

Conduit Condition Evaluation using CCTV in Hong Kong

正確步驟你要知 閉路電視檢測易



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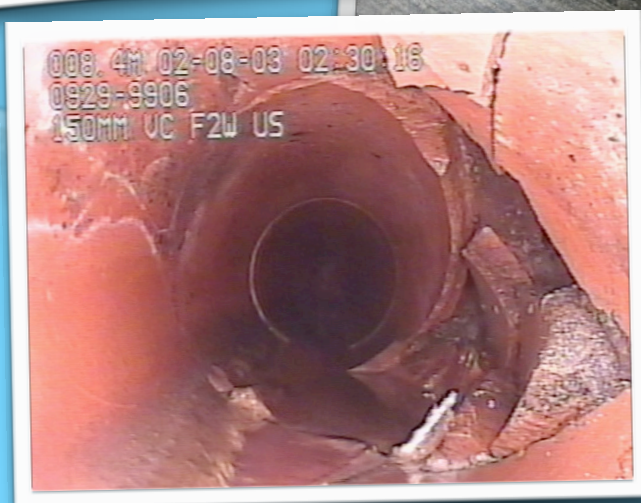
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Why conduit evaluation is needed?

As the underground drainage and sewage system of Hong Kong were built in early years, many of them have depreciated in different extent with wide variety of defects and potential risk of incidents. Incidents like water main burst damages roads and causes inconvenience to the public. To prevent further deterioration of conduits, assessment of conduit condition shall be conducted so that appropriate remedial measures can be taken to alleviate the problem in time.

為甚麼要評估管道狀況？

香港的渠道和排水系統多於早年建成，現在很多已有不同程度的損耗和各種缺陷或破損，其潛在危險不容忽視。爆水管等意外導致道路損毀亦引起大眾不便。為免管道狀況繼續惡化，則須進行管道狀況評估，方能及時採取補救行動，紓緩問題的嚴重性。



What is CCTV Survey?

Closed Circuit Television Survey (CCTV Survey) is the most common and efficient way in conduit condition evaluation. A CCTV is set and travels through the drains/ sewers to observe their internal condition. An up to standard CCTV Survey facilitates the assessment and hence rehabilitation of sewers. This pamphlet introduces the steps and specifications that shall be followed to conduct the survey.

甚麼是閉路電視檢測？

閉路電視檢測是較普遍和高效率的管道狀況評估方法。檢測方法是將閉路電視置於管道之中，緩慢地穿過管道以觀察其內部狀況。合標準的檢測能提高評估的質素，從而採取合適的復修工程。本單張將簡述檢測的步驟和注意事項，以供從業員參考。



Pre-Work for CCTV Survey

Before commencement of works, take all reasonable steps including:

1. Make sure that there is **full range of survey equipment** and they are in full working order.
2. The client shall provide the operator with all information available regarding the asset.
3. Inspection shall be performed by **Competent Person**.
4. Both employers and employees shall comply with relevant occupational health and safety legislations and obligations to **ensure a safe working environment** and minimize the disturbance to the public caused by the works.
5. Drain cleaning may be required by the client but not necessary.

閉路電視檢測的前期工作

進行工程前，須採取一切合理步驟，包括：

1. 確保檢測工具齊全且運作正常。
2. 委託人應提供所有相關資料予承建商，以便進行更準確的結果分析。
3. 檢測必須由合資格人士進行。
4. 僱員及僱主必須遵守相關的職業安全及健康條例，確保工作環境和個人的安全，並將對公眾的滋擾減至最低。
5. 委託人可能會要求進行渠道清理，但並非必要。



Remind for CCTV Survey Operation

When commencing inspection, the following shall be noted:

1. Operator shall use **Personal Protective Equipment** during inspection.
2. Monitor, camera and camera cable calibration shall be **tested everyday** before investigation.
3. Camera shall be **positioned properly** and travel through the sewers at a **suitable speed** according to the shape and size of the drains.

閉路電視檢測時應注意事項

施工時，應注意以下事項：

1. 進行檢測的人員必須使用個人保護裝置。
2. 每天檢測前，監察器、攝影機及攝影機電纜校準應先進行測試。
3. 攝影機應按管道的形狀和大小，放置於適當位置，以適當的速度穿過管道。

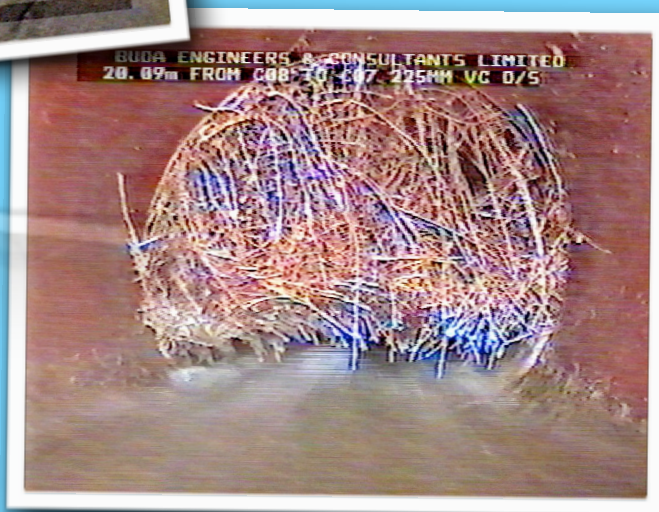


After inspection, take the following actions:

1. Prepare inspection report with video clips, clear photographs and preliminary grading.
2. In the report, **correct codes** shall be used to describe defects.
3. **Quality control procedures** shall be carried out properly to ensure the accuracy of the results.
4. Remedial actions shall be taken immediately if the conduit condition is poor. All conduits are subjected to **re-survey from time to time** no matter the condition is good or poor.

進行探測後，應採取以下行動：

1. 撰寫調查報告，報告中應附有相關影片，清晰的相片及初步評級。
2. 報告中，用以紀錄管道特徵的編碼必須完全正確。
3. 報告須經過質量監控程序，以確定調查結果的準確性。
4. 若管道的狀況惡劣，應立即採取補救和修復行動。但不論其狀況優或劣，所有管道必須定期再作檢測。



Codes of Practice and Specification

The Utility Training Institute (UTI) has prepared “Hong Kong Conduit Condition Evaluation Codes: Code of Practice for Conduit Condition Evaluation Using CCTV in Hong Kong” which set standards for conducting CCTV Survey. It provides comprehensive and detail information on the process and coding system of the Survey. The Code of Practice can be purchased from UTI. And “Specification for Conduit Condition Evaluation (CCTV Survey)” proposed by the Hong Kong Institute of Utility Specialists (HKIUS) states requirements of the components of the survey. The Specification can be accessed via <http://hkius.org.hk>.

工作守則及規格

由管綫學院編製出版的《香港管道狀況評估編碼：閉路電視檢測工作守則》訂定了閉路電視檢測的工作準則，為檢測的步驟和編碼系統提供詳盡資料。該工作守則可於管綫學院購買。另由香港管綫專業學會編製的〈管道狀況評估規格 (閉路電視檢測)〉，則詳述了檢測的各個部分的要求。該規格可透過香港管綫專業學會網頁<http://hkius.org.hk>查閱。



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如本小冊子有未盡善或錯漏之處，歡迎聯絡管綫學院（電話：2690 3800）提出意見。本學院衷心感謝閣下對本小冊子的支持。

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