都市更新中舊地下室再利用之策略與技術案例介紹

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摘　要

在已開發的都市隨著開發的過程，可使用之土地越來越少，舊建築物更新之需求也越來越強，同樣情況台北市隨著都市發展，近年來也累積非常多都市更新案例。而都市更新的大地工程問題，最主要乃是新舊地下室空間重疊，在舊地下室仍佔據地下空間時，如何順利及安全地進行地下基礎及開挖工程，是一大課題。當舊地下室一般被視為障礙物，大部份都市更新的地工技術發展都在地下連續壁施工時如何去克服地下障礙物，及減少拆除地下障礙物時所引起之地層移動以防止可能之鄰損。本案例為一不到20年舊建築物，其地下室規模與新建築物相差不大，因而在設計時不將地下室視為障礙物，而是儘量利用舊地下室來興建新建物。首先新地下室深度保持在舊基礎底版面之上，因而連續壁大部份均不需重作，同時結合舊地下室樓版及連續壁提供足夠勁度，不但作為永久擋土結構物，也使地下結構構築時不需支撐。惟如此之設計使施工困難度及技術性均增加，在施工時除了需克服多項技術問題，亦秉持儘量利用舊地下室之觀念進行施工。本文介紹地下工程設計及施工時的考量重點及如何克服相對應的困難。

關鍵字：都市更新、重建、基礎隔震、無支撐開挖。

Case Study of Strategy and Technical Issues of Urban Renewal Utilizing Original Basement

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Abstract

After several decades of urban development, the less of original land suitable for new building, the more of demand for reconstruction of old building. In Taipei, there have accumulate quite a lot of renewal projects, in these cases, the main geotechnical problem is how to construct the new retaining wall or pile and demolish the underground structures of old building safely. In general renewal cases, the underground part of existing structure was treated as obstruction, therefore the main engineering technology issue is the eliminating of obstacles and influence on ground and neighboring buildings as new retaining wall is constructed. The case studied is a less than 20 years old building with a basement not much difference between the new building, for this reason, the design concept of new basement not regard existing basement as obstruction but utilize the existing basement to form a combined retaining wall for new basement excavation. The new basement construction is firstly keeping the same basement depth with existing one to take advantage of utilizing most part of the old slurry wall to connect old basement structures of the old building to complete excavating new basement without braced system. Because it would increase the degree of difficulty and technical requirements under the condition