



WJ UK

Expert in Water Management



We are WJ UK

Part of the WJ Group, WJ UK offers a complete groundwater control and management service, which encompasses design, installation and maintenance programmes to businesses throughout the UK and Ireland. Working within many industry sectors, we are proud to have been part of some of the smallest and the largest infrastructure schemes across the UK.

With over 35 years of experience and more than 2,500 projects to our name, we are dedicated to investing in technology to constantly improve the services we provide. Our innovative technology and systems provide us with an unrivalled service of which we are immensely proud.

We deliver an outstanding service to clients of all size, from simple residential groundwater control to large-scale national water management projects. From design solutions to construction dewatering and plenty in between, every one of our 70+ WJ staff share one key objective - delivering confidence through excellence.

Water Management Services

It is no secret that water can pose one of the largest risks to a construction project.

WJ not only aims to help our clients understand and manage these risks, but also provide competitive and practical solutions for all of your water management needs.

Good water management can:

- Improve working conditions
- Produce pumped water free of suspended solids
- Improve excavation stability often allowing increased angle of battered slopes
- Reduce additional temporary works measures
- Improve earthworks productivity
- Reduce environmental impacts
- Improve safety for your work force
- Reduce project costs and programme time



Construction Dewatering: Deepwells

Deepwell construction dewatering systems lower groundwater levels using a series of drilled wells, each fitted with its own electric submersible pump.

Large drawdowns can be achieved as the only limits are well depth, pump performance, and prevailing ground conditions. WJ carefully design and install deepwell systems to maximise drawdown and pump efficiency whilst ensuring a discharge free of suspended solids.



At the heart of each system an innovative electrical pump station is used to power and control multiple pumps from a central location. Control options include automatic mains failure (AMF) switchover to standby power, visual/audio/GSM text alarm systems, and a secure cloud based data logger for monitoring groundwater flows, pressures and levels.



Construction Dewatering: Wellpoints

Wellpoints are used to lower groundwater levels and improve working conditions in shallow excavations.

Groundwater is abstracted via the wellpoints from a vacuum generated by a centrally located suction pump. A wellpoint is capable of drawing water from the ground up to a depth of 6m and is ideal for shallow excavations, basements, pipelines, confined spaces, underpasses and tunnel environments.

Pumping options include surface electric or diesel suction pumps and super-silenced models for residential areas.

Installation is achievable by water jetting, augering or rotary drilling techniques.



Construction Dewatering: Ejectors

Ejector, also known as eductor-dewatering systems, are used to control pore pressures. They also lower groundwater levels in silty fine sands and laminated silts and clays.

Ejector pumping stations located centrally feed high-pressure water to the base of the wells via an ejector body. The flow of water through the nozzle generates suction in the well drawing in groundwater.

Ejectors can dramatically improve ground conditions up to depths of 50m. WJ is the industry leader in the design, installation and maintenance of ejector systems.



Well Drilling Services

WJ have the capabilities to both design and drill wells for your project.

WJ operate an extensive fleet of modern EU emission standards compliant rotary drilling rigs with the capability to drill in excess of 200m depth at diameters of up to 600mm.

Our drilling crews and supervisory staff are trained to the highest standards and have global experience in water well, geotechnical, and geothermal drilling. We have the capability of developing wells in a variety of strata using a wide range of methods including acidisation and airlift techniques.



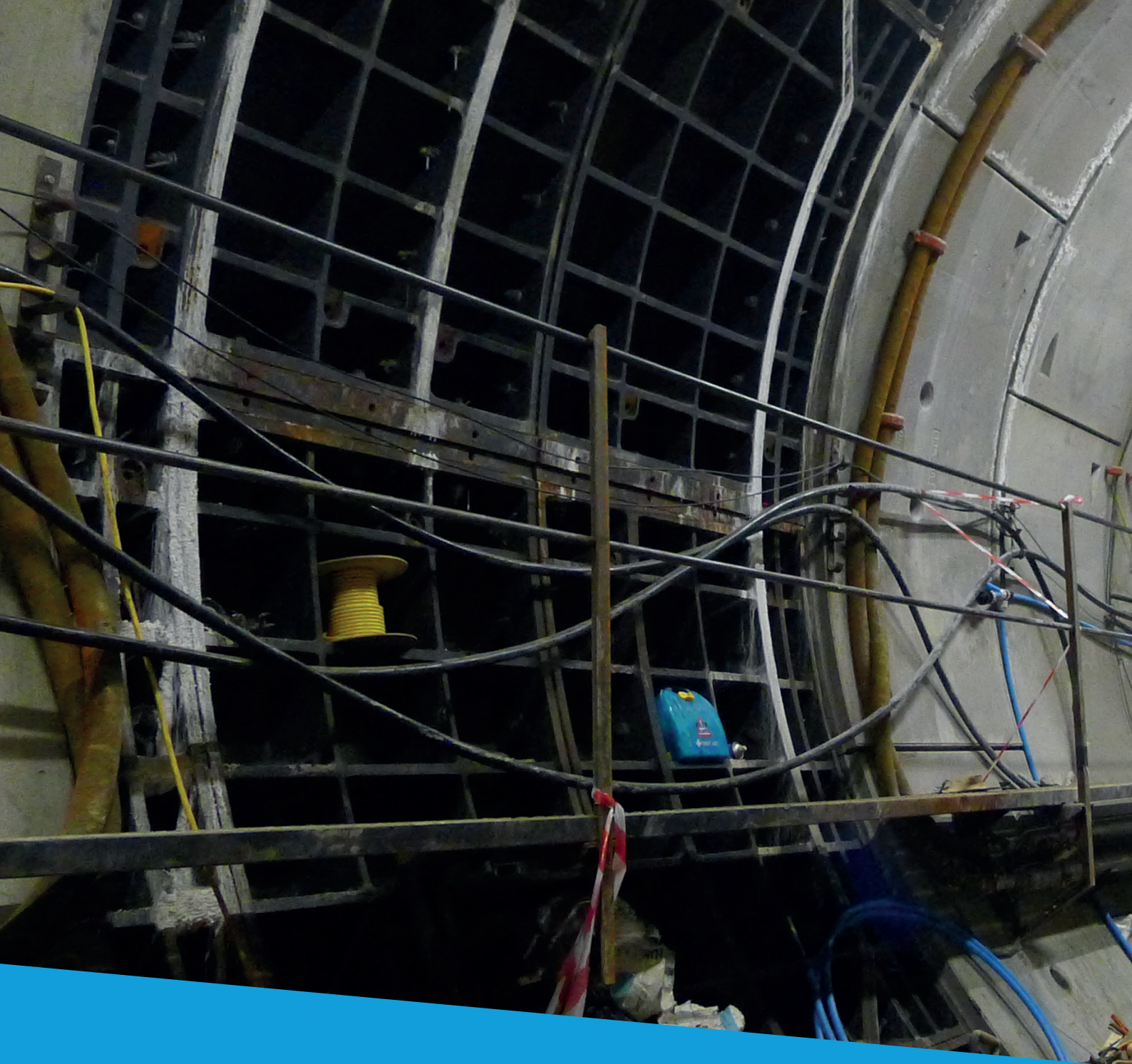
In-Tunnel Drilling & Probing

WJ are the leading UK contractor for the installation of in-tunnel dewatering systems and investigative probing surveys.

Our fleet of articulated restricted access rigs are capable of installing both in-tunnel wells and probe holes axially, radially and at a range of inclinations, ahead of tunnels, cross passages and shaft construction.

Dependant upon ground conditions and project requirements our rigs are capable of drilling distances of up to 20m.







In-House Design and Consultancy

WJ have unrivalled in-house expertise, experience and knowledge of the design of a wide range of water management control systems.

WJ is able to provide a range of consultancy services:

- Computer modelling of groundwater (e.g. MODFLOW, SEEP/W, Aquiferwin32)
- Assessment of site investigation data for the purposes of groundwater control
- Investigation of settlement risks due to construction dewatering
- Design development of water management control strategies
- Pipeline design
- Liaising with EA and other relevant bodies over abstraction and recharge licencing and permitting



Pumping Tests

WJ is the leading contractor in the design, installation, management and analysis of pumping tests.

Pumping tests are vitally important to understand the hydrological profile of the site. We recognise that best value engineering solutions are developed through a team approach with the client, Environment Agency and consultant engineers. When possible we participate in early contractor engagement to enable WJ to fully develop a robust groundwater control strategy best suited to the clients needs.

At WJ we provide state of the art pump controls, telemetry and monitoring services to give our clients unrelieved service over our competitors



Instrumentation and Monitoring

Monitoring and management of data is an important process for many construction projects and provides key information, allowing long term geotechnical and hydrogeological trends to be identified, preventative measures planned and provides useful intelligence for future design and construction methods.

Our dedicated team provides secure cloud based data monitoring dashboards to allow remote 'real-time' system status monitoring for our clients.

WJ offer a variety of monitoring instrument options including:

- Piezometers, standpipes and transducers to monitor groundwater levels
- Flowmeters to measure the flow of water
- Inclinometers, extensometers and strain gauges to monitor the movement of slopes and structures
- Earth pressure cells to measure the stress and pore pressure in soil
- Weather stations to monitor external weather and tidal conditions
- Pump status sensors to monitor pump activity
- Thermal Response Testing (TRT)
- Deep datum



Water Treatment & Suspended Solids Control

WJ designs, installs and operates rapidly deployable water treatment and solids control solutions.

Our range of pump and treat options together with early contractor engagement allows us to provide a bespoke, well budgeted and targeted scheme.

WJ hold an Environment Agency mobile water treatment plant licence and can assist with liaising with relevant bodies to obtain the relevant consents for any size of project.

WJ has experience in dealing with petroleum hydrocarbons, chlorinated solvents, metals and pesticides.

Treatment technologies and options include:

- Settlement tanks for suspended solids control
- Oil/water separators
- Chemical dosing
- Plate/tower air strippers
- Carbon and sand filters
- Ion exchange filters
- CO2 pH balancing and correction:



Sump Pumping & Overpumping

WJ have extensive experience in providing sump pumping and overpumping solutions as a part of a complete water control strategy for a project.

All WJ pumps are fully tested and serviced before being deployed to site to ensure each pump performs at its optimum efficiency and effectiveness.



The Water Management Partner of Choice

We strive to deliver confidence through excellence for every project. But don't take our word for it, take a look at what our clients say about working with WJ UK...

"WJ designed and installed an effective solution to control the groundwater for our basement excavation. Their work was carried out efficiently, safely and to programme."

Laing O'Rourke

"Positive helpful staff throughout a challenging project."

Derry Building Services

"Very professional and have great technical and practical abilities."

Ward & Burke Construction

"Very satisfied with service from the initial site meeting through to demobilisation future."

CPL

"Proper followup, professional team personally present at the time. Supported the project at all levels."

Ceinsa Construction

"Overall the dewatering works were a success and I felt WJ Groundwater were easy to deal with and extremely helpful when called upon. I hope to work with them again in the future."

Careys Civil Engineering

"Great, friendly service. Very helpful and easy to work with."

M Lambe Construction

"WJ designed and installed an effective solution to control the groundwater for our basement excavation and deep core areas. Their work was carried out efficiently, safely and to programme project."

Brookfield Multiplex

"WJ's installation team was excellent. Of special note was WJ's expertise in contractor assistance to mitigate risks for our forward planning."

Hochtief Murphy JV

Our core values are at the heart of what we do

Confidence • Pride • Trust • Conscientiousness



Find out more

There's so much more to tell than we can share here.

For more information about WJ UK, our services, the sectors in which we work, our awards and accreditations, not to mention our extensive library of project case studies and white papers, please visit our website or contact us directly.

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