

**立法會**  
**Legislative Council**

LC Paper No. CB(1) 520/00-01  
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**Joint meeting of LegCo Panel on Housing  
and LegCo Panel on Planning, Lands and Works**

**Minutes of meeting held on  
Monday, 27 November 2000, at 4:30 pm  
in the Chamber of the Legislative Council Building**

**Members present** : Members of the LegCo Panel on Housing

Hon CHAN Kam-lam (Chairman)  
Hon NG Leung-sing  
Hon CHAN Yuen-han  
Hon Howard YOUNG, JP  
Dr Hon YEUNG Sum  
Hon Andrew CHENG Kar-foo  
\*Hon Abraham SHEK Lai-him, JP  
\*Hon Albert CHAN Wai-yip  
Dr Hon LO Wing-lok  
\*Hon IP Kwok-him, JP  
\*Hon LAU Ping-cheung

Members of the LegCo Panel on Planning, Lands and Works

Dr Hon TANG Siu-tong, JP (Chairman)  
Hon LAU Ping-cheung (Deputy Chairman)  
Ir Dr Hon Raymond HO Chung-tai, JP  
Hon WONG Yung-kan  
Hon Timothy FOK Tsun-ting, SBS, JP

**Members attending** : Hon LAU Kong-wah  
Hon Emily LAU Wai-hing, JP  
Hon Henry WU King-cheong, BBS  
Hon WONG Sing-chi

**Members absent** : Members of the LegCo Panel on Housing

Hon Albert HO Chun-yan (Deputy Chairman)

Hon David CHU Yu-lin

Hon LEE Cheuk-yan

Hon Fred LI Wah-ming, JP

\*Hon James TO Kun-sun

Hon LEUNG Yiu-chung

Hon Andrew WONG Wang-fat, JP

Hon SZETO Wah

Hon Frederick FUNG Kin-kee

Members of the LegCo Panel on Planning, Lands and Works

Hon LAU Wong-fat, GBS, JP

Hon TAM Yiu-chung, GBS, JP

(\* Also members of the LegCo Panel on Planning, Lands and Works)

**Public officers attending** : Territory Development Department

Mr WONG Hung-kin

Director of Territory Development

Mr MAK Chai-kwong

Project Manager/New Territories East

Drainage Services Department

Mr LAM Chiu-hung

Assistant Director/Sewage Services

Mr Hon Chi-keung

Chief Engineer/Strategic Sewage Disposal Scheme

Buildings Department

Mr HUI Kwok-hung

Chief Structural Engineer/Existing Buildings Division

Housing Department

Ms Peggy CHAN Siu-ling

Chief Estate Surveyor/Rental Housing & Private Sector Participation Scheme

Ms Ferna SHUM  
Senior Architect/7

- Attendance by invitation** : Talent Luk Ltd.  
Mr Ivan TAM  
Representative  
Mr Edmond SZE  
Representative
- Clerk in attendance** : Miss Odelia LEUNG  
Chief Assistant Secretary (1)1
- Staff in attendance** : Miss Bernice WONG  
Assistant Legal Adviser 1  
Miss Becky YU  
Senior Assistant Secretary (1)3
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## **I Election of Chairman**

Nominated by Mr CHAN Kam-lam and seconded by Mr NG Leung-sing and Dr YEUNG Sum, Dr TANG Siu-tong was elected Chairman of the joint meeting.

## **II Investigation findings on the unusual ground settlement in Tseung Kwan O** (Legislative Council Brief (Ref: L/M(3) in WB(CR) 38/01/15(00) and LC Paper No. CB(1)213/00-01)

2. The Director of Territory Development (DTD) said that due to the highly variable and complex geological conditions of Tseung Kwan O (TKO), it had taken the Territory Development Department (TDD) a longer time to complete the investigation into the causes of unusual settlement in TKO. According to the findings of the investigation study, the unusual settlement was mainly attributed to a significant groundwater drawdown in the lower soil strata of TKO reclamation. The only credible cause for the drawdown was the inflow of groundwater into the Strategic Sewage Disposal Scheme (SSDS) Stage I tunnel being constructed outside the reclamation. The unusual settlement was expected to cease as the groundwater level gradually returned to normal after the completion of a permanent lining of the tunnel in January 2001. Apart from the investigation study, TDD had together with other relevant departments completed an assessment on the effect of unusual settlement on building safety which confirmed that all buildings in the affected areas were structurally safe. DTD stressed that it was unexpected that unusual settlement took place despite the adoption of all the

precautionary measures in the design and construction of SSDS tunnels to minimize the risk of surface ground subsidence.

3. The Project Manager/New Territories East (PM/NTE) then briefed members on the reference materials on unusual ground settlement in TKO tabled at the meeting. He assured members that as the design of foundation of buildings in the affected area had sufficient margin to cater for the effects of the downward force from settlement, there was no structural danger to the buildings as a result of the settlement. In response to Mr NG Leung-sing's enquiry on the details of magnitude of settlement in different areas, PM/NTE advised that these had been set out in the Investigation Report (LC Paper No. CB(1) 213/00-01). As regards underground drains and utility pipes, PM/NTE advised that the government maintenance departments, including the Drainage Services Department (DSD), Water Supplies Department and Highways Department, had taken the initiative to check all the drains to ensure that these had not been affected by settlement. Utility companies had also checked their pipes and cables and confirmed that the settlement had not posed any risk to the underground facilities.

*(Post-meeting note: The reference materials were circulated to members vide LC Paper No. CB(1) 232/00-01.)*

4. Mr LAU Kong-wah noted that the investigation study was conducted by Mansuett Consultants Asia Ltd. (MCAL) which was also the consultant responsible for the design and supervision of the construction of the original TKO reclamation. He questioned the impartiality of the study in view of the dual roles of MCAL. DTD explained that the study was completed through detailed site investigation, laboratory tests, field instrumentation and a computer model simulating the ground water regime. It concluded, among other things, that the reclamation itself generally performed as designed and there was no sign that it had contributed to any unusual settlement. In view of MCAL's past involvement in the TKO reclamation, TDD had engaged Professor N R Morgenstern, an internationally renowned geotechnical engineering expert, to provide an independent view on the investigation study who held the view that the approach, methodology and analysis employed in MCAL's study were objective and reasonable and he agreed with the conclusions drawn. Professor Morgenstern would submit his report on the investigation study by the following month.

#### Effects of unusual settlement on safety of buildings and other facilities

5. Ir Dr HO Chung-tai declared that he was a former director of MCAL. He asked if the Administration had taken into account the effect of negative skin friction in assessing the impact of unusual settlement on the foundations of buildings. In response, the Chief Structural Engineer/Existing Buildings Division (CSE/EBD) confirmed that the foundation designed has allowed for negative skin friction arising from normal settlement. He went on to explain that consolidation of the lower soil strata of the TKO reclamation as a result of excessive groundwater drawdown might give rise to some additional negative skin friction loadings on piles penetrating these strata. To ascertain the effect of the additional negative skin friction forces on the safety of piles, BD had checked all the foundation designs of buildings using new data obtained from TDD for assessing the factors of safety (FOS). The checking confirmed that the piles used in the

construction of foundations still possessed adequate FOS. As to whether BD has considered the effect of horizontal forces, CSE/EBD advised that the only possible source of horizontal force was from underground water movement which was considered too small to have an effect on the piles.

6. Referring to paragraph 13 of the Legislative Council Brief, Mr NG Leung-sing noted with concern that FOS of the foundations of all existing buildings had been reduced as a result of the unusual settlement. CSE/EBD explained that section 26(3) of the Building (Construction) Regulation required that piles forming the foundation of buildings should have adequate FOS. The margin of safety provided in the design was to cater for unforeseen circumstances such as unusual underground condition and other factors. BD issued practice notes to professionals to provide guidance on FOS for pile design. A slight reduction in FOS after buildings were occupied was not unusual and would not affect the safety of buildings.

#### Beverly Garden

7. Mr NG Leung-sing noted with concern that the FOS of Beverly Garden (BG) had been reduced from 3 (as required in the practice notes issued by BD) to 2.61 (as a result of the additional down drag force caused by the settlement). CSE/EBD explained that a FOS of 2.61 meant that if a pile was to withstand 1,000 tons of force, it would have a capacity of 2,600 tons, providing a safety margin of 1,600 tons of force. All the ten blocks of BG were confirmed structurally safe since the bored piles used in the construction of foundations still possessed adequate FOS.

8. As BD would only issue occupation permits on satisfaction that the buildings in question complied with the prescribed FOS, Mr NG was not convinced that BD should accept lower FOS for BG. CSE/EBD clarified that FOS of buildings might vary after occupation due to unforeseen factors such as unauthorized building works. In the case of BG, CSE/EBD said that apart from reviewing past piling records and re-calculating FOS based on new borehole data, BD had conducted visual inspection and installed four settlement markers at all four corners of each of the ten blocks of BG. The monitoring confirmed that none of the buildings shown any sign of movement, and that they were structurally safe. According to TDD, the lower soil levels of the TKO reclamation would slightly swell and heave as the groundwater started to rise. This would reverse the negative skin friction and FOS of the piles would increase. Mr IP Kwok-him expressed concern about the effect of heaving on building safety. PM/NTE explained that while unusual settlement due to groundwater drawdown would cease on completion of the SSDS lining, normal subsidence would continue. The down drag force caused by normal settlement would offset the uplift force due to reverse negative skin friction and the net result would be a slight upheave of around 20 to 30 millimetres (mm) which would be insignificant on building safety.

9. Noting that concrete cracks were found inside flats of BG, Ms Emily LAU asked if these were settlement related. In reply, DTD acknowledged that there were reports of defects from some owners. Follow-up visits by BD to these flats confirmed that none of the defects inspected were settlement related. As to whether BD had checked the concrete quality of the foundations of BG, CSE/EBD confirmed this observation.

Mr Ivan TAM of the Talent Luck Limited (TLL), developer of BG, supplemented that TLL had received 464 and 822 reports of defects during the defects liability period (DLP) and scheduled defects liability period respectively. Of the 822 cases, only about half of them were scheduled defects. TLL had requested the contractor to follow up and make good all the defects. Up till now, only 38 cases were still outstanding and these would be dealt with as soon as possible after arrangements had been made with the owners concerned. Mr TAM/TLL also informed that as far as he knew, concrete cracks found inside the flats were not settlement related. Since investigation into the unusual settlement was still underway, Mr Albert CHAN considered it inappropriate for TLL to conclude that the concrete cracks were not settlement related.

10. Miss CHAN Yuen-han asked if the Administration would undertake to repair all defects in BG arising from unusual settlement. DTD advised that under the Conditions of Sale, TLL was required to make good the defects, faults and damages caused by settlement for a period of five years upon expiry of the one-year DLP. Mr TAM/TLL confirmed that rectification of defects caused by ground settlement such as subsided paving blocks, cracked drainage pipes, cracks on fence walls, pavement, carpark entrance, road paving and manholes had been carried out by TLL which had not charged any repair costs against the relevant estate account of BG. However, damages beyond the coverage of scheduled defects such as those due to decorations/modifications etc were not the developer's responsibility.

#### Tong Ming Court

11. The Senior Architect/7 (SA/7) advised that upon the advice of TDD, the Housing Department (HD) had stepped up monitoring of the unusual settlement at Tong Ming Court (TMC), Po Ming Court, Kwong Ming Court and Sheung Tak Estate. Additional building check points had also been installed at TMC. According to the findings of surveys up to now, there was no evidence of building settlement in the development. As an extra precautionary measure, structural engineers of HD had re-calculated FOS for all the blocks of TMC and confirmed that these buildings would still be structurally safe even in the worst possible scenario.

12. Given the Administration's repeated assurance on safety of buildings in TKO, Mr Albert CHAN and Mr Andrew CHENG asked if the Administration would provide a 20-year structural guarantee for all Home Ownership Scheme and Private Sector Participation Scheme developments in TKO, including BG and TMC. SA/7 advised that this was not necessary as the checking and monitoring had all confirmed that all buildings in the affected areas were safe. Besides, both BG and TMC were already subject to a structural guarantee of ten years which was considered adequate since most of the latent defects in structural works would have manifested themselves within ten years.

#### Other facilities

13. Mr LAU Ping-cheung noted that apart from building safety, unusual settlement would have an effect on roads, paving and underground utilities, particularly on gas pipes as leakage might cause explosion. CSE/EBD explained that as pavements and

estate roads were not built on piles founded on bedrock, they were more likely to be affected by settlement. BD had inspected the pavements and estate roads of BG and found areas where repairs were necessary and TLL had been constantly repairing such defects. SA/7 supplemented that while defects such as pavement cracks were found in areas around buildings of TMC, none of them was serious. HD had requested the developer to make good the defects, including leveling off the footpaths. As uneven pavements resulting from unusual settlement might cause injury to pedestrians, Mr LAU asked if TLL had taken out a third party insurance to deal with such claims. Mr Ivan TAM/TLL answered in the negative and pointed out that the estate management company of BG had insured against risks to the property. Notwithstanding, TLL had never received any complaints about injury as a result of uneven pavements.

14. As regards utility pipes, CSE/EBD advised that the possible impacts arising from settlement had been taken into account in the design of the drains so that they could withstand relative movement of 300 to 800 mm. PM/NTE assured members that government maintenance departments had checked all the drains and confirmed that there were no signs of damage to the drains except dislocation of some pipes. Utility companies, particularly the Hong Kong and China Gas Company Limited, had been carrying out weekly inspection on the gas pipes to ensure no leakage of gas.

#### Responsibility for damages arising from the unusual settlement

15. Mr NG Leung-sing enquired about the existing mechanism through which the responsibility for the unusual settlement was determined. DTD advised that under the Sewage Tunnels (Statutory Easements) Ordinance (Cap. 438), persons who had suffered loss or damage to land or property situated on land as a result of the construction of sewage tunnels could submit their claims together with supporting evidence for compensation. These claims would be processed by the Lands Department in accordance with the established procedures. As the investigation study had confirmed that the unusual settlement was caused by the construction of SSDS tunnel, Ms Emily LAU was not convinced that residents should be required to go through the timely and costly statutory procedures to substantiate their claims in order to be eligible for compensation. Mr Albert CHAN expressed concern about the multiple roles of the Administration as the accused, the investigator and the arbitrator in the incident. To ensure impartiality, Mr CHAN considered that an independent arbitration mechanism should be established to deal with disputes arising from uneven settlement. Their views were shared by Mr Andrew CHENG. Mr LAU Kong-wah opined that action should also be taken against the consultant concerned for negligence in designing and constructing the SSDS tunnel.

16. The Assistant Director/Sewage Services (AD/SS) explained that SSDS Stage I tunnels were the first sewage collection tunnels in Hong Kong which were built deep underground on the bedrock. Noting the complexity of the project, the Administration had carried out extensive consultation with professionals within and outside the Government on the design and construction of the SSDS having regard to factors such as geological conditions of the areas in question and inflow of groundwater during excavation of tunnels. Detailed assessment of the risk of excessive ground settlement had also been carried out before commencement of the tunnelling works. Given that

the SSDS tunnel was about one kilometre south of the TKO reclamation, AD/SS stressed that it was totally unexpected at the design stage by all the experts advising DSD that the tunnel could have caused significant water drawdown in the lower soil strata of the reclamation, giving rise to unusual settlement.

17. Mr Andrew CHENG and Dr YEUNG Sum found it unacceptable that the Administration was absolved of its responsibility for unusual settlement on the ground of unforeseen happening. Mr CHENG insisted that an independent arbitration mechanism was necessary, and that independent experts should be engaged to determine the liability of the parties concerned. Ms Emily LAU also asked if the Administration had assessed its total liability incurred from the unusual settlement. DTD urged that who considered themselves being unduly affected by the unusual settlement should submit their claims to the Administration. He explained that while the Administration might have a legal responsibility for the unusual settlement, it did not have an imminent liability for compensation since the investigation study had confirmed that all existing buildings in TKO were safe. DTD was of the view that the Administration was mindful of any financial implications since public money must be used in accordance with prudent financial principles.

18. Mr Albert CHAN was not convinced of the Administration's response as the remedial works for defects such as pavement cracks and dislocated pipes in TMC had already incurred public money. SA/7 clarified that the defects referred to were not uncommon in reclaimed land which would be rectified by the relevant parties in the course of normal maintenance. Nevertheless, there might be some cases where maintenance work had to be carried out at an earlier stage as a result of unusual settlement.

19. Apart from technical damages such as concrete cracks, Mr LAU Kong-wah and Mr LAU Ping-cheung asked if aggrieved residents could claim other losses such as drop in property prices as a result of the unusual settlement. DTD advised that residents could make claims for any losses but the granting or otherwise of compensation would have to be decided by the court. As to whether the Administration had received any claims from residents so far, DTD answered in the affirmative but said that he was not able to disclose the nature of these claims which were subjudice matters.

#### Way forward

20. Mr Andrew CHENG drew members' attention to his submission tabled at the meeting which set out the nine requests from affected residents. Since the first three requests were very similar to concerns raised by members at the current meeting, Mr CHENG suggested that a motion on these requests be passed as a consolidated view of the Panel. Noting the lack of a quorum for the meeting, the Chairman advised that the Administration be requested to respond to Mr CHENG's submission. Members would decide on the way forward after receipt of the Administration's response.

*(Post-meeting note: The submission was sent to the Administration and to members vide LC Paper No. CB(1) 232/00-01(02) on 28 and 30 November 2000 respectively.)*



**III Any other business**

21. There being no other business, the meeting ended at 6:30 pm.

Legislative Council Secretariat

1 February 2001