PORTS AND MARITIME

INTERNATIONAL PORTS AND MARITIME CAPABILITY STATEMENT
“The thing that differentiated Hyder from other consultants was their honesty. Not only were they incredibly prompt in their response, whether it be by email, phone or in person, but they dealt with issues early and were always transparent with us”

Charles Cornish  
Port of Melbourne Corporation
INTRODUCTION

Hyder has an international reputation for the planning, design and construction of port and maritime facilities and for waterfront developments and environmental works in the coastal margin stretching back throughout the firm’s 150 year history. We have been involved extensively in the planning, design and construction of general port facilities, container terminals, petrochemical terminals, ferry and specialist berths, military/ naval facilities, and increasingly cruise and leisure developments. Many involve us in navigation improvements and dredging, and most involve provision of landside infrastructure ranging from simple access links and services, to large scale port areas and buildings.

We cover all aspects of preliminary studies, EIAs and obtaining consents, and manage all aspects of projects as required. The Ports and Maritime Team maintains skilled staff with experience in all aspects of port planning and design, maritime structural design, coastal engineering and hydrodynamic modelling, dredging and reclamation, loading analysis, design of specialist terminal facilities, durability analysis, navigation and ship handling and port operations and management.

Innovative technological approaches are needed to address tightening environmental legislation.

Climate change is bringing new challenges to our coastal margins.

We have evolved our business to meet these challenges.
WHAT WE DO

The comprehensive port project services provided by Hyder include:

- Investment appraisals and trade forecasting
- Port operational studies and port facility planning
- Trade and throughput analysis and intermodal transport planning
- Asset maintenance and management system design
- Establishment of vessel movements and statistics
- Intermodal interaction and logistics studies
- Berth extensions and relocation of facilities
- Site investigations and structural and hydraulic surveys
- Condition surveys
- Load rating assessments
- Navigation studies including ship simulation modelling
- Conceptual to detailed structural and civil design of maritime and offshore structures
- Wave, current, sediment and water quality modelling including 2d and 3d numerical modelling
- Coastal defence modelling and design
- Dredging and land reclamation studies and design
- Contamination studies and remediation design, including sediments
- Environmental impact assessments
- Assistance with legal and permitting issues

Infrastructure

Hyder’s port experience covers each major discipline. We have experts in the following fields:

- Container and petrochemical terminals
- Ferry and specialist berths, including ro-ro facilities
- Military/Naval facilities
- Cruise and leisure developments
- Residential and commercial developments
- Post Panamax class wharves and cranes
- Jetties, wharves and piers
- Access links and services, including road, rail lines, sidings and major rail bridges
- Offshore structures, including deep water quays and moorings
- Pontoons, linkspans and footbridges
- Berthing and mooring infrastructure
- Dredging and land reclamation, including contaminated material remediation
- Ship lift docks and boat hoists
- Vessel navigation locks
- Breakwaters, wave screens, wave and anti-scour protection
- Quay walls
- Revetments and paving
- Slipsways
- Landscaping and architectural elements
- Electrical and mechanical services, including lighting, water supply, sewerage and drainage
- Waste management

Resources and Skills

Hyder has the ability to manage every stage of the development and implementation of port projects. These services include:

- Overall project management services
- Support to development applications
- Infrastructure needs assessments
- Environmental viability studies and management plans
- Coordination and preparation of Environmental Impact Statements
- Economic viability studies and business plans
- Market demand assessments
- Construction methodology and scheduling
- Health and safety management, including CDM coordination
- Procurement strategies
- Hazard and risk assessments
- Ecologically sustainable development assessments
- Quantity surveying
- Public consultation
- Liaison with local, state and commonwealth government agencies
- Planning and licensing
- Contract management
- Tendering
- Project delivery services, including programming
- Site supervision
- Due diligence
“Of particular benefit to the client was Hyder’s ability to utilise combined expertise in masterplanning, port development, transport appraisal and environmental issues to produce a robust Masterplan.”
(Shoreham Port)
Hyder has extensive experience in planning and feasibility studies, from small slipways to container and petrochemical terminals. We have multidisciplinary design teams, able to operate on their own or as part of a large, international project. Masterplanning can involve a wide variety of activities, including:

- Overall masterplanning, incorporating berthing layouts, reclamation for hardstand areas, channel dredging, cranage systems and internal road and rail infrastructure
- Port planning services
- Ship to shore infrastructure
- Complete concept, preliminary and detailed design of maritime and terrestrial facilities
- Financial opportunities and constraints, including market demand assessments
- Feasibility studies and innovation
- Legal and statutory framework assessments
- Infrastructure appraisals and recommendations
- Numerical modelling and establishment of vessel movements and statistics
- Transport and access linkages
- Support of development applications
- Production of site development briefs
- Market assessments

Hyder was appointed by Shoreham Port, UK, to carry out a development Masterplan for the port. The purpose of the Masterplan was to inform the board as to the strategic opportunities and constraints for development of the port. The scope of the Masterplan included - a review of previous trade forecasts; a study to determine sectors of business trade that could provide growth potential; development scenarios based on pessimistic, realistic and optimistic growth scenarios; land take assessments; technical feasibility work; transport assessments; masterplanning of port-owned land to free land for development; cost estimates and a development programme. Significant consultation was undertaken with the existing tenants of the port and local regeneration and interest groups.

Project Poseidon was initiated by Siemens Wind Power (SWP) to identify and develop a site along the English east coast for a proposed 50 hectare turbine manufacturing/assembly plant area. This site is intended to support the construction of offshore wind farms in the North Sea. Hyder has worked with Siemens’ engineers and provided strategic advice to help determine a conceptual site layout. This layout was mapped onto various developer’s offers to enable an appraisal of the site constraints and opportunities. Typical advice related to: vessel drafts; approach channels; berthing pockets and seabed loadings; quay types, length and loadings; ro-ro facilities; transport, lifting and storage area paving, drainage and loadings. Further advice related to consents and programming.
Hyder was appointed as part of a consortium by the Urban Development Corporation of Trinidad and Tobago to develop a Masterplan for a 120 acre waterfront site for Port of Spain. The Masterplan has several strategic objectives; these relate to the physical, social, economic and environmental revitalisation and catalyzing renewal of the city structure of Port of Spain. In order to achieve these objectives, implementation will quickly follow planning. For this reason, the commission prepared both a Masterplan for the entire waterfront and designed the infrastructure and key buildings to initiate the implementation process.

Hyder’s proposals “bridge the gap” between planning and implementation to catalyse timely developments.

Eco-Bos appointed Hyder as their masterplanners and engineering consultants for this £220m development in Cornwall. The site has a long heritage stretching back to 1856 when it was first built to service the china clay industry. Based around a working harbour, the new development will create a 220 berth yacht harbour, employment space and 600 residential units ranging from two bed apartments to large detached villas. Main components of the project include a new 200m long breakwater to improve access to the harbour; a new 220m long impounding harbour wall with full height flap gate; creation of over 1km of new harbour walls and repairs to the existing breakwater including raising its level to minimise overtopping. Hyder’s scope of work includes masterplanning; engineering advice; numerical modelling; design of harbour infrastructure; advice on dredging and consents; and site investigation and supervision. Further stages will involve detailed designs and production of tender documents.

Port of Melbourne Corporation (PoMC), commissioned Hyder to undertake an investigation of Long Term Container Terminal (LCT) options in Victoria, on behalf of Victoria Government. Hyder investigated 12 potential container terminal sites including spatial and operational port planning and design, maritime infrastructure planning, dredging and reclamation studies, environmental studies, state-wide intermodal and related transport studies, high voltage electrical supply studies and 3d simulation modelling. Teamed with Ernst & Young, Hyder provided a preferred sequencing option for Victoria’s freight and container port future through to 2050 to accommodate an increase of AUD 12million TEU over current usage.
Hyder has extensive experience in design, from small slipways to container and petrochemical terminals. Hyder has multidisciplinary design teams, able to operate on their own or as part of a large, international project team. Design can involve a wide variety of activities, including:

- Concept and detailed civil and structural design of all waterside and landside infrastructure
- Topographic and hydrographic surveys and data collection
- Site condition surveys, including structural assessment
- ‘Hard’ and ‘soft’ defences, including sand dune re-creation
- All geotechnical services, including dredging and land reclamation
- Port infrastructure upgrade programmes
- Design of piped and electrical services and mechanical equipment
- Structural remedial designs including demolition, deck replacement, beams, piles, bollards and fender systems.
- Shiploader and shiploading conveyor stream assessment
- Hydraulic, electrical and fire services as well as diagnostic and remedial engineering services

Hyder was commissioned by the Port of Melbourne Corporation to provide engineering design services for the extension and upgrade of Australia’s premier international container terminal. This involves the planning and structural design of an extension of the dock including a new dock head, two Post Panamax class wharfs, dredging and new Post Panamax cranes. In addition, the project includes planning and design of 4 new internal port roads, modifications to Footscray RD, a new rail line, sidings and major rail bridge across the Maribyrnong River, HV electrical design, landscape design, environmental engineering and architectural services. Work also includes spatial port planning of maritime operations including vessel mooring and manoeuvring analysis.

The project will ensure that adequate infrastructure is in place to accommodate growth continuity of international container trade for Victoria until 2035.

Hyder was appointed to carry out a feasibility study and outline design of an alongside cruise berth to the existing Anglesey Aluminium Metals Ltd (AAM) Jetty at the Port of Holyhead. Hyder developed and costed outline designs to identify the most economically sustainable berthing arrangement for vessels up to 340m in length. Dredging was required to accommodate a programmed cruise liner visit in a few months’ time. Hyder staff quickly mobilised and consents and contracts were put in place to dredge an approach channel in time for the visit.

Further stages included a study to determine the feasibility of developing harbour infrastructure to service the offshore wind and nuclear industries.
The proposed London Gateway Port will be a world leading port capable of handling the largest deep-sea container ships. The port development includes a 2,300m long container quay with a fully developed capacity of 3.5 million TEU (standard container units) per year, a roll-on roll-off (ro-ro) freight facility and business park. Hyder was commissioned to undertake a cost review of the construction of the port and business park. Design details of the quay wall, land reclamation, drainage, crane facilities, services and extensive temporary works were developed to enable the cost review. Outline design services were also developed for the access roads to the port, the rail terminal and site drainage. Hyder’s staff were seconded to the London Gateway Port engineering and management team to assist with delivery of the project, technical review of the marine works contracts and management of consultancy services.

Hyder was appointed to carry out a detailed Option Study for the refurbishment or replacement of Yonderberry jetty in Plymouth. The jetty is used as the main fuelling facility for MOD vessels in the South West and as such is critical to the fleet support. Designs were developed for a new jetty facility to cater for vessels up to 235m long and up to 50,000dwt, including new manifold arrangements and a fire-fighting system. Phased risk workshops were used to identify mitigating actions and develop 3 point risk estimates. Other workshops included sustainability appraisal, value engineering, cost capability and optimism bias to fully inform the decision making process. Temporary fuelling arrangements were designed to allow for continuity of service throughout the build period. Fully detailed cost estimates of the 6 options were developed and presented with a detailed 3 point cost estimate.

Hyder was appointed for the strategic and port planning, design and project management of the new Saigon container terminal in Ho Chi Minh City, for the First Logistics Development Corporation (FLDC) of Vietnam. Services included intermodal planning, port layout planning, gate queuing analysis, advice on statutory approvals and design of landside and berthing infrastructure. The new container terminal was formed by reclaiming and constructing island berths, using spun concrete tubular piles and suspended pre-stressed concrete deck to minimise construction time and capital costs, minimising construction time. The port is now considered one of Vietnam’s premier container facilities.
**Dredging**

Hyder has extensive experience in dredging, from small marinas to 30km² dredging and reclamation schemes. Hyder has multidisciplinary design teams, able to operate on their own or as part of a large, international project team. Dredging can involve a wide variety of activities, including:

- Project management, including tender and contract documentation
- Licence and consent applications
- Contamination sampling and testing and remediation strategies
- Bathymetric surveys
- Consultation and liaison
- Environmental impact assessments
- Waste management exemptions
- Dredging, remediation and re-use of contaminated silts
- Land reclamation works
- Planning, site supervision, measurement and final account
- Use of an innovative systems and techniques
- Rapid attainment of final approvals

**Business Benefits**

“Significant liaison ensured that dredging programmes and methods complied with environmental regulations and client requirements. Despite a significant change to programme caused by visiting naval vessels, the works were completed on time and to budget.”

(Devonport Dockyard)

HMNB Devonport is a strategically important naval base located in a Special Area of Conservation in the South West of England, noted for its inter-tidal mudflats. Hyder was appointed to project manage maintenance dredging works from the planning stage to site supervision and final account. The Scope of Work included - bathymetric surveys; liaison; contamination sampling and testing; licensing; tender and contract documentation; site supervision; measurement; and final account.

Over 150,000m³ of material was dredged using a trailing suction hopper dredger and the channel was dredged to a depth of -9m CD.

Significant liaison was required to ensure that berths were cleared, dredged and handed back on programme to prevent any delay to Naval operations.

Hyder was commissioned by the Emirate of Abu Dhabi Works Department to undertake the design and construction supervision of the Mussafah – Quanateer Channel Dredging and Reclamation Works. The purpose of the dredging and reclamation was to define and protect mangrove areas along the local coastline and to raise the adjacent land area for future development. The reclamation area is approximately 30km².

The hydraulic fill is contained by dredging a new Inner Channel to form a protected island for mangroves and associated wildlife. Dredging operations were carried out using 4 heavy duty cutter suction dredgers assisted by a floating booster station.
Hyder has led the investigations and studies to improve navigational access to Portsmouth Harbour and upgrade Naval Base berth infrastructure to receive the Royal Navy’s new class of aircraft carrier, the CVF. The vessel is 280m long has a draft of 11m and will displace 65,000t. A detailed feasibility option assessment study was undertaken to identify the scope and extent of improvements required. An advanced ship simulation modelling study was commissioned to investigate performance of the CVF in the approach channel and narrow harbour entrance, backed by probabilistic risk evaluations, and practical review by experienced Navigation Officers and the Admiralty Pilot. The work involved modelling the CVF ship handling characteristics into a hydrodynamic model and performing trial transits of the navigation covering a wide range of oceanographic conditions in the operational range.

Hyder was commissioned to carry out various feasibility and outline design options to create an along-side berth to the existing Anglesey Aluminium Metals Limited Jetty at the Port of Holyhead. Any large cruise ship that wished to visit the port was required to anchor outside an outer breakwater and tender passengers to shore. Hyder prepared and managed the tender process to undertake dredging to provide improved access to the Jetty. The scope of work included - preparation of a re-measurement contract and Bill of Quantities to preparation of an alternative tender on a time-charge basis; negotiations with the MFA (now the MMO) to vary the existing maintenance dredging licence; management of the tender process. The contract was awarded and a pre-dredging bathymetric survey undertaken. Hyder managed the short duration contract on WAG’s behalf and the dredging was brought in under-budget.

Hyder was commissioned by the Ministry of Works, Kingdom of Bahrain for the on-site supervision of reclamation work for the North Manama Causeway, adjacent to the Bahrain Bay Development Phase 1.

The package of work included a 2.42km reclaimed causeway, future interchange platform, GOSI centre, Busaiteen beaches, Amwaj highway widening, Medical University reclamation and rock armour. Work also included reviewing the Contractor’s designs for adoption by the Ministry of Works.
Environmental
Hyder has extensive experience in environmental consultancy. Hyder has multidisciplinary design teams, able to operate on their own or as part of a large, international project team. Environmental impact assessments can involve a wide variety of activities, including:

- Desk studies
- Feasibility studies
- Site investigations
- Stakeholder consultation
- Habitat surveys and Sustainability appraisals
- Conservation management plans
- Concept and detailed design
- Construction methodologies
- Numerical modelling
- Coordination and preparation of environmental impact statements
- Waste management
- Licence and consent applications
- Hazard, risk and health and safety management

Business Benefits
Key to the success of the Penzance Harbour Study was a multidisciplinary team within Hyder, including geotechnical, structural, environmental, coastal engineers and specialists. Value management of the environmental survey work saved over £100,000.

The Townsville Ocean Terminal project includes development of an ocean terminal precinct for use by cruise ships and military vessels as well as an integrated residential precinct on reclaimed land within Townsville and has been declared a project of State Significance by the Queensland Coordinator General. In addition to provision of project management and civil and maritime engineering services, Hyder was tasked with the preparation of an Environmental Impact Statement (EIS) in conjunction with MacDonnells Law. Hyder provided specialist environmental and engineering services for input to the EIS including an ecologically sustainable development assessment, acoustic assessment, water supply and sewerage reticulation, concept civil design, construction methodology, waste management, health and safety management, and a hazard and risk assessment.

Hyder was appointed by Torbay Development Agency (TDA) to undertake consultancy services for the redevelopment of Brixham Harbour. Fundamental to the regeneration was the provision of suitable up-to-date facilities at the harbour not only for the fish market but also for a new marina and residential development. Aside from modelling and design, the project included public consultation, transport assessments, environmental impact assessments, site investigations, sustainability appraisal and successful FEPA and CPA consent application. A full EIA was undertaken for the scheme which included significant marine surveys and assessment.

The project was successfully constructed between 2008-2011.
Due to the increased demand, safety and security requirements on the infrastructure for links from Penzance to the Isles of Scilly, Hyder was appointed by Penwith District Council to provide recommendations for both scope and scale of pursuable developments in Penzance Harbour. In addition to numerical modelling, design and costing, Hyder’s responsibilities included environmental and traffic impact assessments, environmental surveys and site investigations. Hyder’s investigations improved on existing recommendations and provided further solutions. The options and recommendations provided the stakeholders with a flexible means of phased implementation for the “Moving On” Transport Strategy by the Council of the Isles of Scilly. The project has now received planning consent and a Harbour Revision Order.

Hyder undertook an indicative design of a replacement ammunitioning facility for Royal Navy warships. A new structure location was carefully selected to minimise explosion risk to people, should there be an accidental explosion at the facility. A number of different designs were developed in order to identify the most effective solution taking environmental considerations into account. The chosen design of the piled structure utilises precast concrete deck beams and slabs in order to minimise work over water and at the offshore site. A full EIA and Appropriate Assessment was undertaken.

In order to help sustain the fishing community in Newlyn Harbour, a series of new small boat pontoons were required. This necessitated the dredging of TBT and TPH contaminated silts. Hyder was commissioned by Newlyn Harbour and Pier Commissioners to produce Contract Documents and supervise the treatment of contaminated silts by solidification/stabilisation for beneficial re-use on site. Significant liaison was required with the environmental regulators to agree the process. A remediation strategy and a waste management exemption were negotiated and the dredgings were beneficially re-used. Hyder managed the whole project on behalf of the client, which now has a safe working environment and a sustainable income generating facility. The project won the UK wide Brownfield Briefing Innovation Award for best use of a chemical treatment process in 2006.
Specialist expertise in hydrodynamics, waves, sediment transport and water quality modelling is provided by Hyder’s Water and Environment Teams. The teams provide support to coastal erosion studies, coastal development masterplanning, engineering design, flood risk assessments and environmental impact assessments. The services provided by Hyder include:

- Hydrodynamic simulations to model the effect of changes to circulation on design feasibility
- Wave models to assess loading and coastal flooding due to wave overtopping
- Simulations to assess the effect of construction on sediments and morphology in the coastal zone
- Water Quality and Ecology modelling to predict the effects of coastal works and discharges on coastal water quality and ecology

**Business Benefits**

Engineering concept, feasibility and environmental studies were undertaken by Hyder to assess feasible construction methods and sequences and project costs for a range of design options. This involved extensive numerical modelling. The resulting improvements to the environment have encouraged inward investment in residential, commercial, industrial and recreational facilities within and adjacent to the Cardiff Bay area (Cardiff Bay Barrage).

Torbay Development Agency (TDA) appointed Hyder to undertake consultancy services for the redevelopment of Brixham Harbour. The aim of the commission was to provide for the long-term sustainability of the fishing industry at Brixham and to regenerate previously under-utilised areas.

To develop designs for the harbour infrastructure and provide information for the EIA, a Mike 21 wave model was developed using offshore wave data and surveyed bathymetric information. Various return periods were scrutinised along with a variety of water levels to determine the worst case design scenario. As a result of the modelling, the new breakwater arm configuration was modified to minimise wave action within the harbour to below 300mm.

Yarmouth Harbour Commissioners plan to develop Yarmouth Harbour to create a new mooring area for working fishing vessels. Hyder was commissioned to undertake a study looking at the effects of the proposed development on the hydrodynamics and sediment transport regime within the estuary of the Western Yar, including the harbour. A Delft3D model was developed using bathymetry and tide gauge data. The model was successfully calibrated and verified against current observed data. The model reproduced the hydrodynamics of Yarmouth Harbour to an acceptable level. Numerical modelling successfully enabled a robust design to be developed.
Major development proposals for Penzance Harbour were held back because of a lack of knowledge of the marine environment. Hyder was appointed to carry out numerical model as part of a large Technical Studies brief. Bathymetric survey data was imported into the model and a meshed grid approach adopted to minimise run times, but still provide the level of accuracy required.

In order to help sustain the fishing community in Newlyn Harbour, a series of new small boat pontoons were required. This necessitated the dredging of TBT and TPH contaminated silts. Hyder was commissioned by Newlyn Harbour and Pier Commissioners to manage the treatment of contaminated silts by solidification/stabilisation for beneficial re-use on site, in addition to the fabrication and installation of a linkspan and pontoons creating over 80 new berths. Contamination sampling, testing and numerical modelling were undertaken as part of a FEPA licence application. A remediation strategy and a Waste Management Licence Exemption were negotiated and the dredgings were beneficially re-used. Hyder managed the whole project on behalf of the client, which now has a safe working environment and a sustainable income generating facility. The project won the UK-wide Brownfield Briefing Innovation Award for best use of a chemical treatment process in 2006.

Hyder has been involved in the Cardiff Bay Barrage project since its inception in 1985. The scheme comprises a 1.1km barrage, wave and anti-scour protection and three vessel navigation locks. Sewerage and drainage of Cardiff has required considerable modification to suit the retained water levels. Hyder’s engineering concept, feasibility and environmental studies involved extensive numerical modelling to assess the effects of groundwater rise on the city; water quality; optimum lock sizing; gate options; vessel movements; and wind, wave and ground condition data for design. Hyder continue with monitoring works to assess groundwater impact. The resulting improvements to the environment have encouraged inward investment in residential, commercial, industrial and recreational facilities within and adjacent to the Cardiff Bay area.
Other Selected Projects

The Port Botany Project involves the major expansion at Sydney Brotherson Container Dock providing 5 new Post Panamax berths, 1855m length of deepwater quays (-16mCD), 8 million cumec capital dredging and providing 64 ha of reclaimed container terminal area. The project is currently Australia’s largest port and maritime project for which Hyder is the Lead Consultant. The expansion of Port Botany is a major Design and Construct (D&C) infrastructure project for which Hyder is the principal consultants. It addresses the situation of existing container terminals not having the capacity to cope with future container throughput, which is expected to double over the next 15 years. Hyder provided a complete design package for joint contractors Boulderstone Hornibrook and Jan de Nul. Our involvement covers design and modelling of all berth structures, dredging and reclamation design and planning as well as design of all associated civil infrastructure including roads and environmental services.

Hyder was commissioned in 1967 by the Government of Saudi Arabia to act as Consulting Engineers for the planning, design and supervision of construction for the comprehensive development of the Port of Dammam and we remain involved with the Port to this day. The port now handles approximately 8 million TEU with plans being developed to double this. Our work has included trade and operational feasibility studies, masterplanning and phased design of the container terminals over the last 30 years. The work has been carried out under eight major dredging, civil and building contracts supplemented by some 50 other contracts covering the subsequent engineering and building works, piped and electrical services and mechanical equipment.

Hyder was appointed to determine the opportunities for the Port of Holyhead to develop an offering to the offshore wind industry. A market demand assessment was undertaken to make sure that the facility would be future proofed. The facility had to provide a minimum dredged level of -8.5m CD, have a minimum quay length of 300m to accommodate two wind farm supply vessels and have a deck load capacity of 25kN/m². Six options were proposed and the routes to and from the marine facility to an adjacent potential fabrication site were appraised. Navigation and dredging requirements were assessed and cost estimates produced. The schemes appraised ranged in value from £35m to £60m.
Jeddah Port has grown at an unprecedented rate over the last 15 years and is now Saudi Arabia’s third largest container port. From its initial planned 1.5m TEU capacity, plans are now in place to create a third container terminal to service an overall capacity of over 4m TEU. Hyder has been involved in the development of Jeddah’s container port since its inception, from a planning and design perspective. Our work as principal consultant includes design of the second container terminal, planning and design of container crane systems including intermodal interaction and logistics studies, Super-Post Panamax cranes, widening of the approach channel including dredging designs, sea defence planning and designs, operational and layout planning and design of all berthing structures, trade and throughput analysis and intermodal transport planning. Our work continues with the involvement in the planning and design of the 3rd container terminal.

Hyder was commissioned by Dover Harbour Board to take their earlier feasibility proposals to detailed design and thereafter to tender and implementation. The scheme provides alignment improvements to internal dock roads to facilitate the introduction of a new customs scanner building and connections into a new Highways Agency dock exit road. The design required input from a number of disciplines: highways, pavement, structures and traffic safety. As the Port of Dover is one of the world’s busiest ferry ports, a major challenge was to maintain uninterrupted 24 hour a day traffic flow within the Port. A design was delivered to the satisfaction of all Port stakeholders with traffic management proposals that were accepted by the Contractor during the tender process. The works have now been successfully implemented under Hyder supervision to programme and budget. Hyder provided site supervision staff, design office back-up and staged safety audit services during the implementation phase.

Hyder was appointed to undertake a study to determine the viability of a cross-Forth Passenger ferry service, to relieve some of the congestion on the Forth Road Bridge. The study followed a STAG Appraisal process with Gateway reviews at key stages. The scope comprised a review and initial validation of previous studies; surveys and confirmation of feasibility including hydrodynamic studies, benthic surveys, origin/destination and patronage surveys; production of a Business Plan for the scheme; preparation of reference designs for land based works and performance specification for vessels; and a full EIA and STAG appraisal for the scheme. The scheme was advanced through the Phase 1 Gateway Review with a preferred Route and ferry-type being selected. Phase 2 advanced on a risk management and value-engineering basis with detailed focus on patronage and infrastructure options at the preferred harbours.
Selected clients:
- Port of Melbourne Corporation and Department of Transport
- Baulderstone Hornibrook for Sydney Ports
- Saudi Aramco
- Parks Victoria
- First Logistics Development Corporation
- Government of Saudi Arabia
- P&O Ports
- Kuching Port Authority
- Asian Development Bank
- Government of Oman
- City Pacific Limited
- Central Queensland Ports Authority
- Port of Townsville Authority
- Saudi Aramco
- Vinashin Shipping
- Department of Transport (AUS)
- The Hong Kong Electric Co. Ltd
- UK Ministry of Defence
- Peel Ports
- Siemens Wind Power
- Welsh Assembly Government
Ian has been involved in a wide range of marine and civil engineering projects over the last twenty one years including outfalls, navigation channels, jetties, harbours, scour protection, breakwaters, seawalls, marinas and onshore and offshore oil terminals. He has direct liaison experience with project management committees, dry dock operators, consultants, contractors, developers, Port Operation Directors and Managers and has experience of port and container terminal operations. He currently leads the Maritime function in Hyder UK and is Project Director for a wide range of marine related projects. He has held the post as Resident Engineer and Assistant Resident Engineer on a number of marine related projects involving substantial Client and Sub-Consultant liaison and Contract Administration duties including claims appraisals, method statement and materials approvals and site supervision. He has worked extensively abroad in Dubai, Lebanon, Pakistan, Vietnam and Tanzania. He is computer literate and is familiar with wave transformation models including Jonsey, Wendis and Portray, structural design packages and Mathcad.

Ian is a Technical Director with the Maritime Group, holding Masters degrees in Civil and Coastal Engineer and Project Management. He has more than 23yrs experience in industry working in the UK and overseas. His design experience covers a wide range of coastal and marine structures including design and appraisal of breakwater, numerical modelling, earth retaining structures, dredging, coastal defences, harbour walls, dry docks, pipelines, jetties, cooling water intakes and outfalls, and marinas. He was technical lead for all marine issues including marina masterplanning for the Jumeriah Hills Development in Dubai. He was project manager for the East Riding of Yorkshire Bridlington Marina Planning Inquiry, as well as acting as an expert witness on several other schemes in the UK and abroad. He has managed several large client facing and politically sensitive projects and is therefore experienced in dealing with members of the public, local authorities and public enquiries.

Alan has wide experience at senior level in provision of Development Infrastructure for large waterfront and property schemes and for Port and Maritime development in the UK and abroad. He is Technical Director and a Senior Manager for Hyder. Significant attributes include previous experience of delivering the Greenwich Peninsula infrastructure for English Partnerships as Project Director of the prime consultant during the 5 year run up to the UK Millennium. This is allied to long involvement with developing Port and Maritime facilities including container terminals, ro-ro ferry, naval and general port facilities inclusive of the extensive general infrastructure and coastal margin works these developments usually involve. Alan has conducted or contributed to a wide range of technical, operational planning, masterplanning and business case studies, and overseen the environmental assessment and permitting stages of new development. He has led the project management of major schemes, performed the role of Engineer to contracts, and has long experience of contract administration.
James is a Chartered Marine Civil Engineer and experienced Project Manager, with over 10 years experience in ports and marine engineering working for a port companies and civil engineering consultancies. His experience includes working for Associated British Ports and a secondment to P&O Ports. He is currently a Principal Engineer within Hyder’s Marine Team. James’ expertise includes managing design teams, undertaking technical appraisals, detailed design, contract administration and construction supervision of harbour structures and dredging works. Port engineering schemes are often complex projects which require multi-disciplinary teams, including experts in environmental assessment, dredging, geotechnical, structural and infrastructure engineering. James is experienced in developing and managing teams to suit the port operations and commercial requirements. His recent experience includes work in fishing harbours, marinas, cruise ship berths, container berths, general cargo quays, inland waterways and naval dockyards, in the UK and overseas.

Geoff is an Urban Planner and Transport Planner with over 30 years experience of working throughout the UK and overseas. His experience has been gained in both the public sector and the private sector. Geoff’s areas of expertise include coordination of multi discipline infrastructure projects, strategic and spatial planning, regeneration and environmental enhancement studies, transport planning, transport assessment and appraisal, tourism and leisure studies, preparation of funding strategies and business plans, community based projects, public Inquiries and expert witness statements.

Glen manages Hyder’s Regional Ports and Maritime team based in Melbourne. He has over 14 years of maritime and civil infrastructure related experience throughout Ireland, the UK, New Zealand, the Middle East and Australia. He has the responsibility of ensuring business growth in the maritime sector and is Hyder’s Client Director for the Port of Melbourne Corporation. He also acts as a Senior Project Engineer on maritime and port projects throughout Australia and overseas.

As well as being responsible for the management of design teams and groups in various consultancies around the world, he has directly managed large scale engineering projects with budgets over $100 million, including port planning projects, condition assessments and the design of major maritime and coastal defence infrastructure. Glen also has considerable experience in general structural design and is currently completing doctorate postgraduate research into Tsunami Wave interaction with coastal structures using computational fluid dynamics analysis. He is also an expert in planning and design of container terminals.
Mohsen is a chartered engineer with over 26 years of experience in highways and infrastructure design, management and site supervision in the UK, Africa and the Middle East. Mohsen has experience in civil, highway design and management and construction projects management including motorways, interchanges, major development schemes, major transport terminal for channel tunnel, power stations and associated infrastructures. Areas of expertise also include parking control and management design/implementation, master plan studies, infrastructure planning, design development of new sites, site supervision, client liaison, quality assurance, management of sub-consultant construction supervision and supervision in chief. Key projects include, Emirates Tower project, Dubai Marina Development, Emirates Lakes, Downtown Burj Dubai Development, Najmat Development on Reem Island, Jumeirah Developments – Technical Master Planning for Nakheel and Dubai Metro.

Andrew’s career in the construction industry spans 35 years. He has worked on broad range of structures including tender preparation, feasibility studies, concept and detailed design, as well as project managing the design delivery of multi disciplinary engineering schemes. He has recent marina project experience on Hebe Haven Yacht Club, Royal Hong Kong Yacht Club Shelter Cove and Hong Kong Marina. Andrew has led design teams in numerous quality engineering projects, requiring innovative and challenging solutions. His civil and structural engineering experience includes inter alia detailed design and management of design and build contracts for marinas, railway stations, water retaining structures and commercial and residential buildings.

Suzie is an Oceanographer with over 15 years of experience in the field of numerical physical oceanography. She has worked in a variety of coastal and offshore disciplines including coastal tidal, wave and sediment modelling, cross-shore and longshore beach morphology studies and porous swash zone wave model development. Suzie has extensive experience in both the development of one-, two-, and three-dimensional numerical models for coastal and estuarine waters and application to wave, sediment transport, hydrodynamic and water quality studies. Suzie has worked on projects in the UK and Middle East and has recently been involved in diverse studies including circulation and water quality in impoundments and coastal areas, thermal discharge modelling and wave and sediment transport studies for port and harbour developments. She also provides Project and Technical management services for internal and external clients.