

# Let's Turn the Land Survey Ordinance (LSO) to a Land Survey Opportunity

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**Key words:** Cadastre, Legislation, Land Survey Ordinance, Land Boundary Survey

## **SUMMARY**

Throughout the history, Hong Kong has been working on a deeds registration system for land grants and transactions. Although land boundary plans are often found to accompany instruments for registration, they are generally prepared in a crude manner, not to mention that such submission of plans is not mandatorily required. There was simply no statutory regulation to govern the standard of land boundary surveys or the qualification of the one doing them in the past until the enactment of Land Survey Ordinance (LSO) in 1995.

By this LSO, a new class of Authorized Land Surveyors (ALS) and a Land Survey Authority (LSA) were established. While the LSO has proved to be successful in improving matters to some extent, it still fell short of expectations. In particular, this ordinance only dealt with new subdivided lot boundaries but provided no mechanism to rectify past erroneous boundaries. As a matter of fact, many deficiencies of the land boundary system still persisted.

Both the LSA and the ALS have been working collaboratively and devising certain pragmatic measures to overcome the deficiencies. However, the accomplishments had, understandably, been limited. This paper is therefore to go through the background of the LSO from its proposal stage to its enactment and to summarize and discuss those accomplishments and hurdles that we, land survey practitioners in Hong Kong, have encountered.

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## 1. Introduction

It is often found Hong Kong to be on the top of the globe housing price ranking list. Hong Kong maintains its position as the world's most expensive residential city among other cities (CBRE, 2020). Land boundary limits or separates ownership or jurisdiction (Cole & Wilson, 2017) which is particularly vital in the populated cities like Hong Kong because of its high value of the real estate. According to the Rating and Valuation Department's research (2020), the private domestic price for the housing in the Hong Kong Island less than 40 m<sup>2</sup> has been increased for about 370% since 2000. This ranking of Hong Kong's housing price should call for an alert of the importance of land boundary definition, but ironically this did not seem to be the case. Land boundary matters remained to have attracted insufficient attention of the Hong Kong people. Although the Land Survey Ordinance (LSO) was enacted with initiatives to improve the land boundary system of Hong Kong, there is still space for improvement.

## 2. Types of Land Boundary Survey to be Discussed in This Paper

A boundary is an imaginary line which marks the confine or line of division of two contiguous parcels of land (Lord Hailsham of St Marylebone, 1992). To start with, this paper will introduce the different types of land boundary survey usually taken place in Hong Kong. Following this, we will discuss the LSO as the main subject. In this way, land boundary survey in Hong Kong can be generally classified into three distinct categories, viz: (i) boundary establishment, (ii) boundary re-establishment and (iii) boundary subdivision.

- i. Boundary establishment is the process of creating new boundaries on unallocated land. In a planned area such as the urban area of Hong Kong Island, the land surveyor transforms the invisible boundary lines from paper on the ground by erecting survey monuments on the spot. In an already settled area such as the New Territories of Hong Kong before 1980s, the land surveyor depicted the existing ground features for the villagers to identify them on site as the boundaries. In either case, the boundaries become physically marked on ground and sufficiently serve to effect the land grants from the government as the grantor to the public members as the grantees. Such boundary establishment surveys are generally performed by the government land surveyors and need not be discussed further in this paper.
- ii. Boundary re-establishment is the process of retracing the boundaries that had been created by the original land surveyor (Robillard et al., 2014). To retrace the boundary, a land surveyor has to follow the footsteps of the original surveyor, analyze the original intention

of the land grant, reveal the survey methodology and evaluate the quality of boundary plan etc.

- iii. Boundary sub-division is the process of dividing a land parcel into two or more pieces. This process needs the availability of an already determined outer boundary as the basis (Hanus & Bieda, 2010). The re-establishment and subdivision of lot boundaries are mainly performed by the private practising land surveyors.

### **3. The Enactment of Land Survey Ordinance (LSO)**

#### **3.1 Ineffective Old Land Boundary System Before 1995**

The enactment of LSO in 1995 was a milestone in the land boundary survey industry of Hong Kong. Before its enactment, there was no statutory regulation to govern the standard of land boundary survey or the qualification of the person who conducted the land boundary survey. It was the norm that individual surveyors employed by different landowners conducted land boundary surveys according to their own practice and standard. As the result, these land boundary surveys were of inconsistent standard and practice thus leading to ambiguous or conflicting land boundary records in the old days. The causes of deficiency in the old boundary system before 1995 included but not limited to the following :

##### **3.1.1 No Governance on the Qualification of Person to Perform Land Boundary Surveys**

In the old days, there was no statutory regulation to govern the qualification of the person engaged in land boundary surveys for boundary re-establishment and subdivision exercises. Many subdivision plans were indeed done as a desktop exercise and by staff of no survey training, not to mention professional qualification. This resulted in varying degrees of accuracy and reliability of land boundary records. This in turn caused boundary disputes and, in some cases, gave rise to ineffective land administration, including but not limited to the delays in land development and loss of investment in land. In the old days without the LSO, one could register an instrument with or without a plan (and yet the plan could be prepared by even a layman in a crude manner) in the Land Registry under the Land Registration Ordinance to effect a land subdivision. Sometimes, the plans were prepared by adopting building plans, layout plans, or even sketches with their sources untraceable. The misleading boundaries though notorious of their inaccuracy might not only sometimes be misinterpreted and adopted, but were also unavoidably referred and used for subsequent conveyancing, land dealings and administrative processing.

##### **3.1.2 Inconsistent Practice of Land Boundary Surveys**

Because of a lack of a standardized boundary survey practice, the practitioners of the survey industry performed boundary surveys for their clients in their own ways including the

nomenclature of lot sections. Company A, upon carving out a lot into three portions, might designate them as Sections A, B and C whereas Company B, upon doing a similar job, might choose the designation as Sections A, B and RP (Remaining Portion). Further subdivision of sections into sub-sections and so on added more to the confusion. This situation certainly harmed the integrity of land boundary records. Further, there was no control for ensuring the reliability of various survey practices such as the calibration requirement of survey instruments, the permanency of control stations, the structural form of survey monuments and the presentation of deliverables of surveys, etc. This is one of many examples illustrating what the inconsistent boundary survey practice in the past did degrade the land boundary system, and made the boundary determination more difficult in the future.

### **3.2 The Background and Spirit of LSO**

It has been recognized and identified that the land boundary records in Hong Kong particularly those in rural areas and prepared in the old days are incomplete and incomprehensive. More ambiguities and errors would be exposed when a land parcel was divided. The Land Surveying profession and the government has been aware of the situation for several decades and attempted to institute remedial actions.

Being of the opinion that to comprehensively rectify all the boundary records would be cost-prohibitive, the government considered it necessary to adopt an incremental approach to improve the situation. Since the fifties, all the boundary surveys for the government land grant parcels have been carried out by the Land Surveyors in the Crown Lands & Survey Office, now the Survey and Mapping Office (SMO) of the Lands Department. In this way, the accuracy and completeness of the land boundary record of land parcels at their first alienation could be maintained. As long as no further errors were brought in to contaminate the system, this process should have been satisfactory. However, as subdivision surveys as mentioned above were inevitable, the land records became blemished by these surveys.

Therefore, the objective of the LSO is to provide the necessary legislative measures to control the land boundary subdivision survey carried out by un-identifiable persons. While the standard of the land boundary survey of government land grants could be maintained by the SMO, the standard of land boundary surveys of division land had to entrust to only qualified persons who were then classified as the Authorized Land Surveyor under the control of the LSO. So, the underlying objective and spirit of the LSO is to prevent further inaccurate boundary information be introduced into the land boundary record through a subdivision.

### **3.3 Enhanced Land Boundary System After 1995**

On 18 May 1995, the LSO was enacted with a new class of Authorized Land Surveyors (ALS) and a Land Survey Authority (LSA) established. The LSO specifies that an instrument delivered into the Land Registry for registration under the Land Registration Ordinance shall be accompanied by a Land Boundary Plan (LBP) signed and certified by an ALS. However, this applies only to an instrument effecting a division of land. It does not apply to any instrument which is related to the whole lot or existing sections of a lot involving no division of land. In

other words, it is not a mandatory requirement for land boundary survey to support all conveyancing of land. Nevertheless, improvement measures and legal implications of LSO are apparent as could be realized from certain situations as mentioned in the following:

- i. The ordinance empowered the Director of Lands as the LSA who then delegated all his functions under the ordinance to the Principal Government Land Surveyor (now known as the Deputy Director / Survey and Mapping) of the SMO. There are two main functions entrusted to SMO: (a) to maintain land boundary records and (b) to approve the Code of Practice (COP) for land boundary survey.
- ii. A Land Surveyor Registration Committee was also established to examine and govern the qualification of the person who would like to be registered as an ALS under the LSO, as well as to maintain the registration record of ALS.
- iii. Any deed, conveyance or other instrument executed after the commencement of the LSO, effecting a division of land and delivered into the Land Registry for registration under the Land Registration Ordinance must be accompanied by a Land Boundary Plan (LBP) prepared and certified by an ALS. Under LSO, the ALS shall then deposit a duplicate of a certified LBP to the LSA, not later than 7 days after the deed, conveyance or other instrument has been registered in the Land Registry.
- iv. The LSO provides for a centralized channel for the ALS to obtain land boundary survey information from each other and the government. This practice reduced the inconsistency and disputes on the re-establishment of boundary due to misinterpretation of information from in-complete records. Thus the ordinance provides the frame-work for maintaining the consistency and correctness of the land boundary record. Notwithstanding that the release of the LBP and Survey Record Plan (SRP) prepared by the ALS for land subdivision is restricted to other ALS only.
- v. The ALS shall carry out every boundary survey in accordance with the COP approved by the LSA. He/she has to abide by the COP which controls and prescribes survey standard for land boundary survey.
- vi. Provision of Disciplinary Board as enforced by the ordinance to examine the disciplinary offence behaviour of ALS.

#### **4. Imperfections of LSO Currently in Force**

While the LSO has proved to be successful in improving matters to some extent, it still fell short of expectations. In particular, this ordinance only dealt with new subdivided lot boundaries but provided no mechanism to rectify past erroneous boundaries. As a matter of fact, many deficiencies of the land boundary system still persisted, including the aspects below.

#### **4.1 Non-comprehensive Land Boundary Records Maintained by the LSA**

As one of the imperfections embedded in LSO, the legal implication of LSO only applies to an instrument effecting a division of land and control practices and performance of ALS. So, the land boundary records maintained by the LSA could not be comprehensive because plans other than land subdivision ones need not be submitted to it.

According to the LegCo Paper No. HB 366/94-95 in 1995 regarding the discussion on LSO at its proposal stage, it had mentioned that in order not to create a sudden surge of market demand on the Land Registry and the land survey industry, only the registration instrument in the Land Registry, effecting a subdivision of land and delivered to Land Registry need to be accompanied by a LBP certified by an ALS. The usual conveyancing document involving no physical division of land parcels would not be affected. Refer to the definition of boundary subdivision in section 2 in this paper, the phrase of subdivision refers to the action of creating a new boundary line within the parent lot boundary. Thus, the plans for conveyance other than subdivision (e.g. boundary re-establishment) ones need not be submitted to the LSA according to the ordinance. In order to rectify such imperfections, certain pragmatic measures to overcome this deficiency has been derived by the LSA of which further discussion will be delivered in the later section.

#### **4.2 No Mechanism to Sanction Surveyed Boundary Submitted by ALS to LSA**

Tang (2004) asserted that without a law to legally sanction the newly surveyed boundary, the land boundary system of Hong Kong is still incomplete under the current weak definition of land boundary. There is no provision in the LSO that a land boundary plan prepared by an ALS is final and conclusive. Notwithstanding the LSA has been empowered by the LSO to maintain land boundary records, the LSA is not the authority in approving the determined boundary by ALS, but only the provision of checking to ensure the survey has been conducted in compliance with the COP. The ALS is personally liable for the accuracy and completeness of the land boundary plans prepared and verified by him/her. The LSO only deals with the new division of any land, but does not intend to rectify any existing error or mistakes contained on those plans that have been registered in the Land Registry under the Land Registration Ordinance. Any corrective measures to the existing plans is simply outside the purview of LSO.

#### **4.3 ALS is Venerable to Committing Disciplinary Offence**

The Disciplinary Board formed under the LSO is authorized to inquire whether the ALS is properly convicted of an alleged offence. Because of the ancient deeds registration system in Hong Kong, and the lack of a filtering mechanism under LSO for the complaints against the ALS, ALS could be venerable to accusation of disciplinary offence. The broad definition of disciplinary offences in LSO may render the ALS to face an impossible situation due to their having had to follow erroneous or inconsistent boundary records or due to impractical requirements embedded in the LSO.

For example, the ALS is likely liable to disciplinary actions for being unable to deposit the certified plans to the LSA for checking in 7 days after plans registered in Land Registry whereas this period may prove to be unreasonably short in practice. The ALS may not be able to access the boundary record timely, due to the time-lapse of the registration of land boundary records. Another example is that the ALS are not intended to overlook any critical boundary records, but they have no way to assess the unregistered records. It is arguable whether the ALS is convicted to negligence in such circumstances.

A recent complaint from the public lodged to LSA has unearthed the lack of preliminary review mechanism under the current LSO to filter out some groundless or unmeritorious complaints against the ALS. The LSO requires that the LSA shall refer “any” complaint concerning a disciplinary offence by an ALS to the Secretary for Development to decide the appointment of a Disciplinary Board. The LSO indeed does not give any guidance as to whether a Disciplinary Board should be appointed, so the current practice is to result in a Disciplinary Board whenever a complaint against an ALS is received. Apparently, the LSA seems to play the function as a forwarding agent of the charge made by the complainant but not an authority to filter out any complaint under the LSO.

#### **4.4 "Registration-before-check" Procedure Being in Force**

Under the current LSO, an ALS who certified a land boundary plan referred by any deed, conveyance or other instrument effecting a division of any land and delivered into the Land Registry for registration under the Land Registration Ordinance, shall deposit with the LSA a duplicate of the land boundary plan and the survey record plan of the relevant land boundary survey for checking, not later than 7 days after said registration. Undesirable situations could arise that extra times and costs would be incurred for preparation and re-registration of new boundary plan due to errors subsequently identified on the registered boundary plan by the LSA, not to mention that sometimes it is impossible to rectify due to change of ownership immediately after subdivision. It is because the LSA only processes the ALS's deposited plan after the registration of deed poll. Worse still, the rectified boundary plan is not re-registered in the Land Registry, causing inconsistent boundary records maintained by the Land Registry and the LSA.

### **5. Pragmatic Approaches to Embrace the Imperfections of LSO**

Given with the above situation, both the LSA and ALS have been working collaboratively to devise some pragmatic approaches in order to rectify the imperfections of the LSO and overcome the deficiencies. It has been suggested to extend the LSO to cover all land boundary surveys in order to achieve a correct, accurate and comprehensive land boundary record (Cheng & Tang, 2002). While appreciating the difficulties in conducting a substantial review and amending the LSO, the SMO of the Lands Department has introduced the Voluntary Submission of land boundary survey records with a view to facilitating the exchange of such information among the government and the private practising land surveyors including both the ALS and Registered Professional Surveyor (Land Surveying) (RPS(LS)) (the latter being a class

of professional land surveyor who can perform land boundary survey except for land subdivision). The Voluntary Submission acts as the sole and centralized platform which enables the exchange of survey information that is voluntarily submitted by ALS/RPS(LS) for sharing purpose. Nonetheless, it is on a voluntary basis thus leaving the ALS not mandatorily required to submit survey information outside the purview of LSO. Even working in this manner, the LSA only acts as a librarian in handling Voluntary Submission and seldom expresses views on the determined boundaries.

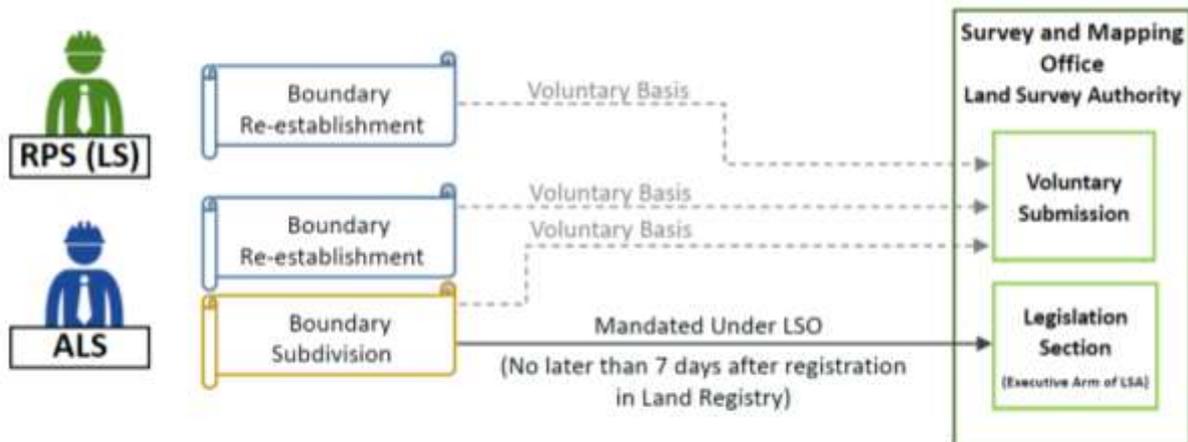


Figure 1 – Current Mechanism for Land Boundary Submission in Hong Kong

## 6. The Way Forward

The accomplishments had understandably been limited. The LSA does keep going to explore ways to optimize the cadastral system of Hong Kong.

### 6.1 The Mandate of Land Boundary Submission of Every Land Lot

With a view to maintaining a comprehensive land boundary records, the LSA is exploring to revise the COP to include a requirement for ALS to mandatorily submit survey information (including a survey report, SRP and LBP) to the LSA for each land boundary survey for information sharing purpose.

### 6.2 Additional Obligation for ALS to Share Boundary Information Among Themselves

In order to eliminate the occurrence of overlapping of common boundaries due to the time-lapse of survey and the accessibility of relevant land boundary information, the LSA is also exploring the possibility of introducing an additional obligation for a ALS to notify another ALS when the boundary of the adjoining lot was not adopted through the revision of the COP.

### **6.3 Exchange Views with ALS on the Survey Results Outside the Jurisdictions of LSO**

Despite the fact that the LSA lacks the legal sanction power to make the surveyed boundary be definitive, the SMO acting as the LSA has been endeavouring in extending their input in enhancing the boundary system of Hong Kong, even out of the jurisdiction of the LSO. The introduction of Voluntarily Submission for overcoming the deficiencies of the LSO already represented a positive effect in recent years.

In the near future, the SMO will propose to extend the land boundary advisory service on all survey submissions by ALS/ RPS(LS) to support Government Bureaux and Departments (B/Ds) for their discharge of statutory enforcement actions. The indirect effect is to improve the accuracy and reliability of our land boundary records by taking the advantages of survey submissions by these organizations. Being in large amounts and prepared by professional surveyors (ALS/ RPS(LS)), the Voluntary Submission forms abundant supplies of high quality survey inputs to enhance the overall accuracy and reliability of land boundary records after they have been verified. To achieve this goal, the LSA will proactively exchange views with the ALS on the survey results deposited to the LSA outside the jurisdictions of the LSO (i.e. non-subdivisional survey). The extension of the new boundary advisory service would change the original role of the government from a “Librarian” to an “Advisor”. It is anticipated that the accuracy and reliability of our land survey records would be vastly improved alongside the new practice.

## **7. Conclusion**

The enactment of the LSO already made a big step forward in Hong Kong’s boundary survey system though there are imperfections embedded. It might be harsh to reach heaven in a single bound, especially for the complicated land boundary system in Hong Kong. It is believed that collaboration between the government and private practising land surveyor will be one of the solutions to the problematic land boundary system of Hong Kong. Through the operation of a revised COP of the LSO, it is anticipated the Hong Kong land boundary system could be further improved. At the last of this paper, the authors would like to quote the Helen Keller’s words “Alone we can do so little, together we can do so much”. Let us aim at improving our land boundary system for the benefit of the public and turning the LSO to a Land Survey Opportunity.

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## **BIOGRAPHICAL NOTES**

**Shou-chun LEUNG** started his land surveying career in 1956 as a technician. He obtained a Government scholarship in 1963 to study in the Army Survey Course in United Kingdom and became a full member of the Royal Institution of the Chartered Surveyor (RICS) in 1966. He was appointed as the professional land surveyor in the Survey and Mapping Office (SMO) of the Hong Kong Government in the same year. Through subsequent promotions within the land surveying grade, he reached the rank as the Principal Government Land Surveyor (i.e. Head of SMO) in 1995 and retired from Government in 1996. Since then, he established a land surveying firm of his own up until now. Shou-chun LEUNG was awarded as a MBE in the year of his retirement from the Government. He is currently a Fellow of HKIS, a Fellow of RICS, an Authorized Land Surveyor, a Registered Professional Surveyor (Land Surveying). He was appointed as an Adjunct Professor in the Hong Kong Polytechnic University repeatedly from 2005 to 2018. Throughout his career, Shou-chun LEUNG has acted as the President of the Hong Kong Institute of Land Surveyor (which was subsequently amalgamated with the Hong Kong Institute of Surveyors), the President of the HKIS, the President of the Hong Kong Association for the Advancement of Science and Technology. He has been a regular writer in various professional journals, seminar publications and local newspapers.

**Sau-chung YU** is the Chief Land Surveyor in the Survey and Mapping Office, Lands Department of HKSAR. Mr. YU has been practising land boundary survey for over 20 years, with particular expertise in the area of New Territories.

**Yiu-hing LEE** has been practising as a professional land surveyor in the Survey and Mapping Office of the Lands Department and private sectors for more than 20 years. In 2003, Mr. LEE became an Authorized Land Surveyor and fully engaged in land boundary survey in a land surveying company in the private sector. Since 2008, Mr. LEE was employed by the Survey and Mapping Office and now is the Senior Land Surveyor of two survey offices namely DSO/TW&KT and TF(LC&LE).

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