

# FEHILY TIMONEY

DESIGNING AND DELIVERING  
A SUSTAINABLE FUTURE

## Civil Infrastructure



### INTEGRATING DESIGN & PROJECT MANAGEMENT

**Fehily Timoney** is an Irish civil and environmental engineering, scientific and planning multidisciplinary consultancy, specialising in the delivery of complex projects for our global clients.

**FT** offers a total project management solution, acting as consultants from initial project planning and feasibility through to detailed design, construction supervision, commissioning and handover.

**FT** has extensive experience in all forms of procurement of civil infrastructure and contract forms, including employer's design, design and build, and public private partnership.

CENTRES OF EXCELLENCE CONSIST OF A WIDE RANGE OF SPECIALIST CAPABILITIES INCLUDING:  
ENERGY & PLANNING | INFRASTRUCTURE | WASTE & RESOURCE MANAGEMENT | URBAN DEVELOPMENT

# HIGHWAYS, ROADS, BRIDGES & GREENWAYS



**FT** has worked on Design, Design and Build, ECI, Public Private Partnership and public works projects for over 20 years in Ireland. Our team has performed the roles of Designer, Employers Representative and Contractor's Designer for both public and private works. Our blend of experience has fostered a partnering approach for the execution of projects including the design of roads, bridges, earthworks, greenways, rail, drainage networks and SUDS, landscaping, environmental works. **FT** provides inspection, feasibility, planning, design, cat 3 checks, site supervision and contract management services for a range of transportation projects and has won multiple industry awards for our work.

**Our team also provides:** construction supervision, contract documentation, project supervision, design process, tender assessment and value engineering.

## PROJECT PROFILES

### DUNKETTLE INTERCHANGE UPGRADE SCHEME

**Location:** Cork, Ireland

**Client:** John Sisk & Son Ltd.

Sisk have been commissioned by Transport Infrastructure Ireland to develop the detailed design of the Dunkettle Interchange. The Scheme comprises:

- A series of direct road links between the N8, the N25 and the N40 and links to the R623 Regional Road in Little Island and Burys Bridge in Dunkettle.
- 1 grade separated junction arrangement at the existing N25 to the east of the existing Dunkettle Interchange.
- 4 roundabouts – 2 at grade separated junctions and 2 at grade tie ins with the existing road network.
- 12 major structures of various forms.
- 24 gantries and 9 culverts where the scheme crosses watercourses of intertidal areas.
- Intelligent Transport Systems
- Pedestrian and cyclist facilities

John Sisk & Son Holdings Ltd. (Sisk) appointed **FT**, Ramboll UK and Clandillon Civil Consulting (FTRC) to carry out the design for the scheme. **FT** is Lead Consultant and our particular responsibilities include the role of PSDP, the design of all structures and associated geotechnical works, all environmental design and monitoring, ecological studies, landscaping design, utilities design and stakeholder management. **FT** is also responsible for the N8 Lower Glanmire Road and Silversprings junction upgrade design.

The Dunkettle Interchange Upgrade Scheme has an estimated constructed value of €120 million.

## Key Services:

- Project management & PSDP
- Part 8 planning, constraint studies and route selection
- EIAR, ecology, AA & NIS
- Expert evidence at oral hearings
- Road and highways design
- SUDs & drainage network design
- Bridge & structures design, condition surveys and assessment
- Earthworks and geotechnical design and assessment
- Temporary works design and checks
- Category 3 checks
- Employers representative and contract administration
- Construction and S.I. supervision & DSR



## LIMERICK GREENWAY

**Location:** Limerick, Ireland

**Client:** Limerick City and County Council

The Great Southern Greenway Limerick runs for 40km through West Limerick from Rathkeale to Abbeyfeale and on to the Kerry border. The Greenway runs along the route of the old Limerick to Tralee rail line. In the future, Kerry County Council plan to extend the greenway from the Kerry border on to Tralee. Once this is complete the Kerry and Limerick sections of the greenway combined would become the longest greenway in Ireland. **FT**'s role on the Limerick section of the greenway included detailed design, tendering and construction supervision of the works to the 40km section, the estimated construction value is €7million and included:

- Assessment of the existing walking trail and infrastructure
- Widening works to allow a 3.0m running surface
- 120,000m<sup>2</sup> Asphalt Surfacing
- Replacement of 6 pedestrian bridges
- Reconfiguration of 105 farm crossing points
- Reconfiguration of road crossing points
- Drainage upgrade works
- Utility service location and protection works
- Design of cattle underpasses
- Design of car parking facilities

**FT** also undertook the role of Project Supervisor for the Design Phase in accordance with the Health and Safety Regulations.



## N19 SHANNON AIRPORT ACCESS ROAD

**Location:** Clare, Ireland

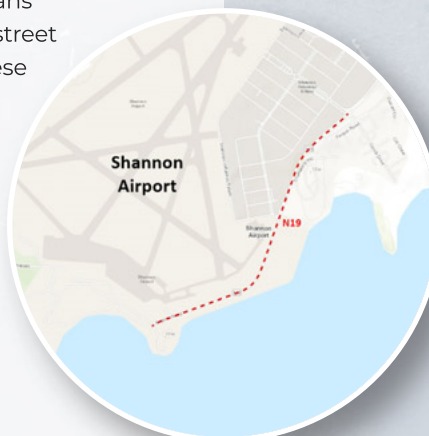
**Client:** Clare County Council

Clare County Council appointed **FT** and Clandillon Civil Consulting to carry out the design (Phase 1 to 4) for the scheme. The project is to provide a high-quality road improvement scheme on the N19 National Primary Road between Drumgeely Roundabout and Knockbeagh Point Roundabout on approach to Shannon International Airport in County Clare. The proposed scheme is approximately 2.2 kilometres in length and currently comprises primarily of single carriageway cross section. The scheme interfaces at one end with the remaining section of the N19 which links to the M18 and at the other end with Shannon International Airport and the Shannon Free Zone Business Park. The existing surface comprises a combination of bituminous and concrete surfaces and much of the pavement has exceeded its design life. Dedicated off-road cycle facilities are not provided and facilities for pedestrians require significant improvement to meet current design standards. Gaps in street lighting present significant safety concerns for vulnerable road users. All these deficiencies require vital improvement works to address non-compliance with design standards. The estimated constructed value is €20 million.

Phases 1 to 4 include:

- Phase 1 (Concept and Feasibility)
- Phase 2 (Options Selection)
- Phase 3 (Design and Environmental Evaluation)
- Phase 4 (Statutory Processes)

**FT** is also undertaking the role of Project Supervisor for the Design Phase in accordance with the Health and Safety Regulations.





**FT** is established as a leading consultancy in Ireland in wind farm development, providing a comprehensive consultancy service for the client, in both the EIAR, planning and design/construction phase of projects. **FT** has in-house geotechnical expertise in peat stability assessment and specialist experience of geotechnical design issues associated with the development of wind farms in peatland areas. **FT** has considerable turbine base, drainage, access road and hardstand design experience having been involved in energy development since the late 1990s.

## PROJECT PROFILE

### GALWAY WIND PARK

**Location:** Galway, Ireland

**Client:** Roadbridge

Galway Wind Park (GWP) comprises four separately consented wind farms namely Uggool, Lettercraffroe, Cloosh and Seecon and associated permitted infrastructure including substations, turbine delivery route, the West Galway substation, permanent met masts, borrow pits and access tracks. The maximum export capacity (MEC) of the overall development is c. 169 MW. The overall GWP project is being advanced and led principally by SSE Renewables who have responsibility for the refinement, construction and operation of the wind park.

When constructed, the 169 MW Galway Wind Park (69 turbines consented, with 60 being Constructed initially) will be the largest onshore wind project in Ireland.

#### **FT was responsible for the detailed design of the following elements:**

- Detailed design of all access roads, including the horizontal and vertical alignments, the geotechnical make-up of the various road types and the detailed drainage of the access tracks.
- Detailed design of the Cable route and accompanying construction details.
- Detailed geotechnical design of the hardstand and turbine sub-formations.
- Detailed design of the borrow pits and material deposition areas.
- Detailed design of the culvert crossings including section 50s.
- Structural design of a number of watercourse crossings and met mast foundations.
- Provision of Design Basis Statements for all design aspects of the work.
- Provision of site support in the form of a drainage and geotechnical clerk of works.



### Key Services:

- Structural and geotechnical design of turbine foundations
- Met mat foundation design
- SUDs drainage design
- Crane hardstanding design
- Access road design
- Bridge and culvert design
- Cable route design
- Route assessment including structures assessment
- Peat and slope stability assessment
- Borrow pit and material deposition area design
- Substation and control building design
- Role of assigned certifier
- Site investigation, scoping, procurement and site supervision
- Preparation of geotechnical, interpretative and engineering reports
- Site supervision



**FT's** Geotechnical Engineering and Engineering Geology teams provide design and consulting services for both public and private sector projects. These projects include highways earthworks, soft ground, peat stability, wind farm developments, slope stability, hydrogeology, contaminated land and shallow and deep foundations for buildings and structures. Having over 30 years' experience in the industry, **FT's** depth of geotechnical knowledge offers our clients unrivalled expertise.

## PROJECT PROFILE

### KILGALLIOCH WIND FARM

**Location:** Stranraer, Scotland

**Client:** Farrans Construction

**FT** were employed by Farrans Construction to act as Civil/Structural and Geotechnical designers on the Kilgallioch Wind Farm Project. Kilgallioch Wind Farm is a development by Scottish Power Renewables (SPR), a unit of Iberdrola. The wind farm has an area of approximately 32km<sup>2</sup> with 70km of internal tracks and 96 Gamesa turbines. The 239MW wind farm powers in the region of 130,000 homes making it the second largest onshore windfarm in the UK.

#### The project included the following key elements:

- 96 No. Gamesa (G90 & G114) turbine bases
- 70 km of access road
- Crane hardstandings for each of the turbine locations
- Site Supervision
- 1.2 million tonnes of site own rock and gravel from 6 on-site quarries
- Placement of 45,000m<sup>3</sup> of reinforced concrete
- 400km of High Voltage cabling

#### Responsibility:

**FT's** services covered the detailed geotechnical design of the turbine foundations (providing a number of solutions for each turbine type to optimise construction work, cut and fill, and concrete and steel tonnages), met mast foundation design, drainage, crane hardstandings, bridge design, substation design and access roads. **FT** were responsible for the detailed peat management strategy at the site as well as broader earthworks engineering for site-won fill materials. **FT** had a continuous site presence for the entirety of the project, providing our client with construction support, as well as technical support.

## Key Services:

- Engineering solutions over soft ground
- Geotechnical and contaminated land investigation and interpretation
- Highway earthworks design
- Hydrogeology
- Independent/Category III checking for earthworks design
- Pipeline and trench geotechnical design
- Preparation of geotechnical, interpretative and engineering reports
- Retaining wall and deep excavations design
- Shallow and piled foundation design
- Site investigation, scoping, procurement and site supervision
- Site supervision of geotechnical works
- Windfarm geotechnical design, peat stability and borrow pit assessments





**FT** provides design and consultancy services for both public and private sector water projects including design/build/operate projects in the disciplines of water, wastewater, coastal and riverine engineering.

**FT** provides civil, structural and geotechnical design services as Contractor's Designer on DB/DBO schemes or as the Employer's designer. Through the expertise and experience of our personnel, **FT** offers a comprehensive in-house service to our clients. The knowledge and experience of our engineers and scientists, together with an up do-date knowledge of best practice, latest technologies and industry trends, guarantees a high quality service to all projects, from small effluent characterisation and minimisation projects, to large municipal wastewater collection and treatment schemes.

## PROJECT PROFILE

### MEATH WASTE WATER TREATMENT PLANTS

**Location:** Meath, Ireland

**Client:** SIAC Construction Ltd.

**FT** acted as Contractor's Designer for SIAC for the Meath Waste Water Treatment Plants project. The proposed Bundled Wastewater Treatment Systems for County Meath includes the provision of wastewater treatment infrastructure including tanks, control and dewatering building, main pump stations and rising mains at a number of locations around Meath with a combined 28,000 PE and a constructed value of €24 million.

#### Responsibility:

- Access roads
- Base & plinth design
- Earthworks balance
- Stormwater design
- Hydraulic calculations
- Administration Buildings
- Sludge treatment buildings
- RC & steel tanks
- Sewers and rising mains
- Tank/chamber design
- Pumping stations
- Outfalls & diffuser
- Underground services
- Landscaping and fencing

**FT** also provided expert geotechnical and temporary works design services on the project.

### Key Services:

- Coastal and marine engineering
- Culvert design
- Drainage network design
- Effluent treatment
- Flood modelling
- Outfall design
- Pipeline and trench design
- Pump station design
- Riverine flood protection works design
- Waste water treatment plant civil and structural design
- Water treatment plant civil and structural design





**FT's** team of engineers, planners, policy analysts and environmental scientists deliver excellent results and appropriate solutions for our clients in private industry. **FT's** staff of engineers and environmental scientists provide inspection, testing, certification, feasibility, design and contract management services for projects such as industrial developments, buildings, civil and structural works, bunds and lagoons, drainage and water and waste water treatment systems and networks delivered in a coordinated timely and cost effective manner. **FT** has over twenty years' experience in industrial projects working on some of the first pharmaceutical projects in Cork.

## PROJECT PROFILE

### CIVIL & STRUCTURAL DESIGN AND INSPECTION SERVICES

Location: Cork, Ireland

Client: Confidential

The confidential client owns and operates a biopharmaceutical plant which specialises in the development, testing and manufacturing of biotech products. **FT** have carried out a number of projects at this facility to ensure compliance with Client's IPPC licence;

- 7-day Hydrostatic testing of concrete bunds and 24-hr hydrostatic testing of mobile metal and plastic bunds in accordance with the BS 8007 "Design of concrete structures for retaining aqueous liquids", including testing certificates and reports.
- Bund capacity review of all bunds on site to ensure that the volumes of tanks stored in the bunds are in accordance with EPA regulations.
- Calculation of the depths at which rainwater should be emptied from external bunds to avoid overtopping of the bunds should a tank failure occur.
- Decommissioning plan for an underground tank following the diversion of services.
- Inspections and repair strategy report for several damaged concrete bunds.
- Visual inspection and certification of surface water lagoon.
- Advice on the installation of automatic pumps at sumps and the design of new access chambers to allow access for the weekly inspections.
- Visual condition report of concrete tanks based on a drone survey to avoid confined space entries.
- Stormwater and effluent line inspections and condition reports.
- Oil Interceptor chamber design, tender and contract documents and construction supervision.

### Key Services:

- Bund and lagoon testing and certification
- Design of Roads and Utility Infrastructure
- Detailed Civil & Structural, Design of Buildings
- Effluent treatment
- Inspection and Condition Assessment
- Planning and Environment Impact Assessment
- Planning and Permit Compliance
- Pre-acquisition/Due Diligence



# INFRASTRUCTURE SERVICES PROVIDED

**FT** prides itself on providing high quality service to our clients. **FT**'s highly skilled and experienced Infrastructure team has provided services for a wide range of projects including:

- As-built records
- Bridge and building structures condition surveys and assessment
- Bridge design
- Building design
- Category 3 Checks
- Construction supervision
- Contract documentation
- Expert evidence at Oral Hearings
- Flood risk analysis and flood management design
- Geotechnical design and assessment
- Ground investigations
- Health and Safety, Quality Assurance
- Marine & coastal engineering
- Pipeline design
- Planning/licensing
- Procurement
- Project management
- Project Supervisor Design Process
- Road and highways design
- Site supervision
- SUDs & drainage network design
- Temporary works design and checks
- Tender assessment
- Value engineering

**FT**'s service ranges from initial feasibility studies, planning and environmental impact assessment through to detailed design, tender documents and procurement, contract administration and construction supervision.

**FT**'s infrastructure projects span a large range of contract types for public and private works for Design and Build, ECI and Public Private Partnership including experience acting as both the Employers Representative and Contractor's Designer.



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📍 CORK OFFICE

📍 DUBLIN OFFICE

📍 CARLOW OFFICE

