

1. Deodorization measures for the existing Sha Tin STW, Siu Ho Wan STW and Stanley STW

The deodorization measures to be adopted for an STW depend on the design of plant layout and treatment process, as well as the characteristics of its surrounding and the incoming sewage flow. We have adopted the deodorization measures listed in Table 1 below in the existing Sha Tin STW, Siu Ho Wan STW and Stanley STW to suppress odour nuisance.

Table 1 - Summary of deodorization measures for the existing Sha Tin STW, Siu Ho Wan STW and Stanley STW

Name of the STW	Deodorization measures
Sha Tin STW	<ul style="list-style-type: none"> <li data-bbox="544 875 1417 1093">(a) Dosing of chemicals (calcium nitrate) at two major upstream sewage pumping stations, namely Sha Tin main sewage pumping station and Ma On Shan sewage pumping station, to suppress odour generation from sewage; <li data-bbox="544 1137 1417 1355">(b) Covering up of inlet works, inlet/outlet channels of all primary sedimentation tanks and aeration tanks, 12 primary sedimentation tanks (entire surface) closest to the adjacent residential area and sludge treatment facilities to suppress odour emission; <li data-bbox="544 1400 1417 1489">(c) Installation of deodourising units to clean up the collected foul air for discharge to the atmosphere; and <li data-bbox="544 1534 1417 1659">(d) Dosing of chemicals (ferric chloride) at sludge treatment facilities to suppress odour generation from sludge.

Name of the STW	Deodorization measures
Siu Ho Wan STW	<p>(a) Installation of superoxygenation facilities at the upstream Tung Chung sewage pumping station to inject oxygen into sewage for suppressing odour generation from sewage;</p> <p>(b) Covering up of inlet works, inlet/outlet channels of primary sedimentation tanks, ultra-violet disinfection facility and sludge treatment facilities to suppress odour emission; and</p> <p>(c) Installation of deodourising units to clean up the collected foul air for discharge to the atmosphere.</p> <p>(We are also planning to cover up the entire surface of primary sedimentation tanks.)</p>
Stanley STW	<p>(a) Stanley STW was constructed wholly inside caverns. Caverns serve as natural barriers enclosing all odour generating treatment facilities. With an effective ventilation system, all odourous air from treatment facilities in the caverns is diluted by clean air and vented through a vertical shaft for discharge to the atmosphere near the hilltop. Through natural dispersion by wind at the hilltop, no odour nuisance is caused by this STW to nearby residents and school.</p>

2. Deodorization measures for the relocated Sha Tin STW

The relocated Sha Tin STW will be largely accommodated inside a series of caverns with access tunnels and ventilation shafts. Caverns will serve as natural barriers enclosing the treatment facilities which can facilitate effective odour management. In the preliminary odour management consideration, the odourous air inside the caverns will be collected and filtered by deodourising units before it is discharged to the atmosphere through ventilation shafts at a remote location near the hilltop.

The proposed feasibility study will include an odour impact assessment for the relocated Sha Tin STW. The assessment will analyse the environment, wind speed and wind direction in the vicinity of the proposed relocation site (i.e. Nui Po Shan), recommend effective deodourising measures to remove the odour from the foul air collected inside the caverns and identify suitable ventilation shaft location for discharging the cleaned air to the atmosphere so as to ensure that the odour impact from the relocated Sha Tin STW to the nearby residents will be mitigated to a satisfactory level.

The deodourising units currently adopted in the existing Sha Tin STW can attain an odour removal efficiency of exceeding 99%. We believe that the odour management of the relocated Sha Tin STW inside caverns will be more effective than that in the existing Sha Tin STW, which has an open plan design.