

SUSTAINABLE PILING

THE GROSVENOR WATERSIDE, CHELSEA, WEST LONDON (2006)



During work to construct a complex of apartment blocks in Chelsea, a number of old steel piles were discovered. The 4m piles dated back to 1900's and were in the way of the new work.

The main contractor for the ground works Laing O'Rourke, sub-contracted the work to remove the piles out to Dawson Contract Piling.

As the site was in the middle of a recently populated residential area, a quick and more importantly, quiet and vibrationless method of extraction was needed. DCP brought one of it's Push Pull units to site, capable of generating extracting forces upto 200t.

Because the piles were buried in extremely wet ground, they were relatively easy to remove. The water also prevented corrosion and the piles were in excellent

condition. This job demonstrated the durability of steel, even after nearly a 100 years of service life, it doesn't necessarily corrode.

Laing O'Rourke called back Dawson Contract Piling to extract more piles for removal that were preventing build work on a new quay wall. This time the piles were 5 years old and right against an existing wall. DCP employed it's 3 Ram Push Pull to extract them.



Technical Specifications

Dawson Contract Piling commenced work with a 2 Ram Push Pull machine mounted on a 50t Liebherr Piling Rig. The equipment consisted of 2 powerful hydraulic cylinders, capable of generating upto 200t of pile extraction force through a set of hydraulic actuated taper wedge jaws.

It was tasked to remove 80 year old 4m piles. With the equipment able to remove at least 2 piles at a time, Dawson Contract Piling pulled out 36 piles in five separate areas.

Phase 2 of the work consisted of extracting a sheet pile cut off wall built from about 123, 10m long PU22's. This meant pre-augering down the front of the piles to release some of the ground

pressure. The piles were ear marked for re-use on another job.

A 3 cylinder hydraulic Push Pull was used and as the piles were right against an existing wall, the machine extracted them by pulling on a convex faced pile with one hydraulic cylinder, while the other two resisted the uplift by pressing on convex faced piles either side. One adjoining concave pile was welded to each convex one so that it was lifted at the same time.

60 piles were extracted in this manner and were all in reasonably good and reuseable condition.



ADVANTAGES OF DAWSON SYSTEM

- . Quiet and vibration-less
- . Powerful Push-Pull force of up to 200 tonnes on each ram for effective installation and extraction
- . Fast installation or extraction rates deliver high productivity and economy
- . Ready configured to suit Z, U & H-pile profiles in groups of between 2 to 6
- . Offers truly recyclable foundation solutions
- . Standard Z-piles can be installed close to property boundaries - maximise development footprint
- . Leader guided operation reduces interlock friction and produces high quality, accurate installations
- . Piles can be removed, returning site to original 'greenfield' condition
- . Piles can be threaded without the use of a crane
- . No spoil removal to landfill
- . No ground heave

