Appendix 5

Building Damage Assessment/ Burland Assessment

Ground Conditions

The following ground conditions have been assumed based on historical boreholes. If the ground conditions on site are found significantly variable than presented below, the analysis shall be re-taken. No groundwater was found within the historical boreholes and the preliminary SI.

Stratum	Top Level (mOD)	Thickness (m)	Cu (kN/m²)	Eu (kN/m²)	E' (kN/m²)
Made Ground	17	5.5	-	-	5000
London Clay	12	16	75+10z	Eu=425Cu	E'=0.8Eu
Lambeth Group	-4	17	100+11z	Eu=650Cu	E'=0.8Eu
Thanet Sand	-21	-	-	-	300000

Table 5 - Summary of assumed ground conditions

Results

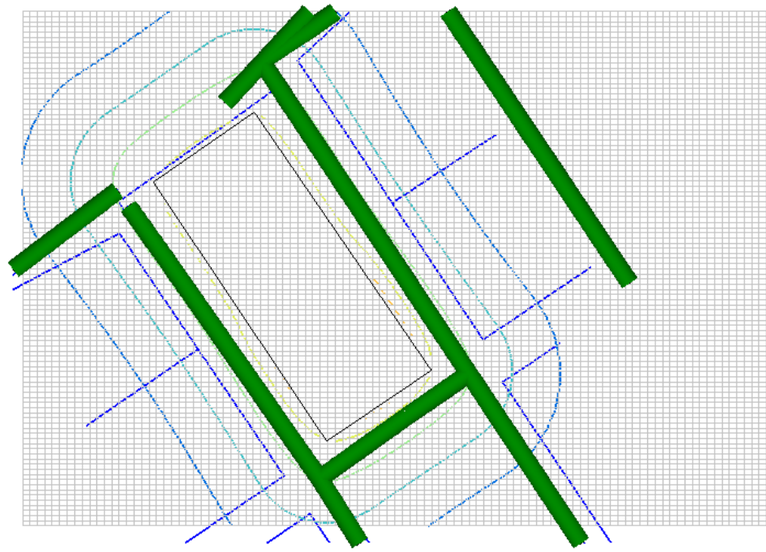
A preliminary Ground Movement Assessment (GMA) has been carried out with Oasys Pdisp and Xdisp software for two stages, the first stage modelled is the installation and excavation of the basement and the second is the loading of the new building loads.

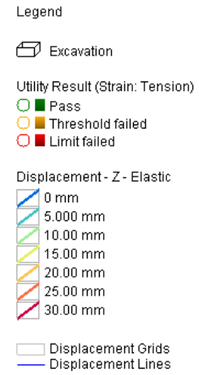
The excavation and loading stages were carried out in Pdisp using the Boussinesq method. Movements due to wall installation have been estimated with the use of the ground movement curves provided in CIRIA C760. Excavation induced movements were estimated in accordance with the CIRIA C760 ground movement data for excavation in front of high-stiffness wall in stiff Clay.

The results in terms of ground movement plots at surface level are presented below as well as a summary of the estimated maximum movement, strain, rotation, pullout and curvature values for both stages assessed. A summary of the long term drained results can be seen in Table 6.

Vertical movement is considered to be positive when downwards (compression) and negative when upwards (heave). Positive horizontal movement is movement towards the excavation.

Short Term Analysis (Undrained)

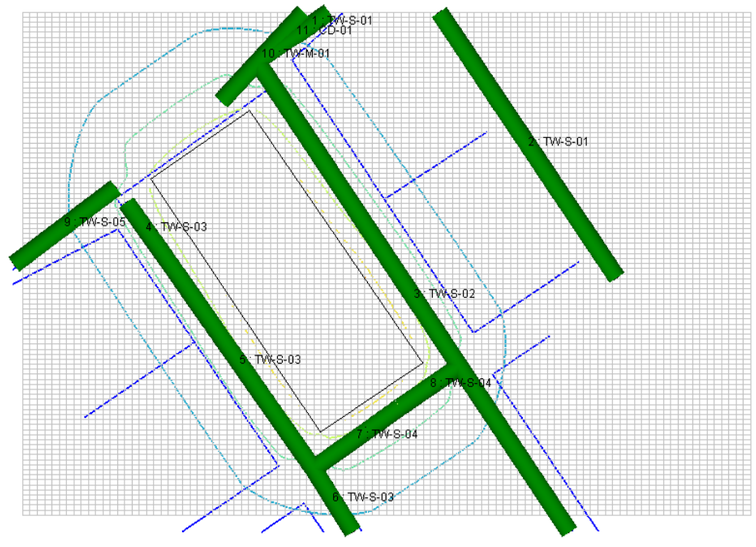


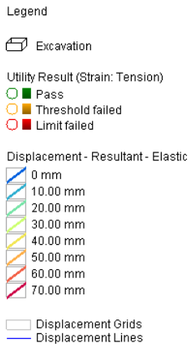


The Utility Assessment for Belgrove House is based on the following sequence:
1. Installation & Excavation of the basement.
2. Loading with the new building loads

As presented on the contour plots most of the assets are within the 0 and 10mm settlement contour.

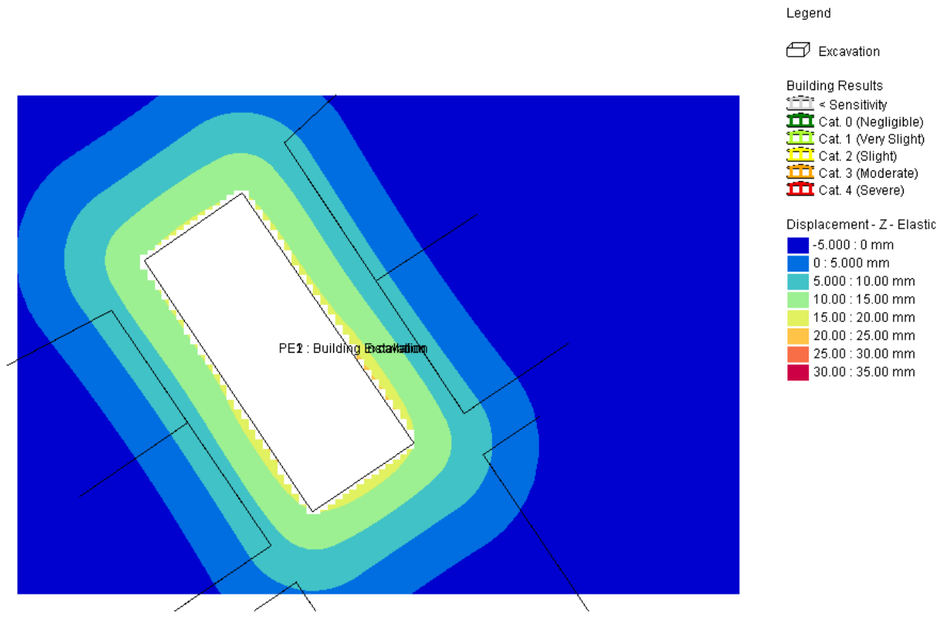
Long Term Analysis (Drained)

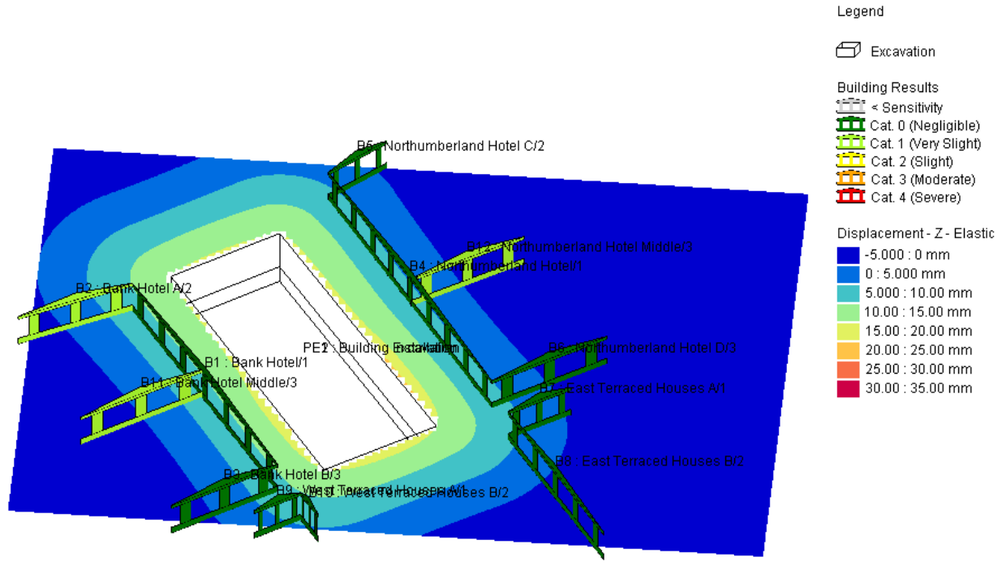




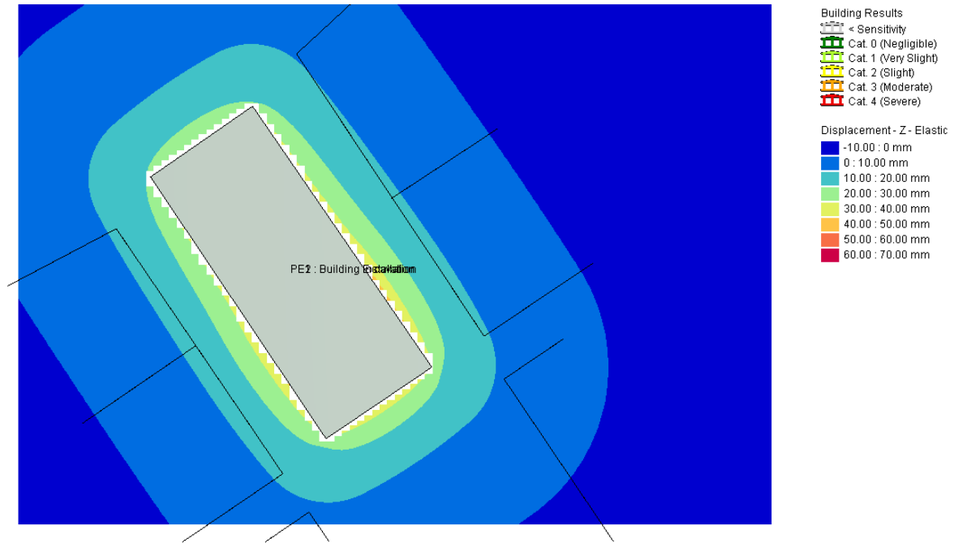
PROJECT	Belgrove House	TITLE	Preliminary Thames Water & Cadent Gas GMA		
DATE	08/12/2020	SCALE	NTS	CAD FILENAME	-
STATUS	-				
DRAWN	OH	CHECKED	MW	PROJECT No.	4259
DRAWING No.	-	REV	R06A		

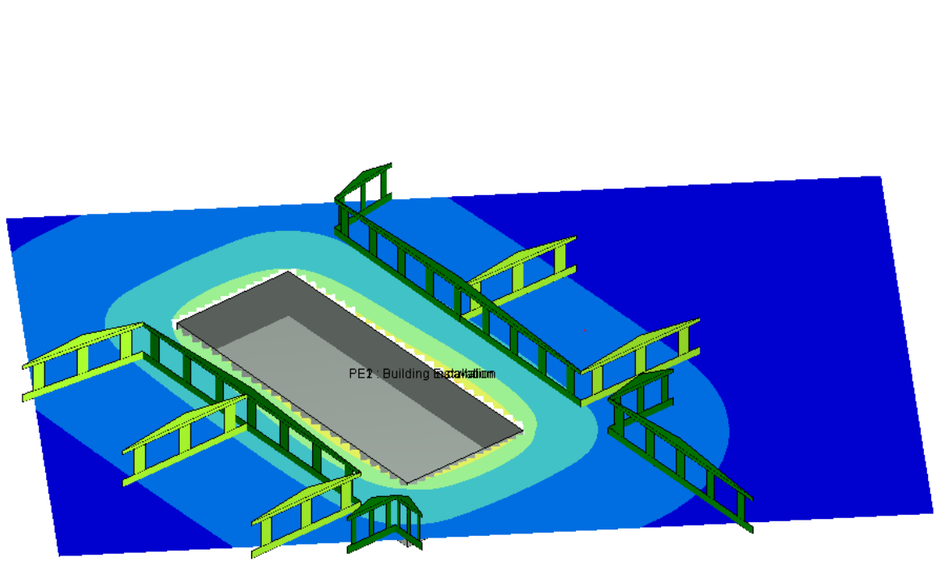
Short Term Analysis (Undrained)





Long Term Analysis (Drained)





The Building Damage Assessment for Belgrove House is based on the following sequence:
1. Installation & Excavation of the basement.
2. Loading with the new building loads

The building height has been assumed to be 10m

All buildings are within Category 0 Category 1 in the Burland Damage Category.

akt II

PROJECT	Belgrove House			TITLE	Preliminary Building Damage Assessment		
DATE	08/12/2020	SCALE	NTS	CAD FILENAME	-	STATUS	-
DRAWN	OH	CHECKED	MW	PROJECT No.	4259	DRAWING No.	-	REV	R06A