



BRNO UNIVERSITY OF TECHNOLOGY

VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ

FACULTY OF CIVIL ENGINEERING

FAKULTA STAVEBNÍ

INSTITUTE OF BUILDING STRUCTURES

ÚSTAV POZEMNÍHO STAVITELSTVÍ

FOLDER 6 – BUILDING SURVEYS

DIPLOMA THESIS

DIPLOMOVÁ PRÁCE

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1 Geotechnical conditions - foundation of the object

1.1 Survey

For the purpose of the survey were drilled probes (see IG survey).

1.2 Geological conditions

The site is located on the northern outskirts of Brno, in the district of Řečkovice. The area of the planned construction is located in the industrial area, it is non-segmented and flat. At the site of the exploration, the bedrock is covered with a thick layer of clay sediments, which are covered with incoherent gravel and sandy soils. The topcoat is a fill.

1.3 Hydrogeological conditions

Groundwater level - its steady level was reached at a depth of 2.1 meters below the existing terrain. It did not rise even 5 days after drilling. It is necessary to take into account that at a time of heavy rainfall there may be a slight ascent. Furthermore, groundwater was found to have a non-aggressive chemical environment. Therefore, no special measures are necessary.

1.4 Fundamentals and technical conclusion

Within the meaning of Article 20 of ČSN 73 1001, letter b), there are complex foundation conditions at the given locality. This is due to inhomogeneous ground conditions, the occurrence of relatively high groundwater levels and the possible occurrence of landfills. It follows from the above assumptions that according to the standard ČSN 73 1001 it is the 3rd Geotechnical category according to Art. (b) standards.

Given that it is not possible to exclude excavations under the groundwater level, but will be the usual types of structures and foundations with common risk, we must proceed according to the valid standard ČSN EN 1997-1 from the procedures for the 2nd Geotechnical category.

Therefore, it is necessary to calculate both soil limit states for the assumed load on the basis of shear and deformation parameters given for the respective soil types.

Geologický profil sondou V-1 část 1

Název akce: Brno - Řečkovice - Lachema
- skladovací hala TRON

Kóta terénu: 237,3 m

Měřítko 1 : 50

Datum: 26.6. 2014

Hloubka (m)	Grafická značka	Petrografický a geotechnický popis základových půd	Klasifikace ČSN 73 1001 EN ISO 14688	R_{ci} (kPa)	Těžitelnost ČSN 73 3050
0,2		Drm	O, Or	-	2
0,7		Navážka - hrubý štěrček, písek, hlína	Y Mg	-	3
1,8		Hlína písčitoprachová, se štěrčky, hnědá, tuhá až pevná	F3-MS fgsaSi	225	2
2,1		Hlína jílovitá, středně plastická, hnědá, tuhá až pevná	F6-CI siCI	150	3
2,4		Hlína jílovitopísčitá, šedá, tuhá	F4-CS sasiCI	150	3
6,7		Písek středně zrnitý, zajiňovaný, šedý, měkký až tuhý	S5-SC ciMSa	150	3
8,1		Štěrček do 3 cm, slabě zajiňovaný, písčitý, ulehý, zvodnělý	G3-GF saGr	450	3
9,5		Jíl vysoce plastický, šedý, tuhý až pevný	F8-CH CI	120	3
10,0		Jíl vysoce plastický, šedý, tuhý až pevný	F8-CH CI	120	3

Hladina podzemní vody - navrtaná: 2,4 m

- ustálená: 2,1 m

Vrtná souprava - profil: UVS 15, profil 150, jádrově, spirál.

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Kontroloval: Ing. Dan Balun

Zak. číslo: 14149

Příloha: 1/1/1

Picture 1 Subsoil stratification composition part 1
Source: Company source

