



# Vermelho Project

## SHORING SYSTEMS

Soldier Pile Wall, Anchors, Shotcrete, Strutting.

Execution of a 21.0 m excavation using a shoring system composed of an anchored soldier pile wall with shotcrete facing.

**TOTAL CONTRACT AMOUNT: 1,245,411USD**

- The location of the Vermelho project on the main Hamra Street presented a constraint on the execution of the project in light of the residential nature of the area, the high traffic conditions, pedestrian crowding and the unavailability of any set-back limit.
- Types of shoring elements were various depending on the space constraint; 300, 600 and 800 mm (Trapezoidal shaped) piles were used.
- Removal of the spoils was difficult in light of the critical position of the ramp requiring double-handling maneuvers.
- The soil profile consisted of a top fill layer, clay with gravel, cobbles and boulders and finally a limestone substratum.
- The execution period of the project totaled 12 months.



*General View of Excavated Site Area*

<b>Client:</b>	<b>Trillium Development</b>
<b>Architect:</b>	<b>DNA</b>
<b>Structural Eng.:</b>	<b>Dr. Assad Kallassy</b>
<b>Main Contractor:</b>	<b>Dolmen Contracting</b>

<b>Main Quantities</b>	
879 lm of 800 mm Trapezoidal shaped piles	
810 lm of 600 mm soldier piles	
778 lm of 300 mm soldier piles	
4,897 lm of Ground Anchors	
185 lm of Capping Beam and struts	
132 lm of steel struts	
2,176 m <sup>2</sup> of Shotcrete	



*Excavation process underway*