

# URBAN FLASH FLOODS – WHAT COULD HAVE GONE WRONG?

**THE** flash flood that occurred on 18 February 2013 along KM21.36 and KM23.50 of the Damansara-Puchong Highway (LDP) had caused a considerable damage and inconvenience to local businesses, to motorists and the public.

The main cause of the flood cannot be attributed to heavy rainfall or the low ground level of the affected areas. JPS's telemetric rainfall station in the vicinity recorded 68 mm of rain in the late afternoon of that day which is not exceptionally heavy. Statistically, such rainfalls could generally have been exceeded several times in a year.

It is however, heartening to note that MPSJ was prompt in responding and had called for a meeting of the parties involved namely LITRAK, MRCB, SPNB and JPS to identify the causes of the flood. It was established that one of the three underground culverts was not functioning properly and was therefore unable to drain off excessive rainwater. The reasons behind such dysfunction of the said underground culvert ought to be thoroughly investigated.

There could be many reasons as to why the culvert has 'malfunctioned'. For instance, littering by irresponsible people on a daily basis would eventually get the culvert clogged with rubbish. The public must be informed that the water drainage system is NOT a rubbish disposal system. There are other facilities for proper rubbish disposal which should be provided for and used whilst enforcement against indiscriminate dumping of rubbish must be carried out. It is time for everyone to be aware that their irresponsible doings can contribute to floods as well as other negative environmental effects. In addition, local authorities and road concessionaires should also ensure that periodical and continuous clearing of rubbish and silt from flood-prone areas is carried out efficiently.

Another possible reason for the flood in this case could have been the ongoing construction and excavation works near and around the flood affected areas. During recurring rainfall, silt and debris from the construction sites could have been washed and deposited at the culvert. The earth deposits on the bottom of culverts would reduce the cross-sectional area of the culvert and thus, impeding the capacity of the culvert to carry water away.

Ongoing construction works had been the culprit in causing many flash floods. Some irresponsible contractors often take shortcuts in temporary diversion works, taking risks in order to reduce their costs. Hence, contractors must adopt a more professional approach and use appropriate rainfall data in their design of temporary works. Best management practices on silt traps, culverts and drains must also be incorporated. Again, law enforcement by the relevant authorities is crucial.

The Institution of Engineers, Malaysia (IEM) is keen to assist the authorities in resolving recurrence of such flood incidents and if there is a need, we would be pleased to nominate our members to offer their expertise. ■

**Contributed by:** Water Resources Technical Division

