

Legislative Council Panel on Housing

Comprehensive Structural Investigation of Aged Public Housing Estates

Purpose

This paper briefs Members on the comprehensive structural investigation programme for aged public housing estates and outcomes of the investigations on Sai Wan Estate and So Uk Estate.

Background

2. One of the major tasks of the Housing Authority is to ensure proper and timely maintenance of public housing estates to keep the stock in good condition. Notwithstanding, as a result of ageing, the building conditions of some aged estates are deteriorating at varying degree. Early identification of and prompt repair to the maintenance problems can help optimise the service life of aged estates.

3. In September 2005 the Housing Department launched a comprehensive structural investigation programme. The objective is to ascertain the building conditions of aged estates and to identify the repair and strengthening works required to sustain the buildings for a reasonable period of time, say, at least 15 years. A financial viability assessment will also be conducted to evaluate the cost-effectiveness of the necessary repair and strengthening works. The findings of the investigation will enable the Housing Authority to work out the improvement and repair plans for individual aged estates, and, if the buildings are beyond economic repair, consider the need for clearance.

Comprehensive Structural Investigation Programme

4. The comprehensive structural investigation programme covering nine aged estates commenced in September 2005 and will be completed in about two and a half years. Details of the nine estates are at **Annex A**. The investigation is thorough and comprehensive, covering desktop studies on the repair history and findings of previous assessments, site surveys, inspections, sampling and testing. On the basis of the findings, technical assessments of concrete strength, extent of steel reinforcement corrosion and likely extent of

further deterioration in the coming 15 years are then made, to be followed by assessment of the necessary repair and strengthening works to sustain the buildings.

5. Investigation of two estates included in the programme, namely Sai Wan Estate and So Uk Estate, which commenced in September 2005, was completed in January 2006. The ensuing paragraphs set out the major findings.

Sai Wan Estate

6. Sai Wan Estate, built in 1958-59, comprises 640 flats in five linear blocks of 10 to 14 storeys. Estate layout plan is at **Annex B**. Despite its age, findings of the investigation confirm that all buildings in Sai Wan Estate are structurally safe and are in fairly good condition. To sustain the buildings for use in the next 15 years, only minor repair works are required, including local repairs and re-screeding to cantilever corridor slabs in the buildings. Such works will be included in the routine maintenance programme.

7. Given the satisfactory structural conditions, Sai Wan Estate only requires minor building repairs. To further enhance the living environment of the estate, the Housing Authority will carry out the necessary works under the Estate Improvement Programme having regard to the demographic profile of tenants and their actual needs.

So Uk Estate

8. So Uk Estate has some 5 300 flats in 16 Linear or Trident-type blocks of eight to 18 storeys completed between 1960 and 1963. Estate layout plan is at **Annex C**. Results of the structural investigation show that all buildings in So Uk Estate are structurally safe and the concrete strength is satisfactory in general. However, as a result of ageing and environmental factors, the structural conditions are deteriorating and corrosion of steel reinforcement bars is evident particularly in the toilet areas and cantilever corridors. There are also other structural deficiencies which require a series of remedial works to enhance the buildings' structural conditions.

9. To sustain the serviceable lifespan of the buildings for the next 15 years, extensive structural repair and strengthening works will be required in various parts of the buildings, such as toilets, balconies, cantilever corridors etc.^{Note}, which would last at least 18 months according to rough estimates. Temporary tenant decantation may also be necessary to enable repair works to proceed. Such extensive repairs, in particular those in corridors, toilets and balconies, will cause considerable inconvenience and disturbances to sitting tenants.

10. Taking account of the overall building conditions, scale of improvement works required as well as likely disturbances to tenants, the Housing Authority decided to clear So Uk Estate. Since large-scale rehousing is involved, clearance of So Uk will be carried out in two phases. For the benefit of tenants on the upper platforms who have to travel uphill, and to ensure continued provision of existing ancillary facilities as far as possible, we plan to clear the ten blocks on the upper platforms first. The remaining six blocks on the lower platforms where most of the retail and welfare facilities are located will be cleared in the second phase. The supply of new public rental flats in the nearby Un Chau Estate Phases 2 and 4 and the Cheung Sha Wan Flatted Factory Redevelopment projects, which are scheduled for completion in 2008 and 2011 respectively, will provide sufficient rehousing opportunities for the affected tenants. In addition, tenants can also choose from the stock of vacant flats available for allocation each year.

Advice Sought

11. Members are invited to note comprehensive structural investigation programme and the findings about Sai Wan Estate and So Uk Estate.

Housing, Planning and Lands Bureau
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^{Note} Large-scale works are required for So Uk Estate. These include-

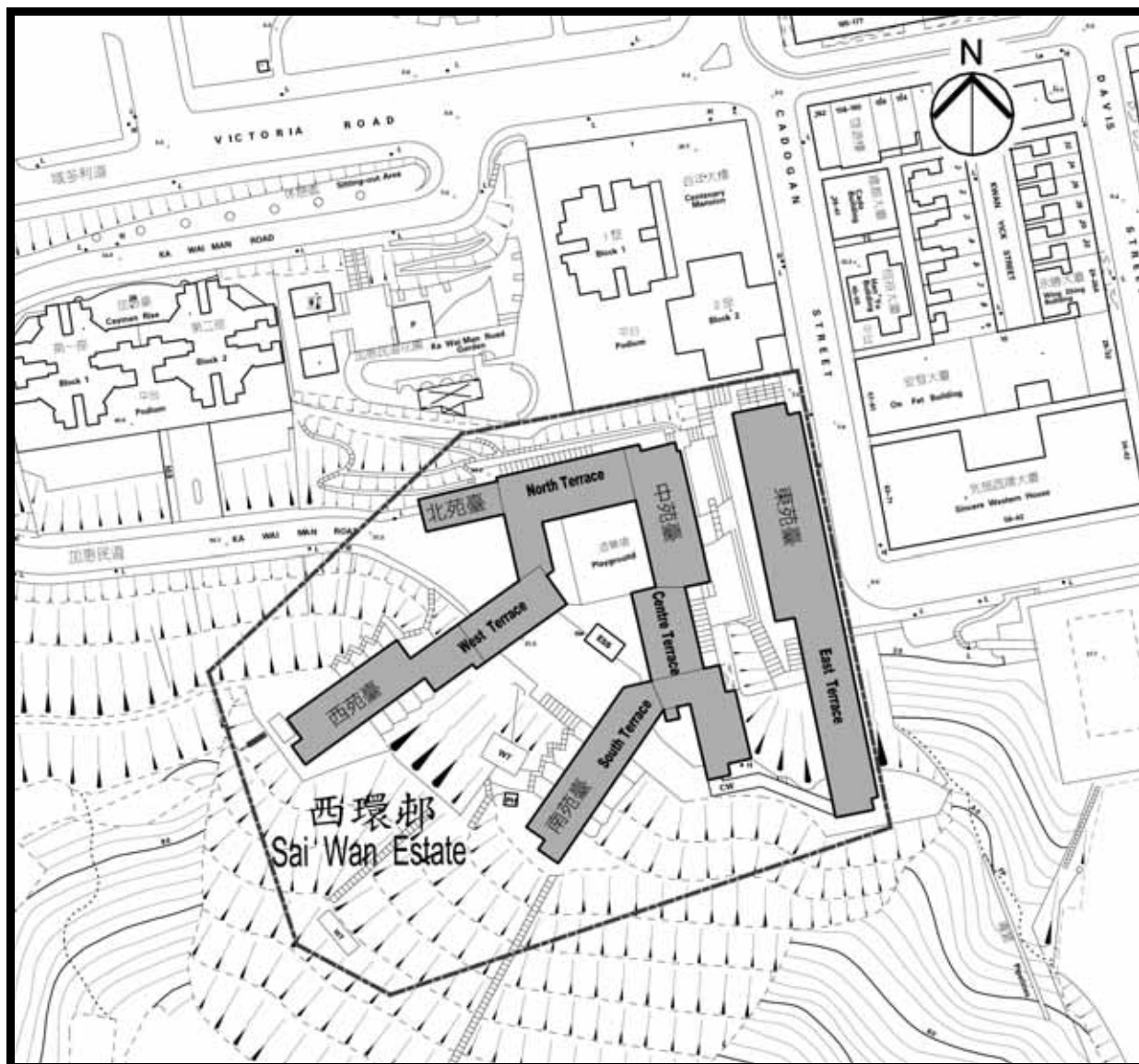
- (a) structural strengthening of cantilever corridors using extensive new external steel columns and beams at two blocks (Cherry and Willow) and replacing concrete parapet with steel railings to reduce loading and locally strengthening slab with steel frames for six blocks (Cedar, Larkspur, Lilac, Lily, Lotus and Maple);
- (b) rescreeding and carry out replacement of corroded bars of cantilever corridor slabs in all ten blocks with cantilever corridors (Azalea, Cedar, Cherry, Gladiolus, Larkspur, Lilac, Lily, Lotus, Maple and Willow);
- (c) recasting of the toilet slabs and refuse room slabs;
- (d) replacement of roof water tanks, balcony parapet beams and concrete grille blocks; and
- (e) structural improvement works to walls and dining room beams and slabs.

Annex A**Aged public housing estates included in the
Comprehensive Structural Investigation Programme**

Estate	Year of Completion	Age ^{Note}	No. of Blocks	No. of Units
Model Housing	1952-1972	53	6	667
Sai Wan	1958-1959	47	5	638
So Uk	1960-1963	45	16	5 316
Choi Hung	1962-1964	43	11	7 449
Ma Tau Wai	1962-1965	43	5	2 075
Wo Lok	1962-1966	43	11	1 941
Fuk Loi	1963-1967	42	9	3 129
Tung Tau (Block 22)	1965	40	1	906
Wah Fu	1967-1978	38	18	9 147

^{Note} The age is calculated on the basis of the age of the oldest block in the estate as at 2005.

Layout Plan of Sai Wan Estate



Layout Plan of So Uk Estate

