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Olaf Sorensen, Chairman

Ltd to where it is today.

One of my proudest achievements to date is our health and safety record of having no major accidents or incidents in over 40 years of trading. This single statistic is a reflection of our commitment to health and safety across all of our projects. I believe that a lot of our repeat and referral business can be attributed to our health and safety performance on our past projects. I am confident that with the calibre of our current crop of people and our robust health and safety procedures in place that we will do everything in our power to safeguard this vital statistic into the future.

I also hold dear our ability to work with all of our clients amicably in relation to the commercial aspects of our projects. Throughout my time in this business, we have never failed to come to an amicable agreement on a final account with any of our clients.

growth in the future.

Olaf Sorensen





Foreword

I founded Sorensen Civil Engineering Ltd in 1977 after serving my time as a graduate Civil Engineer with a well known Limerick based Civil Engineering Contractor. During my 40 years running this company, we have survived two economic recessions and experienced the infamous Celtic Tiger era. I attribute our survival and success to the calibre of people involved and their commitment to the business. I have been fortunate to have worked with some of the industry's brightest and most innovative people throughout my time in this business who have assisted me in steering Sorensen Civil Engineering

Looking forward, I am very excited about the future of the company, especially with regard to the opportunities associated with our new marine division that is being led up by our Marine Director, Louis Keating. This new venture is proving very successful to date, and I look forward to continued steady



an efficient, tightly-run organisation.

Our services include:

- Traditional Contracting •
- Design & Build .
- Design Build & Operate
- Project Management
- **PSCS** Services
- **Design Solutions**

Sorensen provides technical assistance through all stages of the project management process from Concept, Planning, Design, and Budgeting through to Construction, commissioning and Hand-Over. Going forward, we are fully committed to working with our clients and their professional teams to achieve optimal construction solutions and to deliver best value to the highest possible standards in safety, environment and quality.

The company has a proven track record of successfully delivering civil, marine engineering and construction projects which has resulted from practical experience coupled with technically adept and motivated staff. This approach results in the same high degree of expertise, quality, safety and commitment across all of our projects. We pride ourselves on our track record of frequently providing innovative and progressive value engineering solutions to complex engineering challenges across a variety of projects for all of our clients.

Central to our operation is a commitment to the core values of Safety, Quality and Environment. Our Integrated Management System has achieved accreditation by the National Standards Association of Ireland to IS EN.ISO Quality 9001:2015, IS EN.ISO Environment 14001:2015 and ISO 45001:2018 Safety. Additionally, our A-Rated Safety Management System is accredited by IOSH to Safe-T-Cert standards. We are also members of the Construction Industry Federation and the Construction Industry Register Ireland (CIRI).



Introduction

Sorensen is an Irish based, multi-disciplined, civil engineering and construction company that was established in 1977 and has grown and developed over the years to become one of Ireland's leaders in civil and marine sectors. As a mid-sized progressive construction company, we offer all of our clients a cost-effective, flexible, professional and personal service from

We have recently opened an office in the UK where we have secured a number of marine projects. It is our aim to steadily develop a new client base and supply chain in the marine sector across the UK in the coming years.



80 Tonne excavator in operation on a spud leg barge constructing a new effluent outfall in Co. Waterford







Civil Projects

Sorensen Civil Engineering Limited has delivered a wide variety of projects administered under a range of contract types including FIDIC Rainbow Suite, NEC3 ECC, Public Works Contracts and Bespoke Contracts. We are experienced at delivering projects for our public sector clients as well as clients from the private sector. We have a particular focus on value engineering and innovation throughout all of our projects, we feel this results in added value for money for all of our clients.

Sorensen Civil Engineering Ltd has an extensive portfolio of completed projects across a number disciplines within the construction industry.

- Water & Wastewater Treatment Plants
- Drainage & Pipelines
- Roads
- Landfill
- Urban Renewal
- Industrial & Pharmaceutical
- Tunneling
- Site Development
- Utilities
- Bridge Building
- Wind Farms



Completed works at the Alza Pharmaceutical facility in Cashel

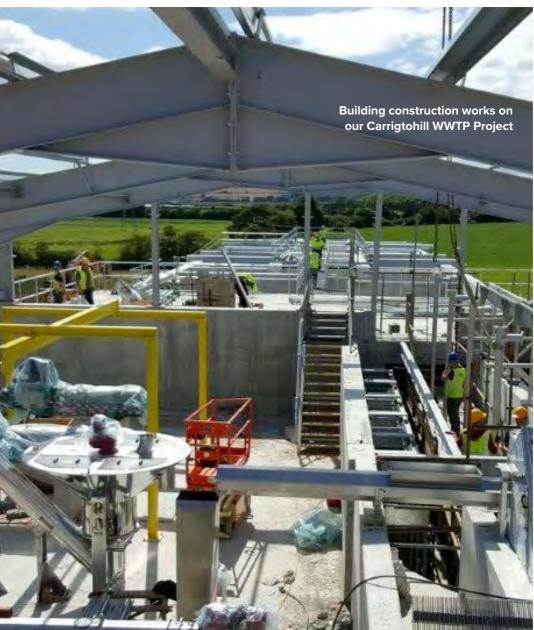








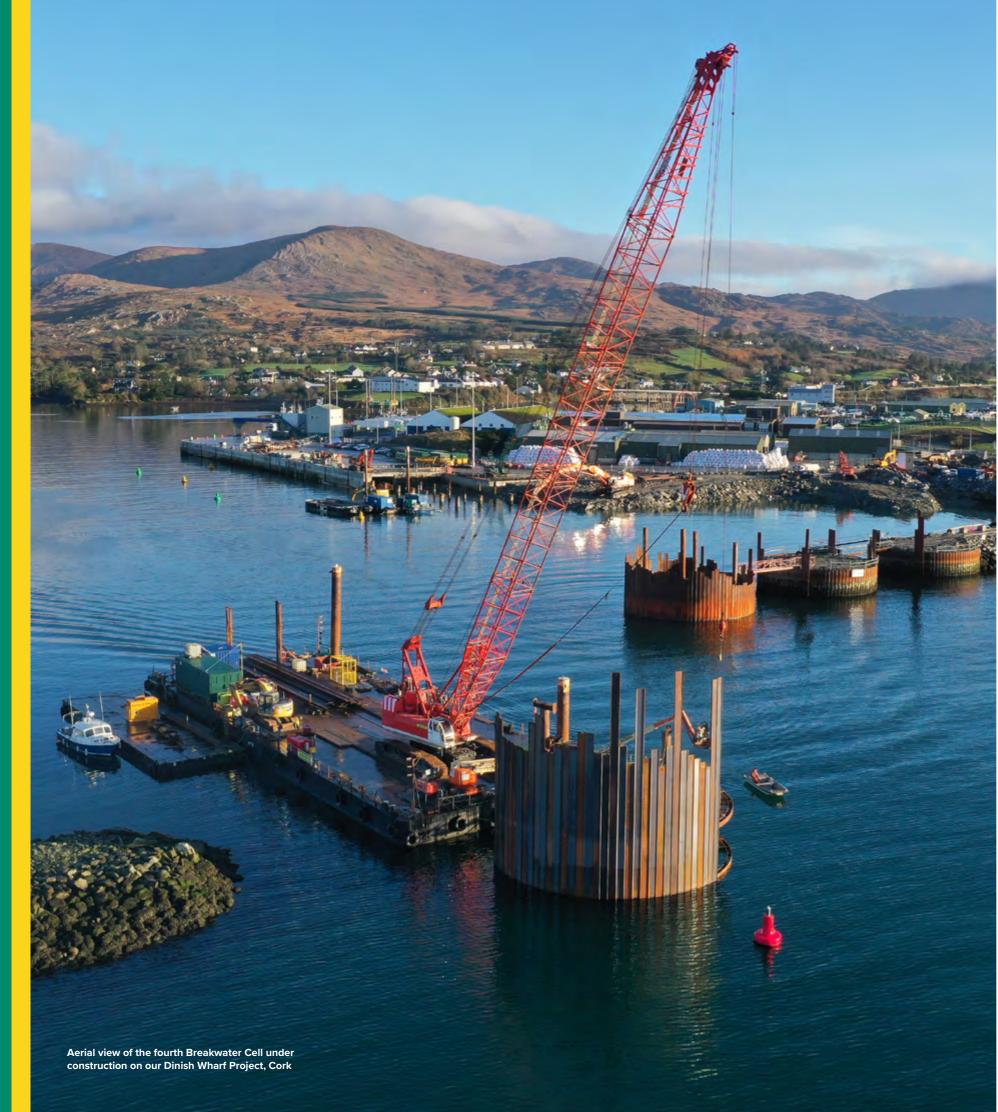
Beam Lift on the N22 Gortatlee to Farranfore Road











Over many years Sorensen has a history of delivering marine works including some large and complex marine outfalls, river and estuary pipe crossings, quay walls, coastal protection and sea-side amenity works.

Our Marine Director, Louis Keating, has successfully developed and expanded our marine expertise and resources to encompass all aspects of heavy marine Civil Engineering and the Company has acquired in-house resources to successfully deliver marine projects in both Ireland and the UK.

Projects successfully completed include both traditional Employer Designed works as well as Contractor Designed works. A key differentiator in our approach to constructing challenging marine projects, whether designed by ourselves or others, is our early detailed review of buildability and risk assessment of the proposed construction sequence. This exercise often leads to innovative and economic construction methodologies being developed and can offer significant Value Engineering opportunities with minor design changes to the permanent works.

Recent projects successfully carried out include;

- •
- Sheet piling
- Steel combi wall construction
- Circular flat-sheet-pile cells .
- Driven marine piles .
- Open jetty structures
- Floating pontoons & marinas •
- •
- Revetment construction •
- Dredging and underwater rock removal
- Marine outfalls .
- Slipways



Marine Projects

Our in-house team offering specialist marine construction includes Engineers, Foremen, Planners, Piling Operatives, Fitter-Welders, Floating Plant Operatives and Heavy Plant Operators. The Company also owns a number of large crawler cranes, piling equipment, vessels and a large portfolio of heavy plant suitable for marine construction, and works closely with a number of key subcontractors covering such specialities as Diving, Dredging, Marine Explosives, Marine Plant Hire, Drilling, Anchoring and Grouting.

Masonry, precast and in-situ concrete quays

- Fendering systems, design, supply, installation, repair, replacement

Sub-sea pipe and cable installation

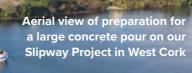




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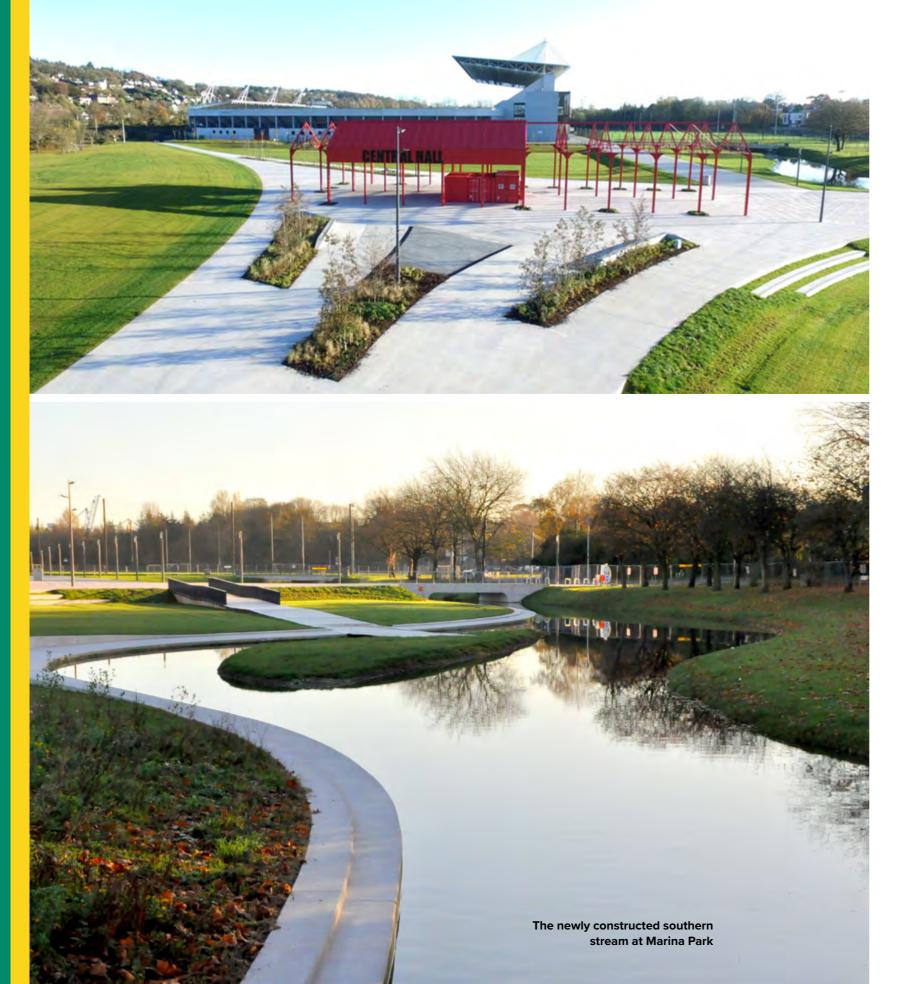






Dredging Works continue from both land and marine barges in Dinish Harbour

> Aerial view of two of Sorensen's crawler cranes in action on Marine Projects



Marina Park

Monaghan Road, Cork City

Sorensen Civil Engineering Ltd successfully delivered this eye-catching, high-profile project for our valued client Cork City Council. The project provided a new outdoor public amenity that is now being used by the people of Cork City and its surrounding areas. The new park is a central part of the South City Docklands, situated on the historic former Cork Showgrounds site. The design incorporated both an iconic urban park and a flood storage reservoir for times of extreme rainfall and future sea-level rise. Marina Park is a world class recreational area that sits comfortably into to its urban environs, complementing the impressive Páirc Uí Chaoimh facility which is situated immediately to the east of the new park.

The works comprised of the construction of a new city centre parklands, including hard and soft landscaped areas, site clearance, earthworks, profiling of existing site levels to form new water flood storage basins, surface water runoff drainage, creation of a new meandering watercourse complete with associated weir structures, new pathways and cycleways both trafficked and non-trafficked, a large central plaza area comprising of sand blasted concrete, resin bonded surfacing, natural stone paving, brushed concrete footpaths, precast granite seating and an elevated timber gantry walkway supported by timber piles. It will also include provision and installation of park furniture, low level public lighting, spectacular new water feature and all associated mechanical and electrical services.

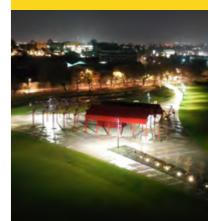
Commenting on the project, Cork City Council Senior Parks Manager, Liam Casey said: "The complexity of the project required a wide range of professional, technical, craft and supervisory skills to deliver the project on the ground and Sorensen provided these skills to the highest level throughout the contract. Their attention to detail in firstly sourcing quality materials and then ensuring the highest standard of workmanship was exemplary and a credit to the culture and leadership of the company. Due to the nature of the brownfield site, unforeseen issues arose during the course of the contract and Sorensen's approach to all these issues was always to seek a solution in the best interest of the project in an efficient and cost-effective manner. The works commenced a few weeks prior to the first COVID lockdown with its obvious disruption to a major construction contract, however, Sorensen's approach was to plan and be ready for reopening so that the project could proceed with minimum delay and at minimum additional cost to the City Council."







- 60,000m² of profiling and landscaping of new parklands
- Design and installation of a new water fountain feature
- 2no large flood storage reservoir cells for urban flood mitigation
- 20,000m³ of contaminated soil managed and transported to a licenced waste facility
- 6,200m² of polished concrete plaza installed
- In excess of 900m of drainage pipelines installed
- Treatment of Invasive Species
- Construction of a 1,000m² steel structure with cladding
- Installation of precast seating elements cast into the new river back
- 3no. new Bicycle-stand facilities installed
- New 250 space car park with cycleways & footways





Dinish Wharf

Dinish Wharf Extension Project – Castletownbere, Cork

This prestigious project is located on Dinish Island, Castletownbere, Co. Cork. Our valued client, the Department of Agriculture, Food and Marine, set out to double the workable quay space within their busy Dinish Wharf. The project results in an additional 2.2 acres of highly usable reclaimed quay storage areas, two new major breakwaters at the entrance to the harbour providing much needed shelter, dredging to the navigation channel, dredging to the new berth, inner basin and the synchro-lift making the boat yard more accessible for larger vessels. An inner basin was also constructed which provides an ideal future development area for a small craft harbour to the benefit of small fishing vessels and leisure craft.

The Sorensen site team overcame many challenges on this project, not least of all the construction of the breakwater sheet piled cells through a tough winter period. The team worked diligently under the supervision of our vastly experienced Marine Director, Louis Keating, to constantly appraise and adjust the temporary works design to ensure that the cell construction was delivered safely and efficiently. The skill and diligence shown by the site team in closing the sheet pile cells was admirable and was key to the success of the project.

Sorensen minimised the project carbon footprint by performing chemical and physical treatment on hazardous dredged material on site which, inturn, significantly reduced the number of road truck journeys required to complete the project.

Sorensen delivered this challenging project safely, on time and within budget for our client, the Department of Agriculture, Food and Marine.





- 22,000m² of site clearance
- 25,000m³ of dredging of the navigation channel, the inner basin, the existing and new berthing pocket and the syncro-lift
- Marine rock breaking and rock extraction works
- Significant landbased earthworks activities including bulk excavations, deposition, cement stabilisation, importation of crushed materials, on-site rock processing.
- 12,000m³ of primary and secondary rock armour to breakwaters, inner basin and beneath the new quay deck
- 214m of new quay wall construction
- Breakwater construction entailing 4no. large diameter sheet piled cells with infill arcs
- On-site treatment of contaminated material





Cork Lower Harbour Main **Drainage Project**

Cobh Sewerage Networks - Cobh, Co.Cork

This main drainage project was the final phase in Irish Water's project to clean up the wider Cork Lower Harbour. When Sorensen completed this project, we ended a decade-old practice of discharging raw sewage into the Lower Habour. The equivalent of 40,000 wheelie bins of raw sewage is now being pumped from Cobh to Shanbally for safe treatment before final discharge into the sea.

Sorensen formed a successful joint venture partnership with Farrans to deliver this project. The project entailed the design and construction of over 7km of sewer pipes along the busy streets of Cobh town and 5no. new foul pumping stations that ultimately pump the raw sewage across the harbour and on to Irish Water's Shanbally wastewater treatment plant.

Sorensen are proud to have been awarded the Ervia Major Projects Contractor Safety Award in recognition of our proactive approach to health & safety throughout the Cobh Sewerage Networks project.





- Construction of foul gravity sewers in urban environment ranging 1.5m-5.5m excavation depths and diameters of 225mm-1,200mm
- Construction of storm gravity sewers in urban environment ranging diameters of 225mm-1,200mm
- Construction of pumped foul rising mains in urban environment diameters ranging 100-400mm
- Design, build, commission & operate 5no. large foul pumping stations
- Decommissioning 3no. pump stations, 1no. communitor building
- 2no. new ESB MV **Substations**
- Trenchless installation of rising mains
- Installation of 4no. new marine outfalls
- Decommission 22no old marine outfalls







N70 Kilderry Road Scheme

Milltown to Kilorglin, Co. Kerry

The N70 Kilderry Bends Improvement Scheme comprised of the design and construction of a realigned section of roadway approximately 4.0 km in length between Milltown and Killorglin in Co. Kerry on behalf of our client Transport Infrastructure Ireland (TII) and Kerry County Council.

This new road scheme was a safety initiative by TII and Kerry County Council to bypass the existing Kilderry bends and improve the N70 at Milltown. The new route was located partly on a greenfield site and partly in an urban environment. It predominantly ran off-line to the southeast of the existing N70 route and ran on-line through the urban centre of Milltown. The chosen road type was a Type 2 Single Carriageway with a climbing lane facility for northbound traffic. An upgrade of the N70 at Milltown including new footpaths, cycleways, public lighting and drainage also formed part of the scheme.

The N70 Kilderry Bends Improvement Scheme provided improved geometric alignment, a positive drainage system and standardised access along this section of the N70 National Secondary Route. The scheme also included a pedestrian walkway adjacent to the new road and a new 4 -leg roundabout at the Knockavota Junction. Following the completion of the new road, improvements were carried out to the old N70 route including resurfacing, road markings and signage amendments.

The project was delivered ahead of programme, safely, within budget and to the highest standards in quality.





- Topsoil Stripping 27,000 m³
- Bulk Excavation 156,000 m³
- Rock Breaking 72,000 m³
- Rock Processing 72,000 m³
- Embankment Fill 84,000 m³
- Drainage Pipelines
 2,235 m
- Engineering Platform
 72,000 m²
- Processed Class 6F2 80,000 Tonnes
- Processed Clause 804
 21,600 Tonnes
- Processed Class 505 9,300 Tonnes





Carrigtwohill **WWTP**

Carrigtwohill Waste Water Treatment Plant Project, Co Cork

Sorensen Civil Engineering Ltd delivered this prestigious Wastewater Treatment Plant (WWTP) DBO project for Irish Water on time, on budget and with no Lost Time Accidents or Incidents. We teamed up with our mechanical and electrical specialist partner, EPS to form Sorensen / EPS Joint Venture on this large Design, Build & Operate project.

On completion, this plant was one of only two plants in both Ireland and the UK to utilise the innovative NEREDA biological treatment system. The NEREDA process has made this plant a key learning centre for both Irish and international clients and will provide the capacity for further development in one of Cork's fastest growing satellite towns.

Commenting on the project, Minister David Stanton said: "The increase in wastewater treatment capacity will allow for continued, future growth in population and economic activity, as well as in towns such as Castlemartyr, Cloyne, and Killeagh."

This construction project was a significant undertaking consisting of a WWTP that provides for a 30,000 Population Equivalent (PE) loading with future allowances of up to 60,000PE, provision for storm holding tanks in excess of 1,500m³ was also provided, water retaining RC structures with an overall volume of 11,000m³, a steel frame cladded structure of approx. 1,200m² to house the inlet and dewatering works and construction of three satellite pumping stations.

Our project team worked on delivering an innovative solution to the many geotechnical challenges associated with the WWTP site. Following geotechnical site investigations and detailed analysis, the site team decided to adopt a surcharge solution to the soft ground in lieu of the proposed piled foundation solution. This Value Engineering Solution proved a great success on the project resulting in significant savings for our client Irish Water and Cork County Council.

Another challenge facing our Project Delivery Team was the construction of the marine effluent outfall from the WWTP to Slatty Waters in Carrigtwohill. The challenges included soft ground conditions, the tidal range, the site is a Special Area of Conservation (SAC). Our solution was to deploy a Swamp Master excavator. This 14tonne excavator had a specially adapted undercarriage and pontoon like tracks that aided in the machines buoyancy. It was specifically designed to operate in muddy, silty, soft tidal sites like the Slatty Waters in Carrigtwohill. The outfall works were successfully completed safely, on time and on budget.





- Plant Capacity of 30,000 Population Equivalent
- In excess of 35,000m³ of earthworks
- Over 11,000m³ of RC water retaining RC structures with 10m high RC walls.
- 1,200m² Inlet & Dewatering Building
- 140m² administration building complete with laboratory and conference facilities
- 3no. outlying pump stations and storm holding tanks
- 12,000m³ of marine dredging
- Installation of the 1.5km long marine effluent outfall
- Construction works through a Special Area of Conservation (SAC)
- Design & construction of a new ESB MV Substation to power the new wastewater treatment plant
- Site development works including drainage, ducting, roads, fencing, footpaths, landscaping etc





The Ridge **Road Scheme**

Maryborough Hill, Cork

This road improvement scheme entailed the realignment of the existing Maryborough Hill Road and the construction of a new 4-leg roundabout to provide safe access to the new Maryborough Ridge Housing Development.

The upgrade works also included the provision of right turn lanes serving both the Maryborough Ridge Estate and the Broadale Residential Estate, footpaths, off-road bus stops and an on-road cycle lane.

A significant element of the works was the construction of a new natural-stone faced retaining wall with railing adjacent to the new section of road and roundabout. This wall formed the new road boundary to the west. The works also included both hard and soft landscaping adjacent to the road. Five uncontrolled pedestrian crossings at various locations along the scheme were constructed.

All associated road markings, service diversion works, traffic management works, community liaison, bollard retention socket installation, new gullies, tactile paving and footpath build-outs were constructed as part of the scheme.





- Realignment of existing road and construction of roundabout, resurfacing of the entire scheme including tie-ins to all interconnecting roads and streets
- 6.356m³ Excavation
- 825m³ Rock Breaking
- 4,796 m³ Imported Material
- 1,368m of Drainage
- 7,633 m² Pavement Works
- 1,120m New footpaths
- 823m of Natural Stone Wall & Decorative Railing
- Deflection island buildouts.
- Construction of 5 No. uncontrolled Pedestrian Crossings.
- A proposed new storm sewer.
- New road markings and traffic signs and relocation of existing services
- Traffic Management throughout the works
- Hard & Soft Landscaping Works







Health & Safety

At Sorensen, our board has signed a written commitment to our staff, subcontractors, customers and the public to placing their health and safety at the top of our priority list across all of our projects. Subsequently, we have invested extensively in training and development for all our employees in a wide range of safety-based CPD courses.

We are accredited to ISO 45001:2018 NSAI certification and have a fully Integrated Management System (IMS) spanning all three management systems (SMS QMS and EMS). Our streamlined procedures and continual improvement result in better quality, improved health and safety, reduced waste and increased productivity throughout our business. The structures and processes associated with attaining these accreditations is a fundamental core part of our business and we are committed to maintaining these accreditations now and into the future.

We are also accredited to Safe-T-Cert Standard Accreditation and have a proud and long record of achieving an A-rating on every annual Health & Safety Audit since 2008. Our health and safety record of having no major accidents or incidents in over 40 years of trading is our bedrock.









SORENSEN

Quality

Sorensen operates an integrated management system incorporating Quality, Environment and Health & Safety accredited by NSAI to ISO 9001, ISO 14001, ISO 45001.

We continue to meet international standards in our work in the civil engineering, marine and construction industry. Our integrated management system is the driving force behind our approach to continuously improve within our industry. ISO 9001:2015 helps us streamline our processes, reduce defects, improve internal/external communications and meet all of our clients' needs.

Sorensen is also accredited to the Achilles UVDB Accreditation Body which is a recognised accreditation standard for preferred suppliers across the UK and Ireland.



Environment

At Sorensen, our Environmental Policy is to undertake a responsible and proactive approach to environmental and waste management at every level across all our projects and operations.

Our Environmental Management System is certified to ISO 14001:2015. Our Accreditation helps us to reduce waste, improve resource efficiency, cut waste management costs, and demonstrate our commitment to protecting the environment. Implementing this global standard helps us comply with increasingly stringent environmental laws and regulations, as well as building trust with our clients.







Resources

We own a wide variety of civil and marine engineering plant and equipment including excavators, dumpers, trenchers, impact piling hammers, vibro piling hammers, tracked cranes, spud leg barges, work boats, safety boats, pontoons, road trucks, compaction plant, generators, pumps, compressors and small plan & equipment, all of which are maintained by our full-time trained plant fitters. We have a large plant maintenance yard in Cork that services all of our projects. We are committed to ongoing investment in our plant fleet to facilitate further growth in our company and to satisfy the construction industry's demands.

We pride ourselves in possessing a proven and experienced supply chain including suppliers and subcontractors that can mobilise and deliver construction projects with Sorensen throughout the country as and when required. Our supply chain is fully committed to our approach to safety, quality and environment management.

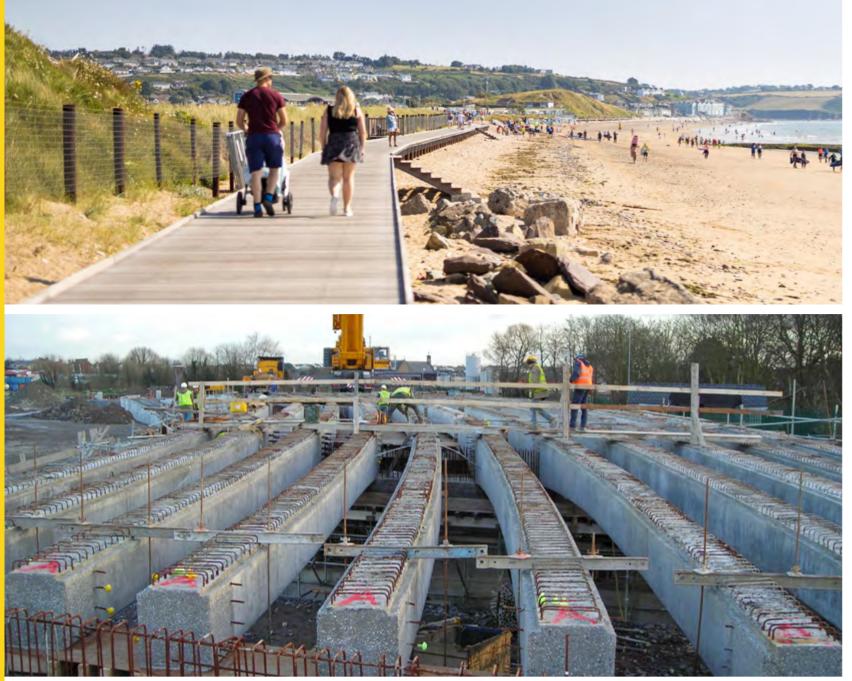














Customer Care

Customer Care is at the core of our business. We offer our customers the highest level of quality services at fair and competitive prices. We have ensured the longevity of our company through repeat and referral business achieved by customer satisfaction in all areas including on-time delivery, value for money, attention to detail and a collaborative approach to projects. We aim to maintain the highest levels of professionalism, integrity, honesty and fairness in our relationships with our suppliers, subcontractors, professional associates and customers alike.

At the heart of our customer care approach is our acute awareness of the impact our projects may have on the wider communities. Our trained and experienced project delivery teams engage with local communities and their representatives on all of our projects to ensure that they are fully informed throughout all stages of the project.

We are proud to have worked with a vast array of clients who are industry leaders in their respective fields. Through our collaboration with such clients over the years we are able to draw on a vast amount of knowledge and experience in all areas of project delivery from conception to hand-over.









Our Team

Sorensen prides itself on retaining a solid base of loyal and experienced people consisting of professional staff members and site-based operators. We have offices in Cork, Limerick, Northern Ireland and England. Our head office is in Cork and provides continual support to all of our projects. We ensure that all of our employees receive continual professional development and current industry-based training in safety, quality, environment, commercial and general industry best practices.

Key Personnel



Olaf Sorensen Chairman

Olaf is the founder of Sorensen Civil Engineering Ltd and Chairman of our board. He has 40 years' experience in the civil and marine engineering industry and is very well respected by his peers in the construction business. Olaf's proudest achievement is developing a strong safety culture within the company.



John Wallace Managing Director

John is a Fellow of Engineers Ireland and a Chartered Engineer with 20 years' experience in the Civil & Marine Engineering industry. John specialises in contract law, dispute avoidance and dispute resolution. He has managed a variety of largescale infrastructural contracts throughout Ireland, Poland, New Caledonia and the UK.



David Sorensen Director

David is part of the company for over 35 years and is well regarded in the industry for his solutions-based approach to projects. David manages the day-to-day operations of our plant fleet as well as our labour force and supervisors. He oversees all the projects and specialises in high-risk, complex, heavy civil engineering and marine works.



Louis Keating Marine Director

Louis is leading Sorensen's marine portfolio and our design management team across all projects. He has 35 years' experience in the civil and marine industry. Louis is widely renowned and respected throughout the marine industry for his innovative ideas and ability to develop projects from concept to final fruition in collaboration with both clients and consulting engineers across Ireland and the UK.



Cian Bineid Associate Director

Cian is a long-term and valued member of the Sorensen team, joining us over 25 years ago following his graduation as a Quantity Surveyor. He is now an experienced Chartered Surveyor and is renowned for his collaborative style of management. Cian manages all of our site-based project Quantity Surveyors and our Procurement Department.



An Taoiseach Michéal Martin attends the opening event for our Cork Lower Harbour Project in Cobh





Minister Heather Humphreys with Sorensen Managing Director and the Project Delivery Team opening the Youghal Eco Boardwalk



HEAD OFFICE

Sorensen Civil Engineering Ltd Forge Hill Cross, Kinsale Road Cork. T12 FK25 T: +353 21 496 8917 E: info@www.sorensen.ie

LIMERICK OFFICE

Sorensen Civil Engineering Ltd Unit 22, Groody Centre, Castletroy, Co. Limerick V94 YA07

UK OFFICE

Sorensen Civil Engineering (UK) Ltd Unit 3 Deanery Court Preston Deanery, Northampton England, NN7 2DT

www.sorensen.ie in