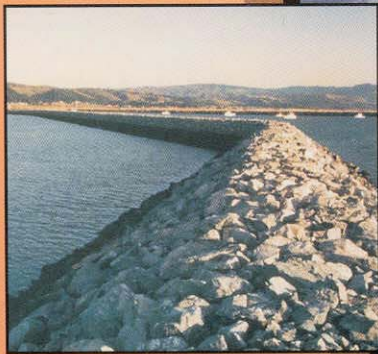


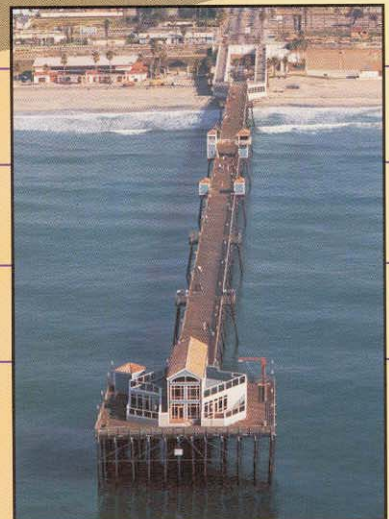
# NOBLE

CONSULTANTS



CIVIL,  
COASTAL &  
HARBOR  
ENGINEERING

- ◆ PLANNING
- ◆ DESIGN
- ◆ CONSTRUCTION MANAGEMENT



# COASTAL ENGINEERING ANALYSIS

## SHORELINE PROCESSES

Deepwater & Shallow Water Wave Transformation  
Longshore & Cross-Shore Sediment Transport Analysis  
Shoreline Erosion & Accretion Studies  
Sediment Budgets  
Shoreline Change Analysis  
Beach Replenishment Planning  
Beach & Sand Management Plans  
Tides, Currents & Wind Assessment  
Tidal Inlet Analysis  
Estuarine, Riverine & Coastal Analyses  
Dredging & Disposal Studies



## NUMERICAL MODELING

Wave Refraction & Diffraction  
Spectral Nearshore Wave Transformation  
Monte Carlo Simulation of Wave Incidence  
Wave Predictions & Wave Hindcasting  
Storm Surge & Surge Resonance  
Wave Forces on Structures  
Longshore & Cross-Shore Sediment Transport  
Tidal Hydrodynamic Modeling  
Water Quality & Circulation Analyses  
Outfall Diffusion & Dispersion Modeling



## HYDRAULIC (PHYSICAL) MODELING

Wave Transformation, Transmission & Reflection  
Wave Runup & Overtopping  
Breakwater Protection Alignment  
Revetment & Breakwater Stability Analysis  
Tidal Currents & Embayment Flushing

## OTHER

Coastal Engineering Impact Analysis for EIR's  
Storm Damage & Risk Assessment  
Oceanographic Instrumentation & Data Acquisition  
Bathymetric & Beach Surveys  
Permitting & Regulatory Compliance  
Hydraulic & Sedimentation Analyses  
Flood & Hydrology Studies  
Sediment Sampling & Analysis  
Effluent & Discharge Assessment



**N**oble Consultants has developed the breadth and depth of practical expertise to provide a comprehensive array of services. Services that result in effective solutions in both the short and the long term. By working closely with clients at each stage of a project, Noble has built an impressive track record of delivering projects that successfully meet the most exacting requisites.



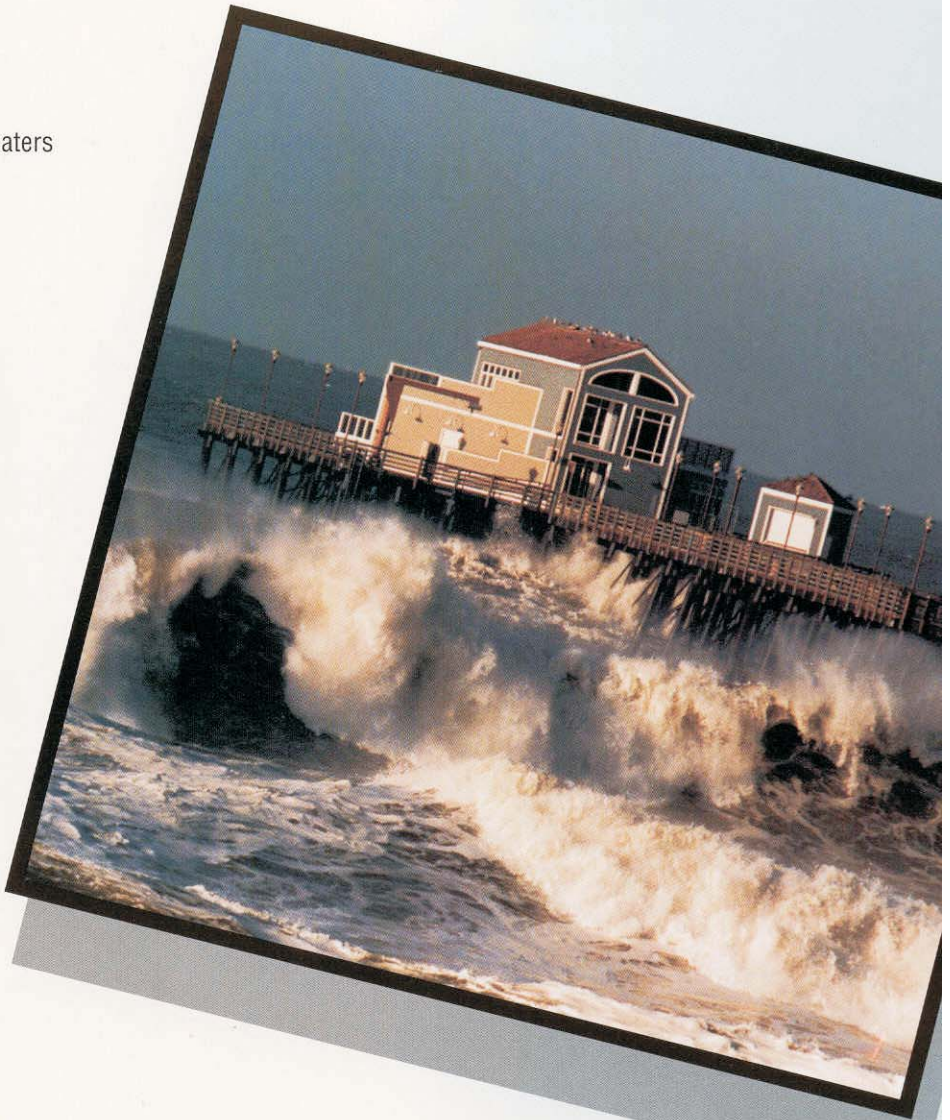
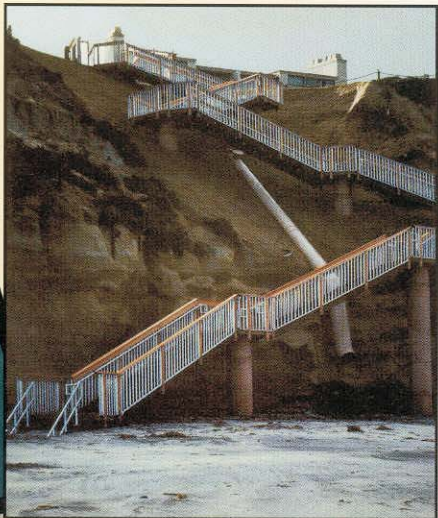
## CIVIL/HARBOR ENGINEERING DESIGN

### SERVICES

Project Management & Oversight  
Site Investigations & Inspections  
Reconnaissance & Feasibility Studies  
Master Planning of Waterfront & Shoreline Projects  
Conceptual Design Development  
Final Engineering Design  
Engineering Drawings, Specifications & Contract Documents  
Engineer's Construction Cost Estimate  
Permitting & Regulatory Compliance  
Constructability Review  
Value Engineering  
Forensic Engineering & Expert Testimony

### TYPES OF PROJECTS

Marinas, Ports & Harbors  
Mooring Facilities  
Piers, Wharves, Bulkheads & Docks  
Breakwaters, Jetties & Groins  
Residential & Commercial Waterfront Developments  
Navigation & Channel Improvements  
Seawalls, Revetments & Dikes  
Shore & River Bank Protection  
Beach Restoration & Nourishment  
Dredging, Siltation & Material Disposal  
Inspection of Waterfront & Coastal Facilities  
Boat Launch Facilities  
Coastal Access Stairways  
Drainage Facilities, Culverts & Energy Dissipaters  
Ocean Outfalls & Intake Structures  
Lake Restoration



Taking a multidisciplinary approach, Noble Consultants puts a team of experts on each project. Together, their extensive practical experience and professional skills result in innovative answers to new challenges. Utilizing state-of-the-art engineering techniques, Noble tailors its services to each individual project requirement.

# CONSTRUCTION ENGINEERING AND MANAGEMENT

## FINAL DESIGN & BID DOCUMENTS

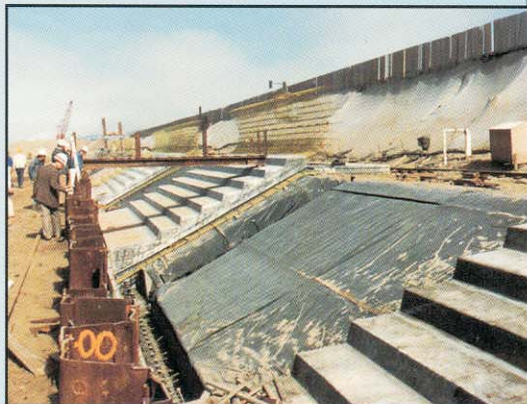
- Value Engineering
- Constructability Review
- Construction Cost Evaluation
- Life Cycle Cost Evaluation
- Claims Prevention Review
- Contract Documents & Bidding Alternatives
- Construction Scheduling & Phasing

## CONTRACT BIDDING & AWARD

- Pre-Qualification of Bidders
- Solicitation of Bids
- Pre-Bid Conference
- Review of Contractor Qualifications
- Bid Analysis & Contract Award
- Pre-Construction Conference

## CONSTRUCTION

- Contract Administration
- Project Document Control
- Project Cost & Schedule Control
- Resident Construction Inspection
- Off-Site Fabrication Inspection
- Approval of Submittals & Shop Drawings
- Approval of Contractor Pay Requests
- Change Order Control & Claims Analysis
- Progress Construction Meetings
- Verification of Materials Compliance
- Verification of Materials Testing
- Maintain As-Built Record Drawings
- Project Close-Out & Correction List
- Post-Construction Monitoring



**N**oble Consultants is dedicated to meeting each client's specific needs. That includes carefully controlling budgets and meeting project timetables. In fact Noble has earned the reputation of fulfilling and exceeding client requirements. Noble's high percentage of repeat business attests to client satisfaction. To learn more how Noble Consultants can assist you, please contact one of the offices listed on the back cover.

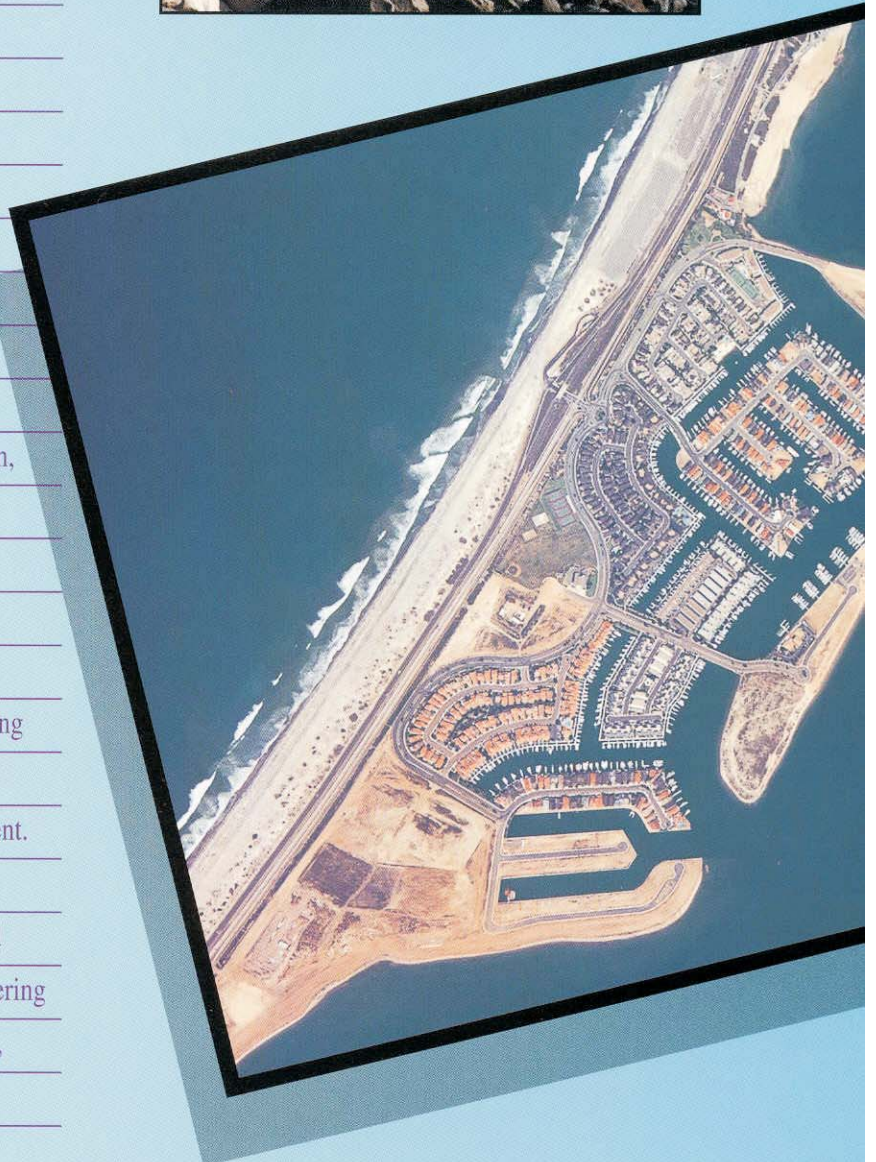


**N**o one can control nature.  
But Noble Consultants  
anticipates and mitigates  
its forces through highly specialized civil  
engineering skills combined with years of  
practical experience.

Across the country and around  
the world, this professional engineering  
firm has been involved in more than  
5,000 projects along ocean and coastal  
shores, within bays and harbors and  
throughout inland rivers, lakes and  
waterways. With construction costs  
ranging from \$10,000 to over \$100 million,  
no project is too large nor too small.

Noble provides a full spectrum  
of services from initial project analysis,  
feasibility studies and the development of  
engineering criteria to final design including  
the preparation of construction drawings,  
specifications and construction management.

The firm has worked with  
government agencies, private industry and  
corporations, as well as with other engineering  
and construction firms. Regardless of size,  
each client and project receives the same  
technical proficiency, personal attention  
and commitment to excellence that is the  
hallmark of Noble Consultants.



**N**oble Consultants, which specializes in coastal, estuarine and riverine engineering, traces

its history to 1958. Despite growth throughout the years, the firm maintains its founding philosophy of hands-on involvement on every project by its principals or key senior personnel.

Although rooted in traditional values of close, personal attention, Noble Consultants is renowned for its leading edge engineering techniques and environmentally sensitive solutions to new challenges.

Noble Consultants is available to work with you on your next project. For more information, please contact one of the offices below.

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