Accurate and comprehensive land records improve design, site and boundary management saving costly mistakes

Isle of Grain Masterplan

The complexity of the Isle of Grain site meant traditional methods of survey would be expensive and timeconsuming. Atkins produced accurate mapping for less than half the cost of a ground survey. These enabled height datum and clear boundaries to be produced.

The Business Challenge

The land owned by National Grid on the Isle of Grain in Kent covers an area of some 675 ha. As well as the the remnants of the original gas facilities it includes the Grain LNG storage site, Isle of Grain and Medway Power Stations, Thamesport container terminal and an oil storage site. During the current expansion of the Grain LNG site, problems were identified with the accuracy of existing site drawings and Atkins were asked to undertake an analysis of the questionable areas and re-establish permant site grid control points and install a site height datum.

The results suggested serious errors in the existing drawings and on our recommendation, Grain LNG commissioned an aerial survey of the whole site, the delivery pipeline corridor and the Medway gas terminal.

The Atkins Solution

Within three months we delivered comprehensive 3D topographical drawings at 1:500 along with a rectified orthophoto mosaic for around £100 per ha., all of which were well received by the client. For the first time they had full up-to date accurate drawings of their entire facility. The potential construction mistakes from using the old details are likely to have been many times this small outlay and emphasises the overall benefit of having accurate contemporary information to work with.

The benefits these drawings brought to Grain LNG were soon apparent to the the overall site owner, National Grid, when their land agents were attempting to provide plans from Ordnance Survey data for the control of lease boundaries and the proposed development of the old gas site. Much of the existing information was out of date or was not accurate or detailed enough to meet their requirements.

Following presentation of example mapping for the Grain LNG site, we were commissioned to map the entire National Grid owned site, including the power stations, oil and container terminals. The survey provided not only an authoritative and comprehensive record of the site but also design quality 3d information suitable for all the future development opportunities. The drawings were also able to resolve a number of lease boundary disputes which had been difficult to resolve for some time.

In addition, the drawings have been used as the overall base map for all remediation and infrastructure work since the survey was produced.

Outcome and Key benefits

- Less than half the cost of ground survey
- No access required in restricted or dangerous locations for survey
- High resolution imagery and orth-rectified imagery for desktop analysis, display and as an historic record
- Swift mapping of additional areas without further site visit
- Accurate maintenance of lease boundaries.