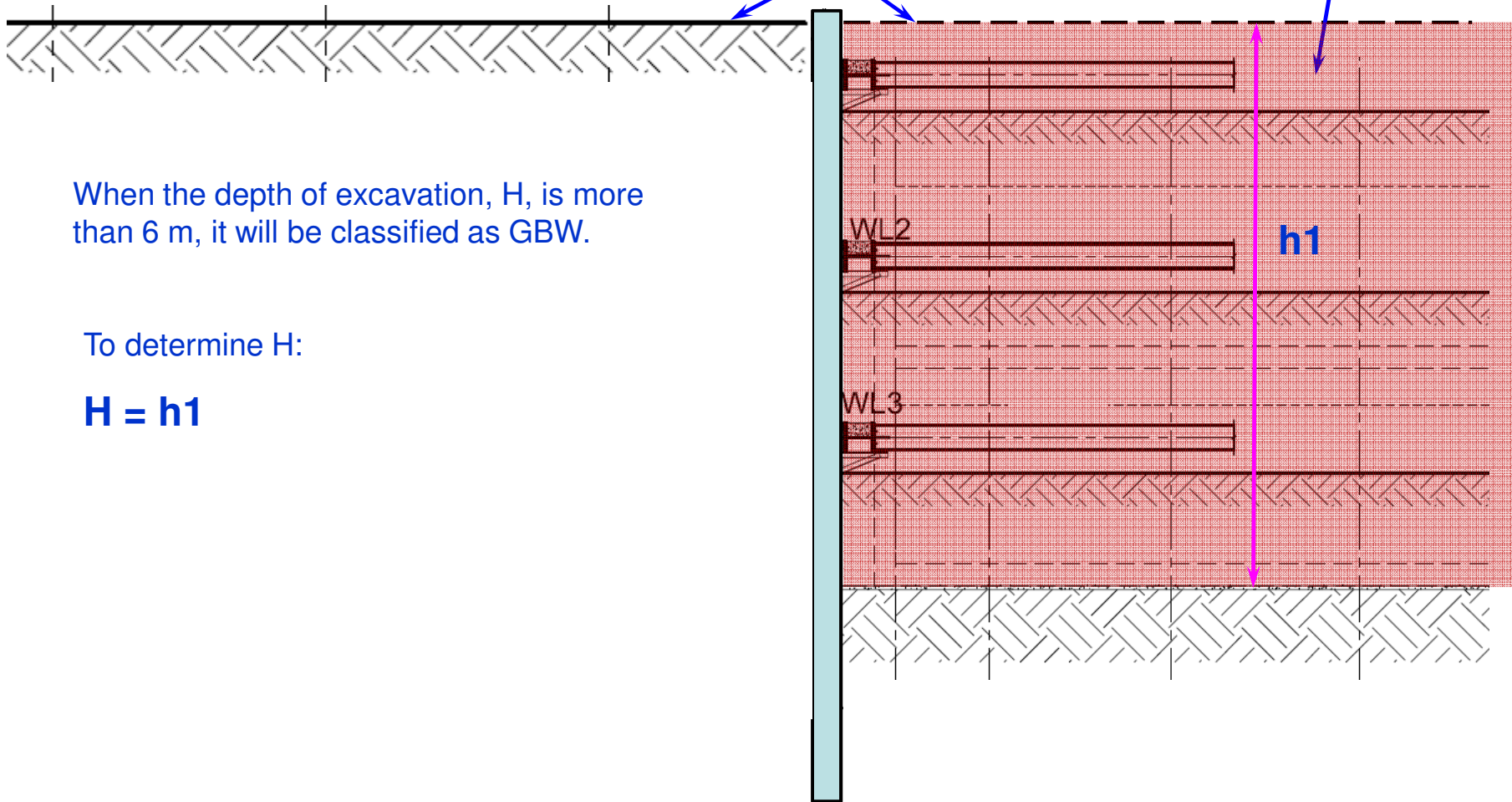


Excavation Works: Basement Construction

Case 1: General excavation

Existing ground level

Excavation



When the depth of excavation, H, is more than 6 m, it will be classified as GBW.

To determine H:

$$H = h1$$



Excavation Works: Basement Construction

Case 2: when there is localised excavation not affecting main ERSS

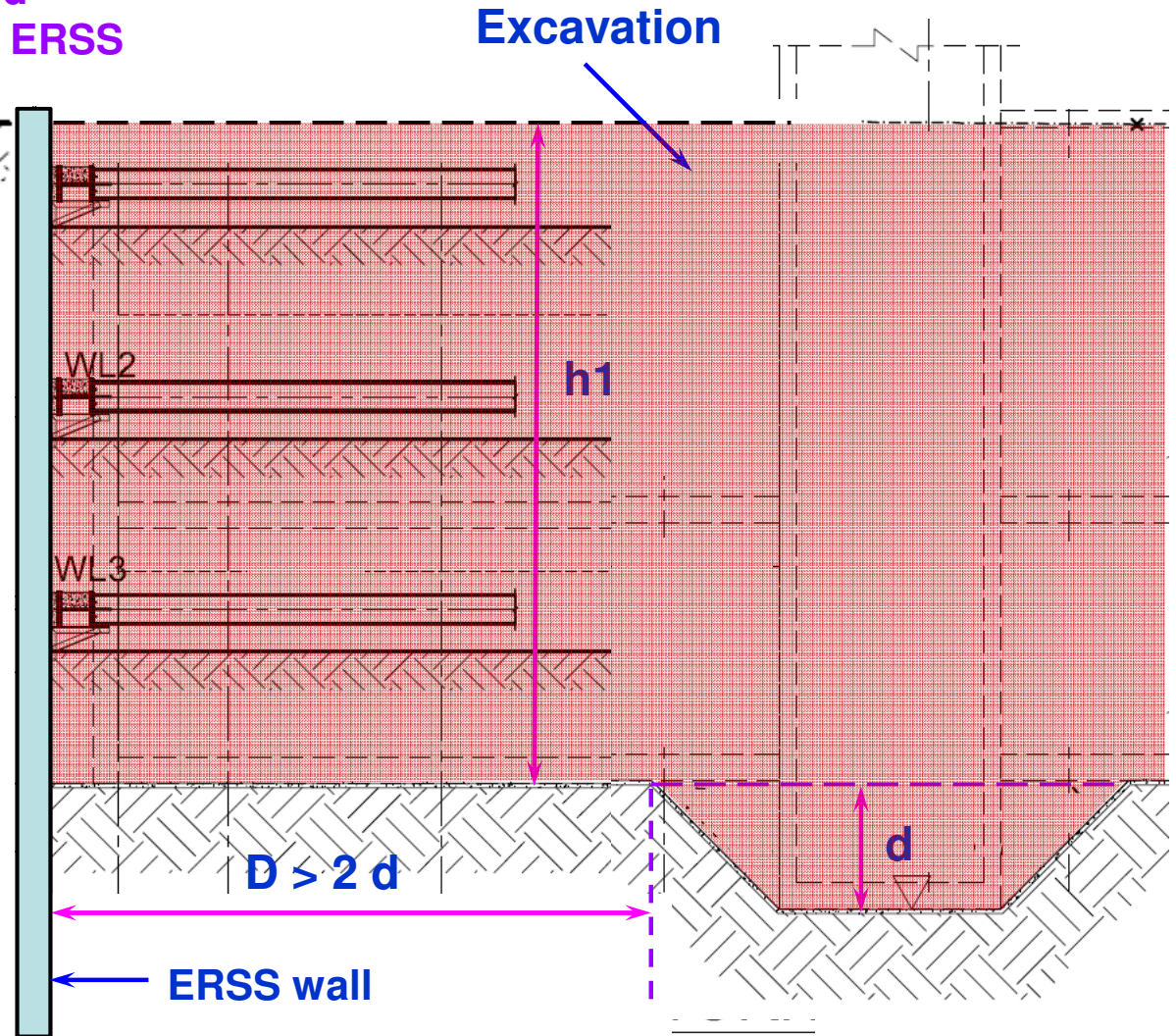
When the depth of excavation, H , is more than 6 m, it will be classified as GBW.

When the ERSS wall is not affected by localised excavation e.g. ERSS wall located at a distance $D > 2d$ in good soils condition:

To determine H :

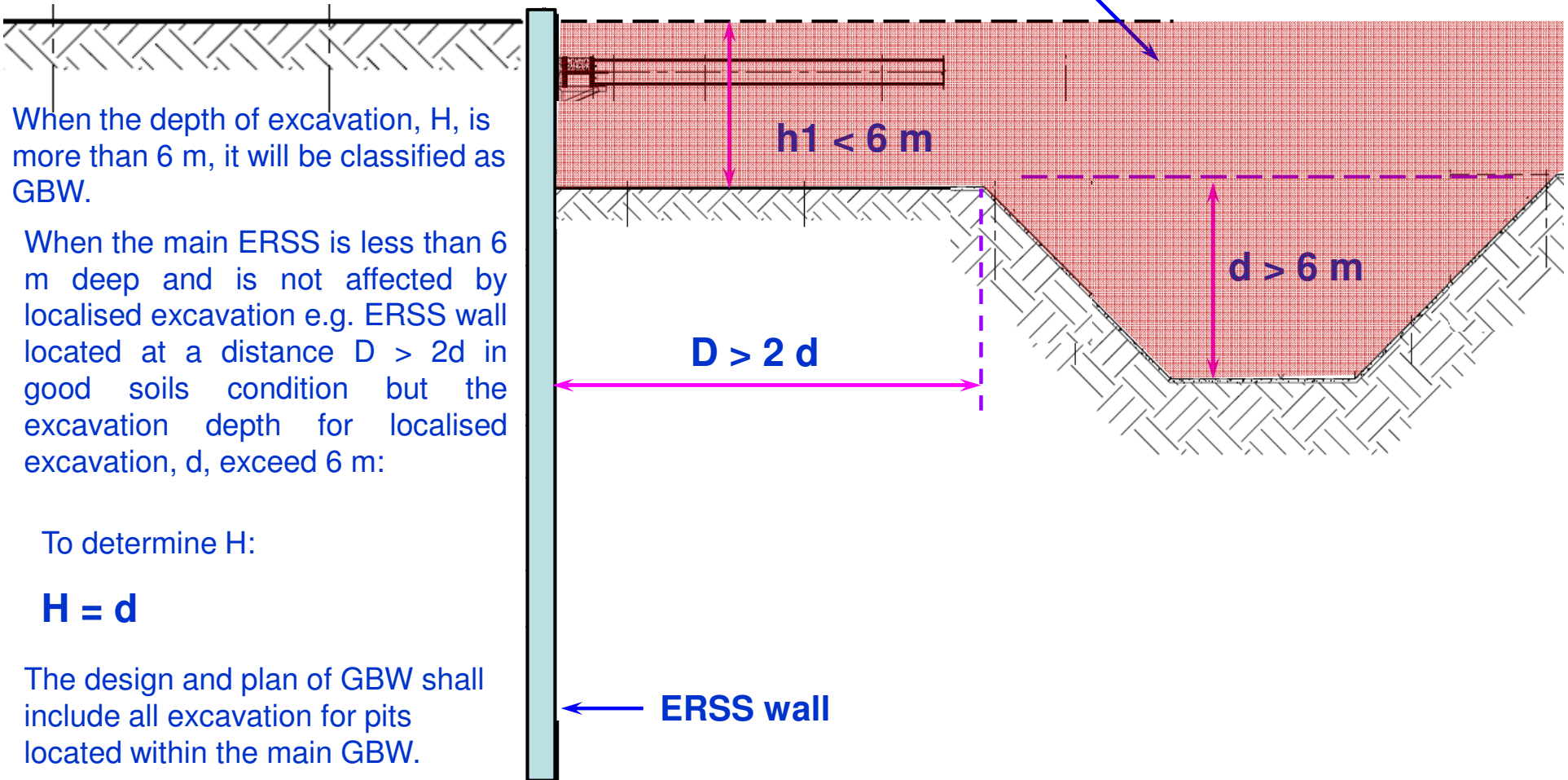
$$H = h_1$$

The design and plan of GBW shall include all excavation for pits located within the main GBW.



Excavation Works: Basement Construction

Case 3: when there is localised excavation not affecting main ERSS but deeper than 6 m



Excavation Works: Basement Construction

Case 4: where there is localised excavation affecting main ERSS

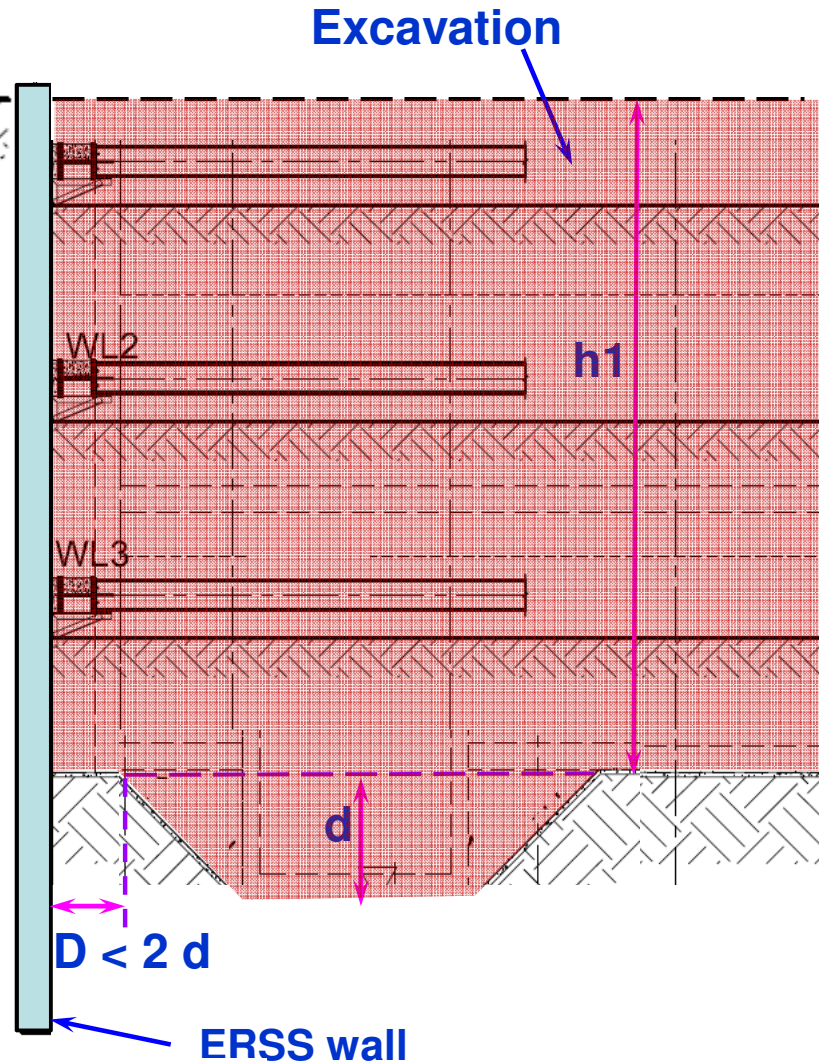
When the depth of excavation, H , is more than 6 m, it will be classified as GBW.

When the ERSS wall is affected by localised excavation (see note 1) e.g. ERSS wall located at a distance $D < 2d$ in good soils condition:

To determine H :

$$H = h1 + d$$

The design and plan of GBW shall include all excavation for pits located within the main GBW.



Note 1: localised excavation where the area of the structure within the localised excavation does not exceed 10 square meter and the width of the localised excavation parallel to the main ERSS wall/boundary not more than 5 m and depth not more than 2 m will be excluded from the computation of GBW.

Excavation Works in Sloping Ground

Case 1: no excavation on existing slope behind ERSS wall

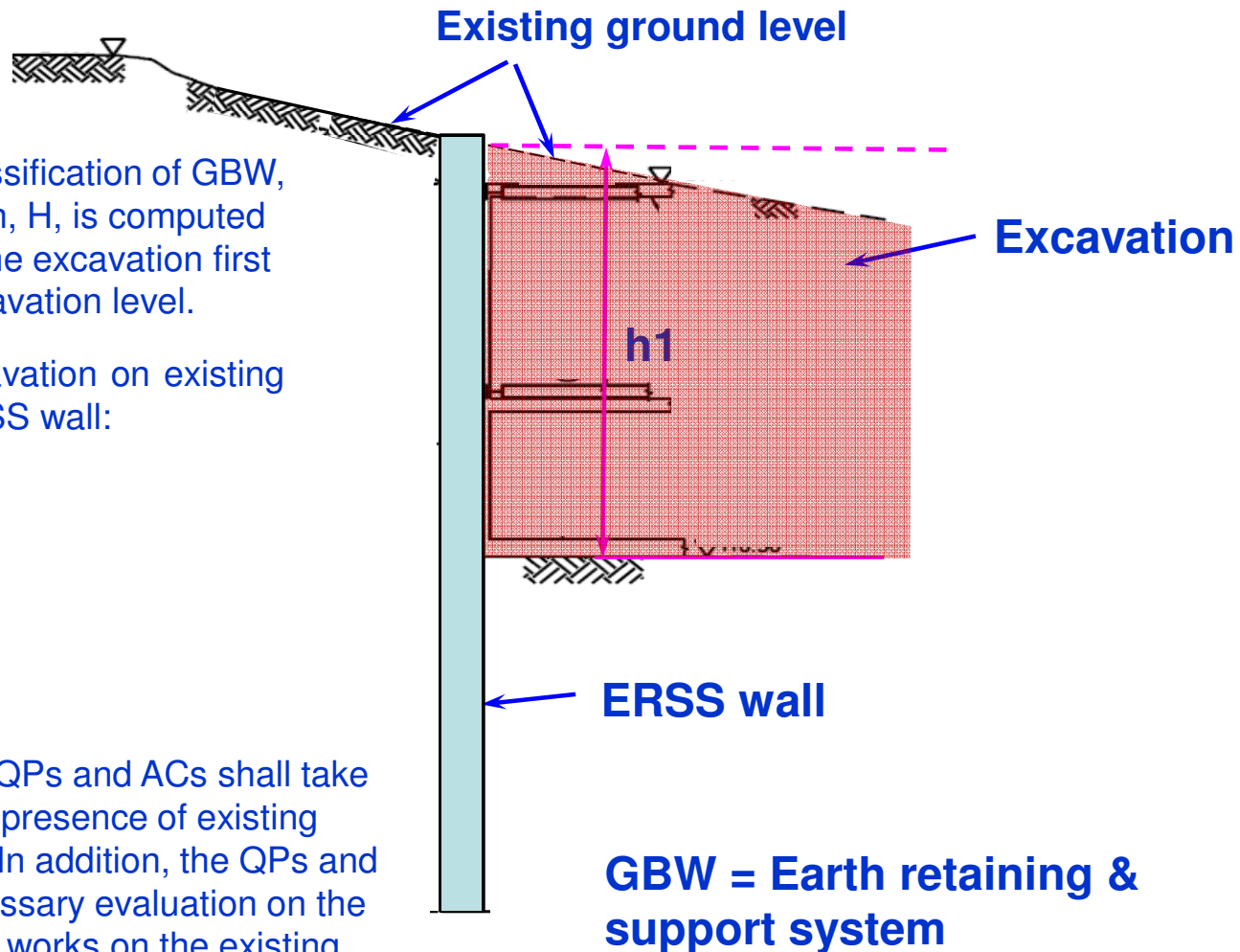
For the purpose of classification of GBW, the depth of excavation, H , is computed from the point where the excavation first started to the final excavation level.

When there is no excavation on existing slope behind main ERSS wall:

To determine H :

$$H = h1$$

For design of GBW, the QPs and ACs shall take into consideration of the presence of existing slope adjacent to GBW. In addition, the QPs and ACs shall carry out necessary evaluation on the impact of the excavation works on the existing slopes to ensure that its stability is not being affected by the excavation works.



Excavation Works in Sloping Ground

Case 2: excavation started from existing slope behind ERSS wall

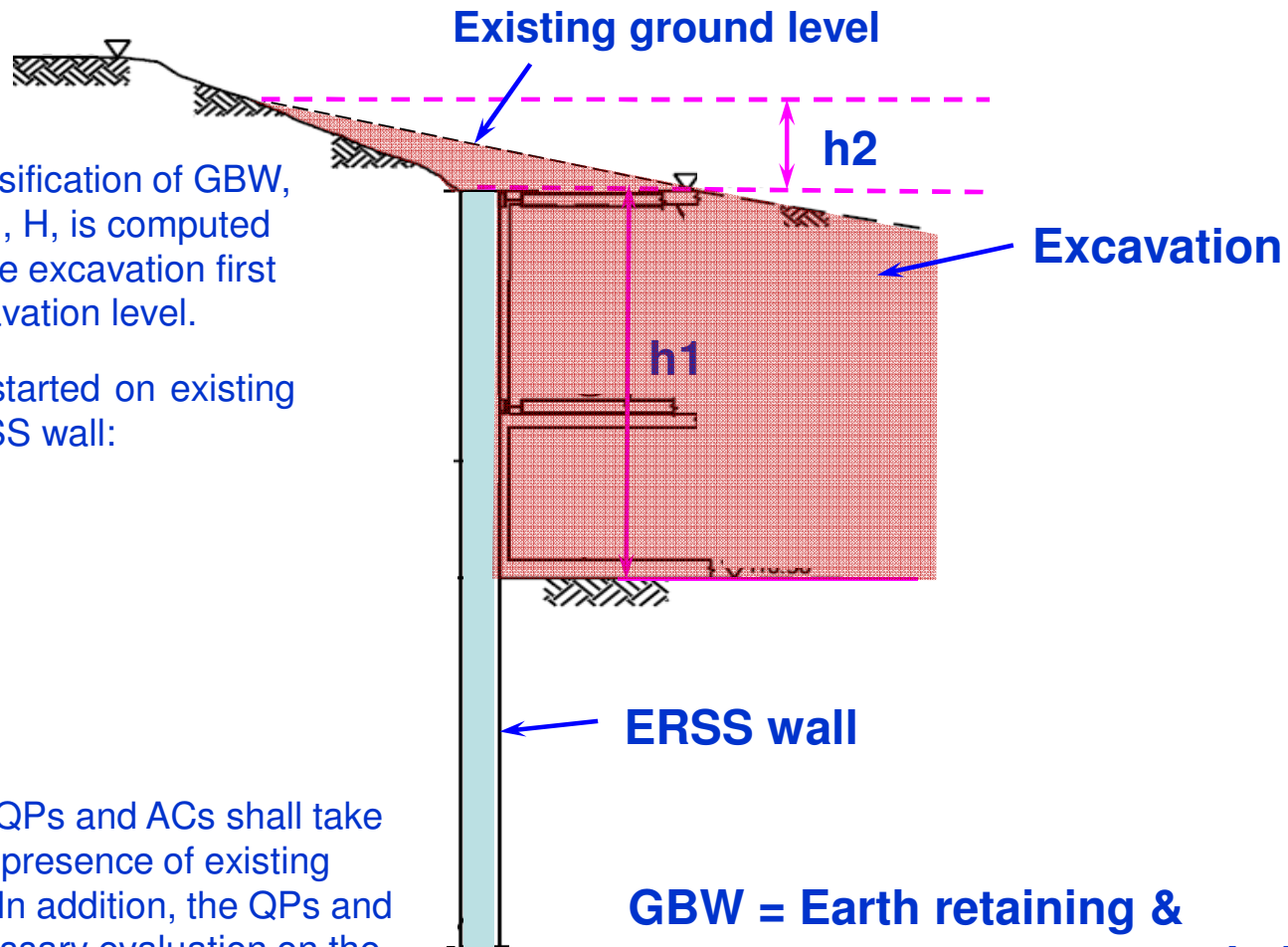
For the purpose of classification of GBW, the depth of excavation, H, is computed from the point where the excavation first started to the final excavation level.

When the excavation started on existing slope behind main ERSS wall:

To determine H:

$$H = h1 + h2$$

For design of GBW, the QPs and ACs shall take into consideration of the presence of existing slope adjacent to GBW. In addition, the QPs and ACs shall carry out necessary evaluation on the impact of the excavation works on the existing slopes to ensure that its stability is not being affected by the excavation works.



GBW = Earth retaining & support system, excavated slope

Excavation Works in Sloping Ground

Case 3: where there is localised excavation not affecting main ERSS

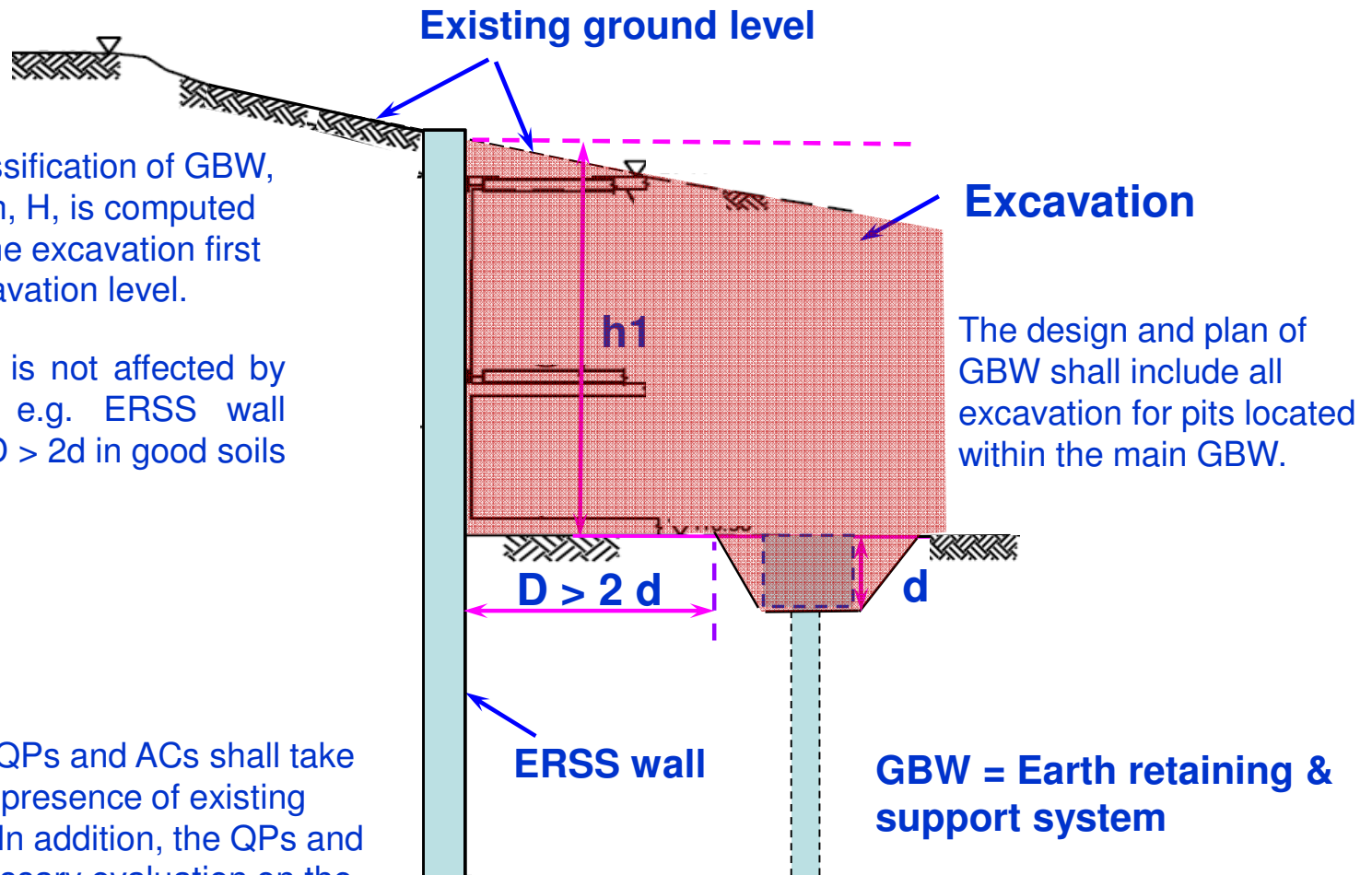
For the purpose of classification of GBW, the depth of excavation, H , is computed from the point where the excavation first started to the final excavation level.

When the ERSS wall is not affected by localised excavation e.g. ERSS wall located at a distance $D > 2d$ in good soils condition:

To determine H :

$$H = h_1$$

For design of GBW, the QPs and ACs shall take into consideration of the presence of existing slope adjacent to GBW. In addition, the QPs and ACs shall carry out necessary evaluation on the impact of the excavation works on the existing slopes to ensure that its stability is not being affected by the excavation works.



Excavation Works in Sloping Ground

Case 4: where there is localised excavation affecting main ERSS

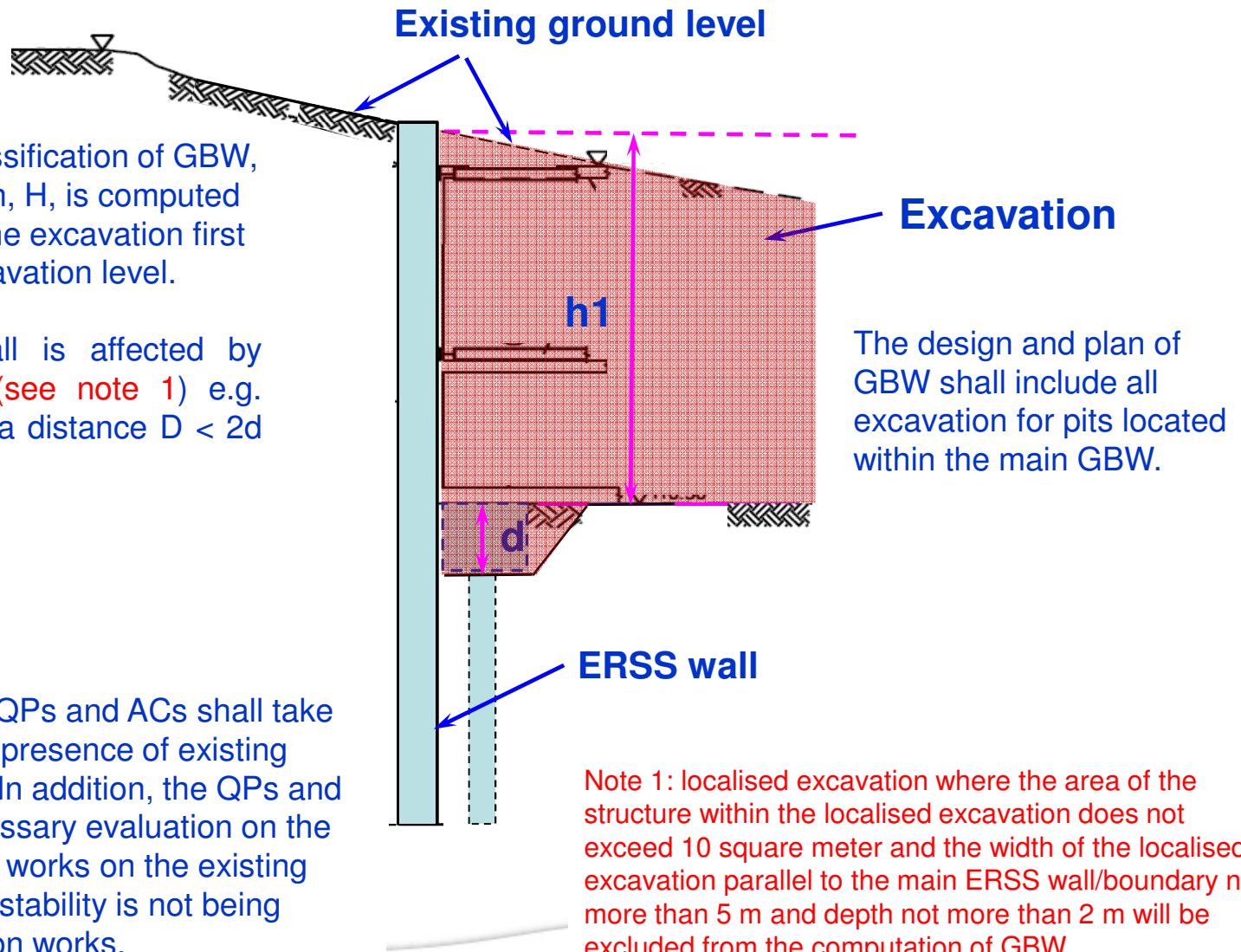
For the purpose of classification of GBW, the depth of excavation, H, is computed from the point where the excavation first started to the final excavation level.

When the ERSS wall is affected by localised excavation (see note 1) e.g. ERSS wall located at a distance $D < 2d$ in good soils condition:

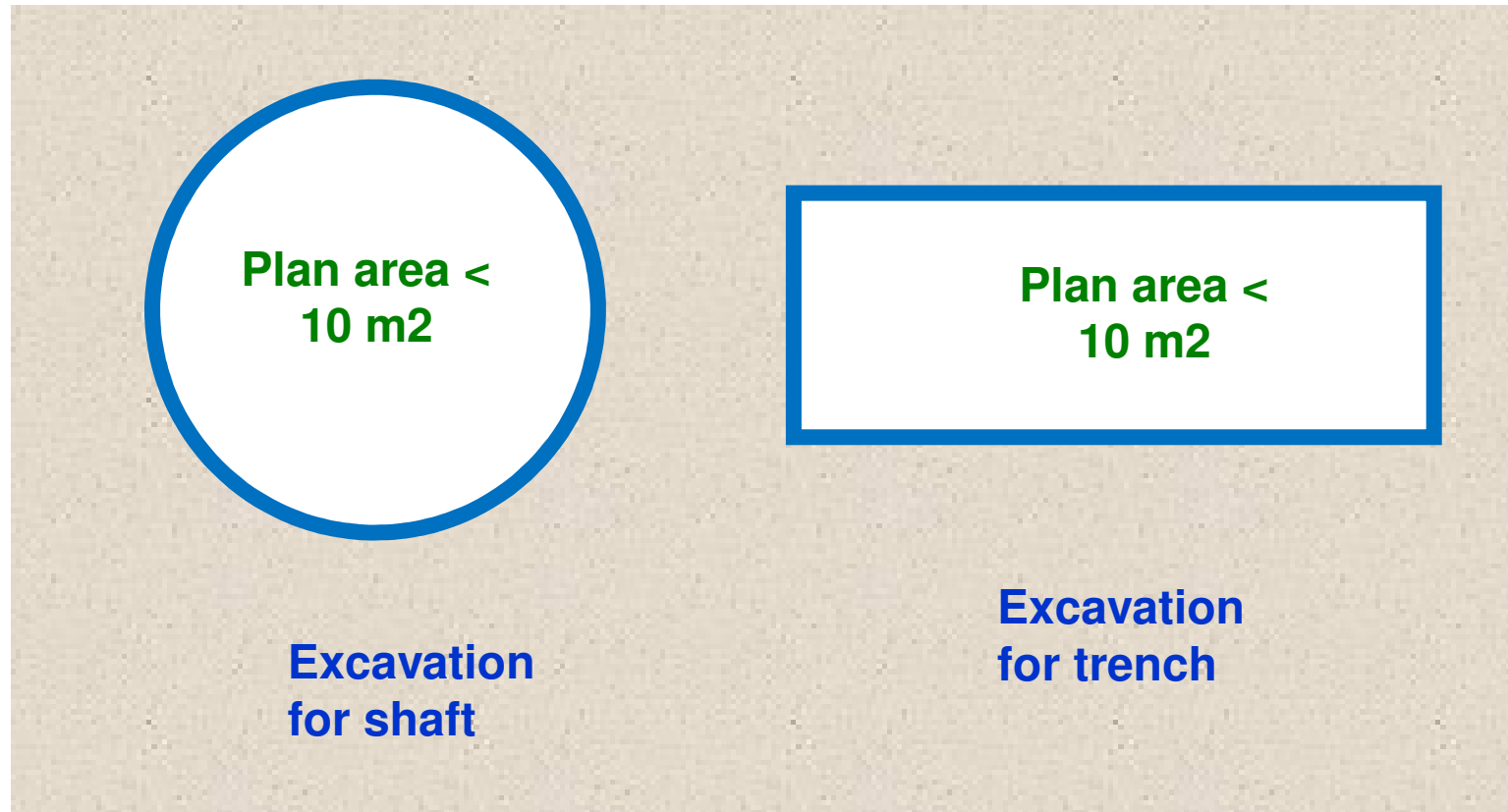
To determine H:

$$H = h1 + d$$

For design of GBW, the QPs and ACs shall take into consideration of the presence of existing slope adjacent to GBW. In addition, the QPs and ACs shall carry out necessary evaluation on the impact of the excavation works on the existing slopes to ensure that its stability is not being affected by the excavation works.



Building Works: Small area shaft and trenches



Any excavation for shaft and trenches with plan area of the excavation not exceeding 10 square metres (e.g. trench excavation for diaphragm wall, excavation for bored piles) is exempted from the requirements of geotechnical building works (GBW). For example, an excavation for a small shaft with plan area less than 10 sq m is exempted from the requirement of GBW but still subjected to ERSS submission requirements.