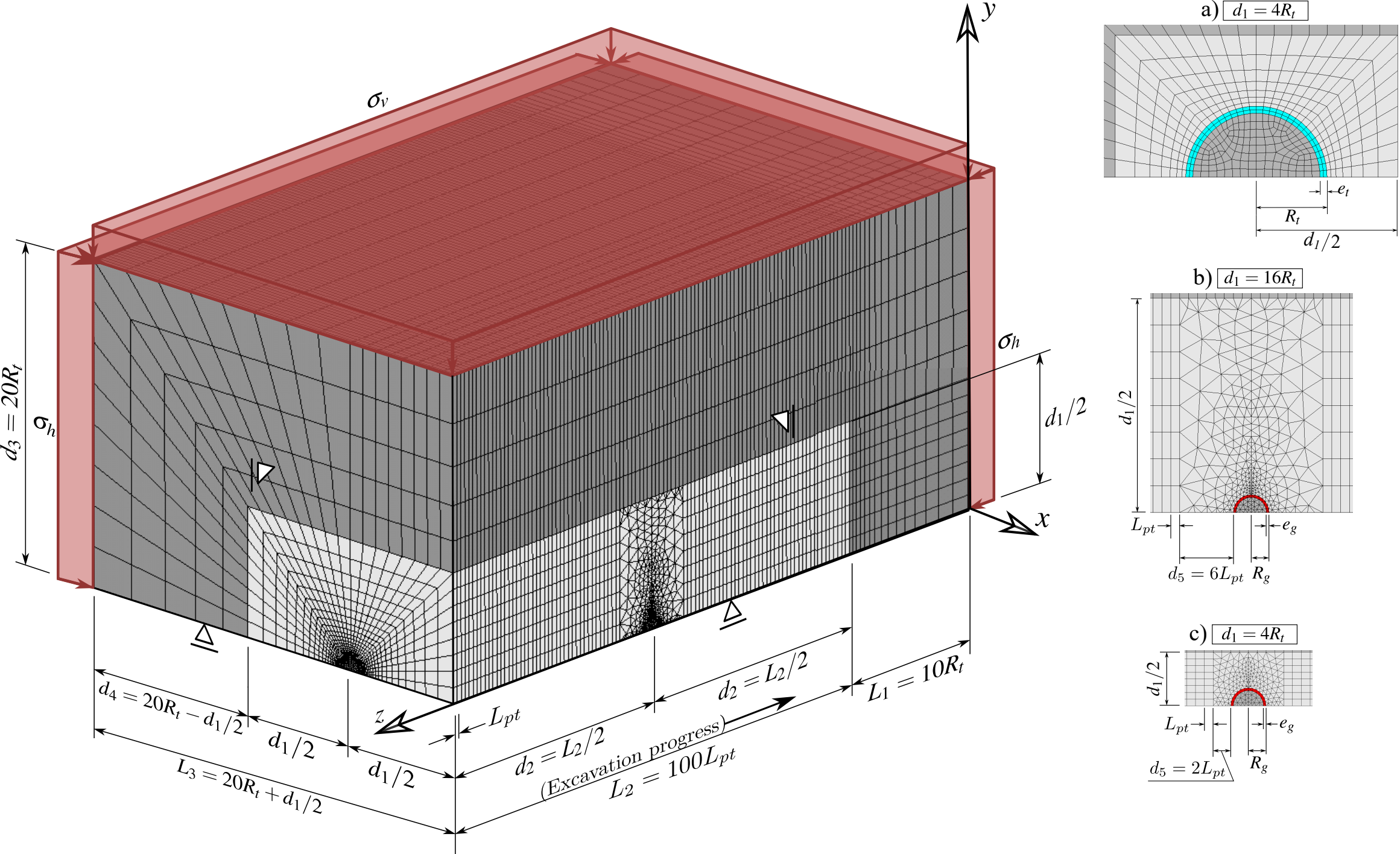
σ_v
σ_h
σ_h
$d_3 = 20R_t$
$d_1/2$
x
y
z
$d_4 = 20R_t - d_1/2$
$d_1/2$
$d_1/2$
$L_3 = 20R_t + d_1/2$
L_{pt}
$d_2 = L_2/2$
$d_2 = L_2/2$
(Excavation progress)
$L_2 = 100L_{pt}$
$L_1 = 10R_t$
a) $d_1 = 4R_t$
e_t
R_t
$d_1/2$
b) $d_1 = 16R_t$
$d_1/2$
L_{pt}
e_g
$d_5 = 6L_{pt}$
R_g
c) $d_1 = 4R_t$
$d_1/2$
L_{pt}
e_g
$d_5 = 2L_{pt}$
R_g