Colwyn Bay
combined surface water and CSO improvement scheme

SUPPLY CHAIN MANAGEMENT **CASE STUDY**

Colwyn Bay, located on the north coast of Wales, is a popular tourist resort. This £2.5 million CSO scheme was required to improve unsatisfactory surface water discharges in Colwyn Bay that did not comply with the 3 spill events per bathing season under the Bathing Water Directive. The scheme was a continuation of the AMP2 Ganol Scheme, part of the DCWW 'Green Seas' initiative programme.

Construction of Colwyn Bay CSO storm facility

Areas covered by the Scheme were previously identified by the EA as polluted discharges onto the bathing beach at Colwyn Bay from both river/stream and sewer/culvert flows. Following identification of the pollution areas, extensive survey work was carried out in 1999 and 2000 to identify the cause and hence source of the pollution. On completion of the survey it was then possible to calculate the extent of pollution and determine a solution whereby discharges could be limited to a maximum three spills per bathing season.

Various causes for pollution were discovered and, based on locations, this necessitated eight separate schemes in order to solve the problems. The main problem identified was polluted surface water sewers discharging into streams.

The solutions adopted varied from interception of surface water systems to transfer of flows to either pumping stations or storage facilities. The flows would eventually be passed into the town's foul or combined sewer systems at regulated rates depending on the available capacity of existing sewers. In all cases, storm overflows were screened.

Tank capacity

The capacity of pumping stations and storage tanks were designed to meet the EA criteria of three spills per bathing season. Modelling was carried out on the whole system to ensure that proposals would tie in with works previously carried out in the Colwyn area as part of the Ganol Scheme.

Pumping stations varied in size as did the storage tanks, the maximum on line storage was 400m^3 clear storage, whilst the largest tank was 10 metres in diameter and 20 metres deep.

Construction of Colwyn Bay CSO storm facility

Improving quality

As part of the works it was necessary to improve the quality of discharge at two existing CSOs in Colwyn Bay. Both schemes involved the replacement of existing electrically powered raked bar screens with *Hydro* powered brush screens. Both screens were designed to retrofit existing chambers and to screen flows in excess of 1 cumec. The final design was model dependant but also governed by topographic constraints and the proximity of existing facilities.

The Alliance pain/gain formula was agreed between the Strategic Partners and DCWW in order to provide incentivisation to the AMP3 Programme. The Final Out Turn Cost produced for the Scheme was 5% below the Agreed Target Cost.

The Colwyn Bay scheme was one of the first projects to be undertaken by *Galliford* as a partner of the Welsh Water Alliance and, as such, was used to establish all the principles of good supplier management. Galliford implemented, through a selection process for the scheme, two long term relationships which they propose to develop over the remaining years of AMP3.

One of these relationships was with a major Civil Sub-Contractor *(William Hughes)* and the other was with a major Shaft Contractor *(E J Kelly)*. Both contractors were selected on a competitive basis and thereafter engaged on a Target Cost, pain/gain arrangement. Both contractors are continually monitored regarding performance with the aim to improve performance and reduce costs on subsequent projects.

Cost saving initiatives

The partnering culture, combined with effective supplier management and collaborative working, resulted in major cost saving initiatives being identified and implemented into the Colwyn Bay scheme. These included:

* Llanelian Road and Lawson Road – use of 1800/2200mm diameter *Tubosider* corrugated steel pipes in lieu of concrete giving major savings in installation costs;
* Llawr Pentre – use of existing redundant gas main as ducts giving a no dig solution.

The Colwyn Bay CSO scheme embraces all of the Alliance principles with the aim to co-ordinate and manage activities within a partnering environment to deliver a solution within time and below cost.

The main activities accountable for this are:

* providing a communication channel from delivery team to the strategic group and vice versa;
* implementing the Business Excellence Model (BEM) within Alliance and delivery teams;
* co-ordinating of best practice;
* communication of DCWW and other stakeholders issues to Alliance and vice versa;
* programme and financial management;
* Health and Safety management;
* ensuring that best practice initiatives are implemented;
* developing supply chain initiatives.

Work on the project commenced in December 2000 and completed in November 2001.■

Strategic Partners: *Galliford Northern; Dwr Cymru Welsh Water (DCWW); EC Harris; Conwy County Borough Council, Montgomery Watson; William Hughes.* **Region: North Wales**