

**LEGISLATIVE COUNCIL
PANEL ON DEVELOPMENT**

**Drainage Improvement Works at
Tsung Yuen (Kwu Tung North), Pok Fu Lam, Ngong Ping and Yuen Long
and Measures to Handle Flooding Issues in Rural Areas**

**Follow-up Actions Arising from the
Panel on Development Meeting on 26 February 2019**

In response to the request of members of the Panel on Development, the Administration would like to provide the following supplementary information regarding whether rainwater harvesting facilities would be provided in the above proposed drainage improvement works projects.

2. The Drainage Services Department (DSD) has all along been committed to providing rainwater harvesting facilities in appropriate drainage improvement projects. If the land topography and environment allow, one of the most direct and effective ways is to convey the uncontaminated stormwater collected within the water gathering grounds to the reservoir for filling up the rainwater collection facilities. Other usages include using the stormwater collected for non-potable purposes in nearby facilities. Nevertheless, not all projects are suitable for installing the relevant facilities. In general, the overall technical practicability and cost-effectiveness, including the following factors have to be taken into consideration in providing rainwater harvesting facilities -

- i. Will there be sufficient and steady supply of water resources for the use of other facilities?
- ii. Will the water quality of the water resources collected be contaminated by pollutants along its flow path (e.g. densely populated rural areas, brownfield sites, urban areas nearby, etc)¹?
- iii. Are there adequate and suitable lands for construction of the associated pipes, pumping stations, storage tanks and treatment facilities, etc²?
- iv. Will the water resources collected be reused effectively? What is the actual demand for non-potable water in the adjacent areas?

¹ If the surface runoff is intercepted from urban areas or densely populated rural areas, the surface runoff may be contaminated. The pollutants include dirt from buildings, refuse on road surface or animal excreta, etc. As such, the surface runoff collected has to be treated to an appropriate extent before reuse.

² If the runoff intercepted is to be stored for future use, sizeable stormwater storage tanks with relevant mechanical and electrical facilities have to be constructed. In some densely populated and fully developed urban areas, or private lands in rural areas, it is less feasible to provide sizeable stormwater storage tanks.

- v. The cost-effectiveness of providing and operating the rainwater harvesting facilities³.

3. Amongst the four proposed drainage improvement works projects, since **163CD – “Drainage Improvement Works at Ngong Ping”** is located within the water gathering grounds of Shek Pik Reservoir, the stormwater collected can be discharged into Shek Pik Reservoir directly through the existing catchwaters downstream to fill the reservoir. The reasons for not providing rainwater harvesting facilities in the remaining three proposed drainage improvement projects are as follows: -

118CD – “Drainage Improvement in Northern New Territories – Package B” (remaining works) and 166CD (part) – “Drainage Improvement Works at Yuen Long – Stage 1”

4. The proposed works are located in rural areas or are adjacent to brownfield sites. The water quality of the surface runoff running through these areas is likely to be affected by the pollutants nearby. Therefore, this kind of surface runoff has to be collected, stored and treated to an appropriate extent before it can be reused. Construction of relevant pipes, pumping stations, storage tanks and treatment facilities would require additional land and will increase project cost and future maintenance expenses. In addition, it is anticipated that the relevant facilities could collect more water only in wet season; limited total amount of water would be collected annually. In sum, provision of rainwater harvesting facilities in the above two works projects could not yield satisfactory results.

114CD (part) – “Drainage Improvement in Southern Hong Kong Island – Package 2A”

5. Although the proposed works are close to Pok Fu Lam Reservoir, there is a level difference of about 30m between the two areas and the relevant water quality is uncertain. In this connection, conveyance of stormwater collected from the proposed stormwater drainage system to Pok Fu Lam Reservoir or using it for other non-potable purposes do not only require construction of storage facilities, but also a pumping station and the associated facilities. Taking cognizance of the construction cost, operational expense and land requirement, it is considered that providing rainwater harvesting facilities in the above project would not yield satisfactory results.

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³ The maintenance and repair costs of the associated pumping and treatment facilities have to be accounted for. In general, as regards drainage improvement works of smaller scale, collection of surface runoff intercepted by rainwater harvesting system for other uses may not be a cost-effective option.