

### SCHEME

Ogmore Vale Sewerage Improvement Scheme

### CLIENT

Welsh Water Capital Alliance

### CONTRACTOR

David Lewis Civil Engineering under the Alliance in South West Wales, a strategic partnership between Welsh Water and Morrison Construction Ltd with the support of designers from City and County of Swansea



### PIPE APPLICATION

225m of 1500mm diameter WEHOLITE HDPE class 2kN/m<sup>2</sup> pipe installed as 650m<sup>3</sup> attenuation tank and combined sewer overflow

**Simplicity of installation and transport costs deciding factor.**



The designers of a £600,000 sewerage improvement scheme in South Wales adopted an innovative approach to the construction of a large storm water storage tank in the congested heart of a valley's town.

The unique design, championed by engineers at the City and County of Swansea's Technical Services Department, not only overcame the problems presented by the location - at the bottom of a steep valley - but provided a quicker, cost-effective and environmentally friendly solution for the client, Welsh Water Capital Alliance.

The 650m<sup>3</sup> capacity attenuation tank and combined sewer overflow (CSO) is designed to provide storage for untreated sewerage and storm runoff in times of heavy rainfall. The attenuation tank acts as a buffer, storing excess waste water that cannot be handled by the existing sewerage system and then releasing it in a gradual, controlled manner over a period of time.

The tank comprises of five lengths of 1.5m diameter WEHOLITE pipe connected by prefabricated WEHOLITE manifolds at both ends. The entire structure is 55m long and 13m wide, and was installed into a 3m deep excavation supported by sheet piling driven 2.5m into the ground.

Unique to this design was the inclusion of a control structure with weir-wall and debris screen assembly as part of the WEHOLITE

manifold fabrication. Normally these features are housed in a separate reinforced concrete chamber, which had to be constructed by traditional methods.

At Ogmore, the prefabrication of this element made a significant difference. "This design has been of huge benefit to the project," said Steve Jones, Morrison's works manager. "By having the control structure delivered from the factory as an integral part of the manifold it meant this part of the project was not weather-dependent, nor were we affected by the very high water table at this site. It might have taken 4-6 weeks to cast a manifold chamber - whereas with WEHOLITE, we installed the whole thing in about 20 minutes."

Transportation along the narrow, winding roads and the impact of lorry movements on the local residents were also issues which contributed to the decision not to specify concrete pipe or box culverts.

"As well as providing a viable solution in a difficult location, WEHOLITE also saved us time, money and reduced the impact of the project on the local environment. The ability to use smaller plant and the relative ease of movement and placing were also appreciated on this particularly congested site," said Morrison's Steve Jones.

Once completed, the area above the tank will be re-instated as a car park.

## THE ESSENTIAL SOLUTION FOR PIPE USERS NATIONWIDE

### CONTACT ASSET International Ltd:

Head office: Stephenson Street, Newport, South Wales, NP19 4XH

Tel: 01633 271906 - Fax: 01633 290519 - E-mail: sales@assetint.co.uk - Web site: www.weholite.com

Scottish office: 1 McMillan Road, Netherton Industrial Estate, Wishaw, Lanarkshire, ML2 0LA

Tel: 01698 355838 - Fax: 01698 356184