



Outfalls and Intake Pipelines

Land & Marine has a long and successful track record of installing marine outfalls and intake pipelines using pulling, towing, float-flood, pipe by pipe and horizontal directional drilling techniques. We have the experience and expertise to construct and install outfalls and intake pipelines manufactured from steel, concrete or plastic and the know-how to engineer the methods accordingly.

Operating internationally, we strive to develop high quality technical solutions using the most effective and appropriate installation techniques available. Over the years, our innovative ideas have helped Land & Marine develop a number of novel methods of pipeline installation.

Provided by the experienced team from Land & Marine

www.landandmarine.com

Did you know?

- In 1966 we engineered and constructed the 2.5km long 2.24m diameter primary effluent outfall complete with no less than 84 diffusers at Schevevingen in Holland
- Known as The Hague Outfall, the steel pipe with concrete lining and concrete coating is we believe, among the largest pipes ever installed by the bottom pull method. The 356mm diameter 10km long sludge outfall installed as part of the same project was one of the longest pipe pulls carried out by Land & Marine!
- We installed twin 1.5m diameter long sea outfalls 1.5km and 2.5km long in Sri Lanka in 1986 and in 1992 constructed twin 2.4m diameter 2km long outfalls offshore Athens; both manufactured from reinforced concrete and installed using the pipe by pipe technique
- In 2003 we pioneered the use of our Flow-Lay® method to install heavy weight concrete coated steel foul and storm water outfall pipes, at Gullane in Scotland. Fabricated at a remote site and bundled together, the pipes were surface towed into position and flooded down with complete control and precision
- In 2005 we designed and installed twin 1.6m diameter intake pipelines for the Zuara desalination project in Libya. These pipes weighed 6,500 Tonnes in air and were installed using the off-bottom tow method

What techniques do we use?

Land & Marine's business originated to install pipelines primarily:

- in the inter-tidal zones
- across shorelines, beaches and cliffs

Today, our wide range of methods for pipeline installation includes:

- Bottom pulls and tows
- Off bottom pulls and tows
- Float and flood
- Flow-Lay®
- Directional Drills
- Pipe by pipe

Traditionally outfall and intake pipelines have been installed directly into pre-dredged trenches. Alternative methods of post-lay trenching or jetting techniques can be adopted using the Land & Marine designed and built TM series of trenching machines.

For more details on this and other services visit:

www.landandmarine.com

What can Land & Marine offer you?

- A thorough understanding of all the methods, materials and options available
- We are frequently engaged to conduct feasibility studies
- Engineering of an outfall or intake system, including hydraulic, stability and diffuser or intake head design
- Project and construction management
- Land and hydrographic survey capability
- An extensive range of pulling equipment including a construction barge and other vessels
- Horizontal directional drilling and trenching machine capabilities
- Highly professional staff and technicians able to work around the world; often in remote or difficult locations

What are the ingredients for success?

- Safety is planned into our operations from the outset of concept selection and design
- A wealth of experience
- Wide appreciation of the design aspects together with a comprehensive range of installation techniques gives us the special ability to put the optimum package together.
- Our innovative methods can bring about savings both on schedule and cost

This is Land & Marine.

We are well known for our professionalism and the quality of our work and this is the tradition we aim to retain. We will work with our clients to provide the solutions which best meet the needs of the project, mitigate the environmental impact and overcome the technical challenges to bring about a safe and effective result.

Land & Marine operate to the highest quality, safety and environment standards and is accredited to ISO 9001, ISO 14001 and OHSAS 18001.

Land & Marine

Land and Marine Project Engineering Ltd

Dock Road North, Bromborough,
Wirral CH62 4LN United Kingdom

T. +44 (0)151 641 5600

F. +44 (0)151 644 9990

E. company@landandmarine.com

W. www.landandmarine.com

Products & Services Available From Land & Marine include - DOWNLOAD FROM WEBSITE

Marine Pipelines

Landfalls (or shore pulls)
Outfalls and Intakes
Crossings
Marine loading lines and SPM's

Installation techniques include:

Bottom Pulling and Towing
Off-Bottom Pulling and Towing
Controlled Depth Towing
Flow-Lay®

Engineering

Feasibility Studies
Project Engineering
Detailed Design & Analysis
Tank Engineering Services
Waste Water Engineering

Plant & Equipment Hire

Linear and Drum Winches
Trenching Machines
Pipe Handling Equipment
Work Barge

Other Services

Cross Country Pipelines
Major Process Plant and LNG Pipework
Aviation Refuelling Systems
Tank Fabrication
Tank Seals
Horizontal Directional Drilling
Project Management
Land & Hydrographic Survey