



Sierra® Slope Retention System blends in with the surrounding environment, improving the overall aesthetic quality of the structure



**Walls & Slopes**  
**Nº 480**

## **SENTX Landfill**

📍 South East New Territories,  
Hong Kong

**CONSTRUCTED IN 2021**

### Benefits

#### **Ease of installation**

as the lightweight facing was easily transported

#### **Enhanced durability**

against weathering and corrosion degradation

#### **Proven savings**

in construction, transportation and storage costs

### **Innovating Sustainability**

Sierra® Slope retention system is a sustainable and cost-effective solution that stabilises slopes in areas with varying elevations, preventing damage to infrastructure, property, and human life whilst improving stability and aesthetics.

#### **CLIENT'S CHALLENGE**

The development of the project required a new access road next to the existing town gas facility. Due to significant changes in ground level between the access road and the existing town gas facility, Steep Reinforced Soil Slope was needed to provide accessibility while staying within budget.

#### **TENSAR SOLUTION**

Tensor worked with the consulting engineer and contractor to provide a cost-effective, durable, and attractive solution to the problem using the Sierra® Slope retaining system. It was also capable of being designed and constructed using Type I fill material in accordance with Geoguide 6.



(Left) Construction completed in 2021 | (Right) Sierra® Slope Retention System facing details with stone wraparound

## PROJECT BACKGROUND

SENTX landfill is a waste management project in Hong Kong that aims to address the city's growing waste management challenges. The landfill spans an area of approximately 200 hectares and was designed to accommodate up to 25 million tonnes of waste. As part of the landfill's construction, a reinforced soil structure (RSS) was installed to stabilise the slopes and prevent erosion. The RSS is approximately 155m length and 4.6m in height with 60° face inclination.

The structure is made up of layers of compacted soil and Tensar RE500 uniaxial geogrids, with Sierra® Slope retention system and support struts as the facing. The facing is spaced at 0.45m interval with setback at every layer to form the slope gradient.

The use of Sierra® Slope retention system in the SENTX landfill project was an effective and sustainable solution to provide accessibility for varied contours and to ensure the stability of the landfill slopes. The structure has been designed and constructed to withstand the forces of gravity, wind, water, and is expected to last for many years without requiring significant maintenance.

## Main contractor

Chun Wo Construction  
Holdings Company Ltd

## Consultant

AECOM

## Client

Green Valley Landfill, Ltd