Drainage Improvement Works at Nelson Street

Background

Nelson Street junction with Fa Yuen Street and Sai Yee Street has been a known flooding blackspot, mainly because of the inadequate capacity of the existing storm water drainage system. Before the long-term drainage upgrading work, aiming for completion in year 2003, is implemented, short-term measures including the construction of by-pass drains and reconstruction of gully connections had been carried out by the term contractor of the Mainland South Division to alleviate the flooding risk.

Programme of Works

Nelson Street is a densely populated area and a renowned shopping area for sports wear, hi-fi, video and computer products. The drainage improvement works have to overcome a lot of difficulties. The construction works would not only affect the vehicular traffic and the pedestrian but also the shops. Before the commencement of the site works, the engineer and inspector of works carried out several site inspections and thorough surveys with the term contractor, identified all the problems and worked out the temporary works proposal including the extent of works area, re-provisioning of pedestrian walkways, traffic lane and temporary road markings. We noted that our works would affect the free movement of pedestrians who used to cross the road at any locations that they wished. Our works would make this impossible. It came as no surprise to our engineer that when the works commenced on site, two nearby shop operators immediately approached our staff regarding the influence to their business as the construction works were causing some disruption to the pedestrian flow, and hence the access to their shops. Our staff discussed patiently with these shop operators and courteously explained our intended works for the mitigation of flooding situation in the area. Besides, we also addressed their concern and at location where there was no immediate site activities, re-provided crossing points passing through our works area and maintained maximum possible width of the walkways for the pedestrians. That had substantially reduced the space for manoeuvring of construction plants on

site. Moreover, all materials excavated from the trench had to be removed off site immediately. We also made known to the shop operators of our target completion date and advised them that we would complete the works as promised. The shop operators understood the inconvenience caused to their business and to the public but showed no strong objection to our construction works. During the construction, we kept close monitoring of the activities on site to ensure that all existing pedestrian walkways were maintained at all times by making use of temporary steel barricades and directional signs.

Temporary Traffic Arrangement

The existing storm water drains were located along the middle of the street and enlarging or replacing these existing drains would involve closure of the whole of Nelson Street. To minimize the impact on the traffic condition due to the construction works, by-pass drains were proposed alongside the footpath of Nelson Street and hence only one traffic lane at Nelson Street would be temporarily closed for the construction works. The whole length of the by-pass drains along Nelson Street from Tung Choi Street through Fa Yuen Street to Sai Yee Street were constructed in three stages. For each stage of the works, gazette notice had been served for the temporary traffic arrangement and trial run was carried out on site to ensure that the disruption to the original traffic condition was minimised. Due to the congested condition on site, temporary traffic signs had to be erected on the narrow footpath or next to the works area on the road. On many occasions, the signs were swayed or shifted by the public and there was also an incident that a temporary traffic sign was hit by a heavy vehicle turning round the corner. Our site staff had been particularly vigilant both on the activities on site and also on the traffic condition for the pedestrians as well as for the vehicles.

During the third stage of the construction works, there was heavy traffic jam along Nelson Street for vehicles coming from Yim Po Fong Street turning to Sai Yee Street. Based on our observation on the traffic condition on site, we advised Transport Department who subsequently agreed to adjust the timing on the traffic signal at the junction of Nelson Street and Sai Yee Street. Upon this adjustment, the traffic condition improved and our works continued without drawing major complaints from the public or causing disruption to the traffic.

Site Tidiness

At this most densely populated area in Mong Kok, the amount of littering is tremendous. The barricaded works area for our drainage works became a dumping spot at night. Notwithstanding the term contractor deployed workers to clear up the works area before finishing work each night, there were still a lot of rubbish found within the site in the mornings. Despite our term contractor's efforts, they still received complaints and non-compliance notices with the conditions in the Excavation Permit regarding the debris found within our works area. With no other easier means to resolve the problem, our term contractor had to clear up all the rubbish within their works area every early morning and maintain the tidiness of the site as well as secure all the temporary works that had been shifted within the whole construction period.

Utilities Obstruction

The utilities plans had been obtained before the construction works commenced, but those plans did not indicate the precise levels and alignments of the utilities. During the excavation on site, a 1400mm diameter water main with massive concrete casing and a group of high voltage cables were found in conflict with the proposed drains. We had several joint site inspections with the Water Supplies Department and China Light & Power Hong Kong Limited and made several attempts to expose the utilities within the confined space to ascertain the condition of these existing utilities. We have considered several alternatives including shifting the

water pipe and moving the high voltage cables. However, we understood that the shifting of the water pipe, which serves a large population in the West Kowloon, would be a significant operation. Moreover, the disruption to the traffic flow and to the public due to this operation would be tremendous. We weighted the alternatives and finally adopted an alternative alignment, level and size of the proposed drains to avoid the conflicts. During this process we found the meetings and communication on site to be very useful in sorting out problems. At the same time, the term contractor had to continue paying special attention and taking all precautionary measures when working adjacent to these utilities in particular to the 1400mm diameter water main.

Conclusion

With the difficult conditions encountered on site, it is no wonder why the short section of pipe, which measures only 90m long, took 7 months to complete. Our inspector of works and works supervisors have been working diligently to ensure that the disruption to the public is kept to the minimum. As observed in the heavy rainstorms earlier this year, the flood extent at this location has been significantly reduced. However, until the completion of the long-term drainage improvement works in 2003, this location will still inevitably face with the flooding risk when rainstorm red/black warning signal is issued.