



Alun Griffiths



Sheet Piling



October 2023



5 Weeks

Universal Piling were contracted by Alun Griffiths to deliver the sheet piling & tie bar system element of their project at Bangor Gwynedd, as part of the Hirael Bay flood alleviation scheme.

The Sheet Piling works at Hirael Bay were to form part of the Hirael Flood Alleviation Scheme, required to provide an improved level of flood protection to parts of Bangor which are at risk of tidal flooding. Following our review of the initial scheme design we were able to reduce the section of the Sheet Piles and make savings to the cost and programme of the overall scheme through collaborative working between our designers, our client's design team and their client's engineers. The final scheme consisted of a 310m long Primary Sheet Pile wall, installed in front of the existing Sea Wall with a further, 175m long Secondary Sheet Pile Wall behind the existing promenade with tie bars installed between the walls supporting the Primary Wall in the zones subject to the highest stresses. The outcome of the revised design was to provide a scheme that fulfilled the specification in the most economical way.



Universal Group

1st Floor, Ashbrook House
Forest Street, Sutton in
Ashfield, Nottinghamshire
NG17 1BE

Reg03728536, VAT990830888



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All of the Sheet Piles were installed using excavator based Movax equipment from the existing promenade. As well as the technical challenges, there were also the expected logistical challenges to overcome when installing sheet piles within a beach below the high tide line. This was made all the more interesting by further restrictions to one area of the site associated with nesting birds! Despite these challenges, the works were completed ahead of programme.

In terms of numbers, the works comprised of:

- 450no. EZ piles, 12m to 14m long to form the Primary Wall
- 250no. EZ piles, 6m long to form the Secondary Wall
- 63no. Tie bars
- 350m Waler Beam



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