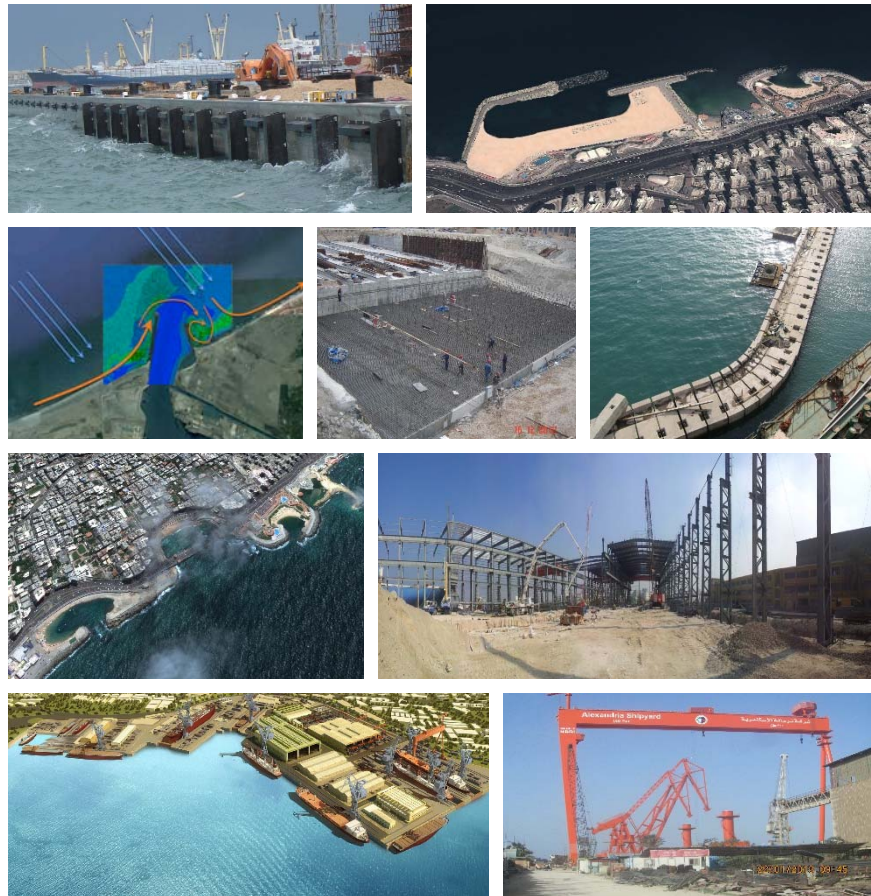


# Pre Qualifications

www.GeotechEgypt.com



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## Who We Are

**Geotechnics** is a group of engineering consultants specialized in combined **Geotechnical**, **Structural** and **Marine** Projects.

## Our Mission

Our **Design Philosophy** stand firm on **Value Engineering**.

- Maximize the value of the design through a systematic and rigorous process.
- Design alternatives are reached through accurate field work, sufficient data collection and employing the most recent and advanced state of the art tools and analysis methods.
- Through value engineering the cost components of the design is optimized to provide the required lifetime of the design in the best economic fashion.
- Utilize state of the art design tools and invest in personnel continuous training and education.

## Scope of Work

### Marine Engineering

- Harbor and Terminal planning.
- Design of quay walls, breakwaters and dredging.
- Design of Offshore Structures and facilities.



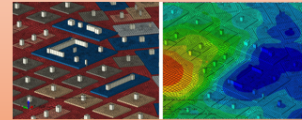
### Shore Protection Engineering

- Design of shore protection breakwaters, revetments groins and beach management.
- Monitoring of Wind, Wave and Environmental parameters.



### Geotechnical Engineering

- Perform geotechnical testing and investigations.
- Design of foundation systems, retaining systems, deep structures,
- Design of infrastructure, roads and dewatering.



## Marine Engineering

- Harbor and Terminal planning including general cargo, bulk, liquid and container terminals.
- New and upgrades of quay walls including gravity, sheet piled, piled and cellular types.
- Breakwaters, emerged, submerged, floating and eco-friendly types.
- Design of offshore and near-shore marine facilities for the oil industry.
- Dredging planning, optimization and dump site location.
- Sea pipe line design
- Mooring and berthing studies.

## Shore Protection Engineering

- Design of shore protection breakwaters, revetments groins and beach management.
- Monitoring of Wind, Wave and Environmental parameters.
- Specialized hydrodynamic and sedimentation studies

## Geotechnical Engineering

- Geotechnical testing, investigations and specialized studies (filter design drivability analysis)
- Foundation system, retaining systems, deep structures, piles and diaphragm walls, slurry shafts and underground structures.
- Design of infrastructure, roads and dewatering work.
- Advanced complex foundation analysis.

## Organization

**Hassan M Abouseeda, PHD, PE**  
Professor of Geotechnical Engineering  
Alexandria University

Principal, General Manager

**Bahaa Eldin Alsharnouby, PHD, PE**  
Professor of Marine Engineering  
Alexandria University

Honorary Chairman

### Design Team

**Khaled S Hussain, PhD, PE**  
25 years experience  
Consultant – Offshore - Part time (USA Office)

**Mahmoud A Khalifa, MSc**  
8 years experience  
Lead Design - Geotechnical

**Maysara M Altahhan, MSc**  
8 years experience  
Lead Design – Hydrodynamics

**Mohamd E Ouda, MSc**  
7 years experience  
Lead Design – Hydrodynamics

**Amr A Kamal, MSc**  
10 years experience  
Design – Geotechnical

**Hamdi A Abdullah, MSc**  
7 years experience  
Design – Marine Structures

**Waleed Khaleel**  
15 years experience  
Design – Marine Structures

**Marwa Y Abdelsalam**  
7 years experience  
Design – Geotechnical

**Abdelgaleel A Yaghnom**  
12 years experience  
Design – Marine Structures (Yemen Office)

**Ahmad A Abeido**  
4 years experience  
Design – Geotechnical

### Core Field Team

**Hassan M Alhakee**  
35 years experience  
Team Leader

**Essam Saied Ahmad**  
25 years experience  
Project Manager

**Mohamed Fared Hammami**  
15 years experience  
Lead Engineer - Civil

**Mahmoud Mohamed Abouelela**  
10 years experience  
Lead Engineer – Mechanical

**Ahmed Mahmoud Aboudakika**  
5 years experience - Civil

**Ahmed Mohamed Aboughazala**  
5 years experience - Civil

**Mohamed Awad Alzahaby**  
7 years experience - Civil

**Mohamed Hamed Yehya**  
5 years experience – Civil

**Ghattas Hennawy Hebaishy**  
25 years experience – Civil Supervisor

**Maha Aly Omar**  
7 years experience - QC

**Maher Mosad Zaid**  
5 years experience – Architectural

**Mohamed Usama Badawy**  
5 years experience – Mechanical

**Hani Mohamed Mahmoud**  
7 years experience - Electrical

**Dina Saied Abdelrahman**  
4 years experience - Secretray

## Short CV – Dr. Hassan Abouseeda

### Hassan M Abouseeda, Ph.D., P.E.

**Principal** , Geotechnics

**Professor** of Geotechnical and Marine Engineering  
Structural Engineering Dept., Alexandria University

**PhD** Civil Engineering, May 1996, Rice University,  
Houston, Texas, USA

**MSc** Civil Engineering, May 1993, Rice University, Houston,  
Texas, USA

**BSc** Civil Engineering, May 1989, Alexandria University,  
Alexandria, Egypt



### Key Positions Held

Senior Consultant, Fugro McLelland Marine Geosciences  
Houston, Texas, USA



Senior Consultant, Mustang Engineering  
Houston, Texas, USA



Director, Alexandria University Geotechnical Laboratory  
Alexandria, Egypt



Partner, FACB Consulting Office  
Alexandria, Egypt

Partner, AHK Consulting Office  
Alexandria, Egypt

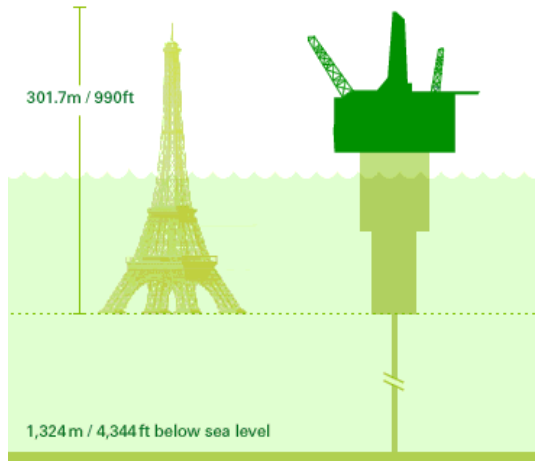
Short CV – Dr. Hassan Abouseeda

**Key Projects**

**BP Holstein, Gulf of Mexico, 2004**



BP's Holstein deep-water platform



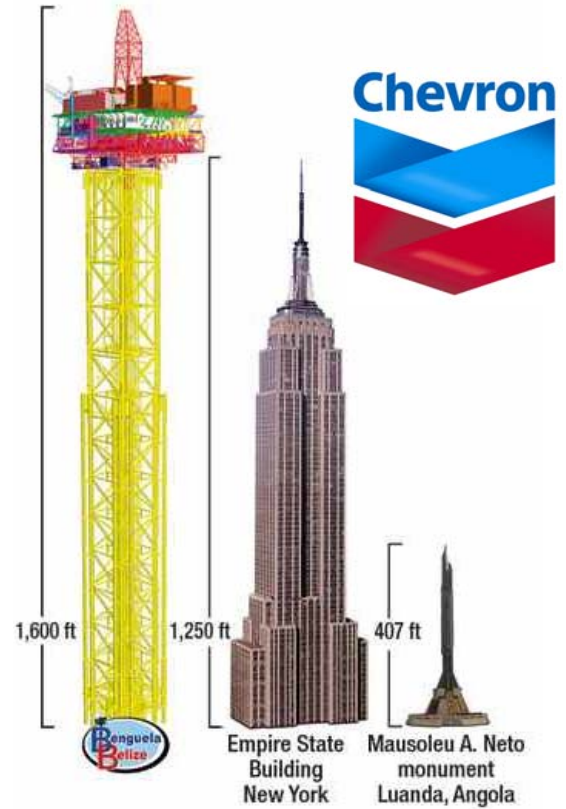
**BP Mad Dog, Gulf of Mexico, 2006**



Short CV – Dr. Hassan Abouseeda

**Key Projects**

**Chevron Benguela Belize,  
West Africa, 2007**





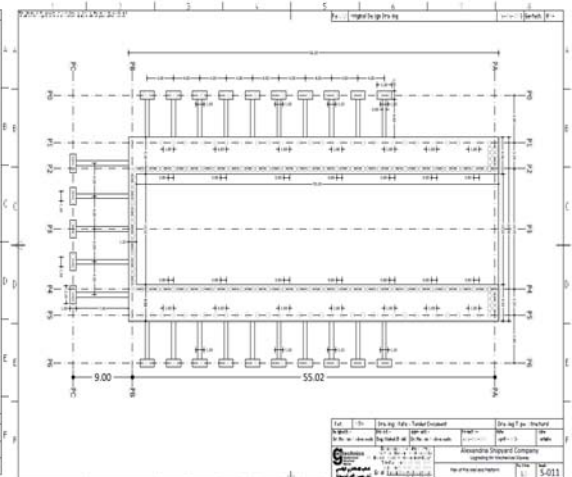
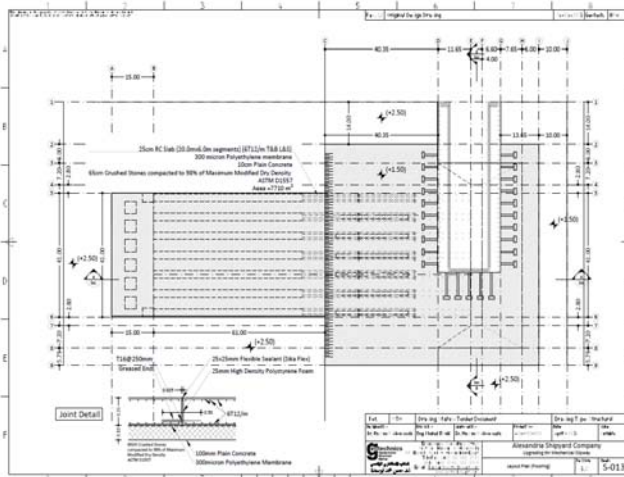
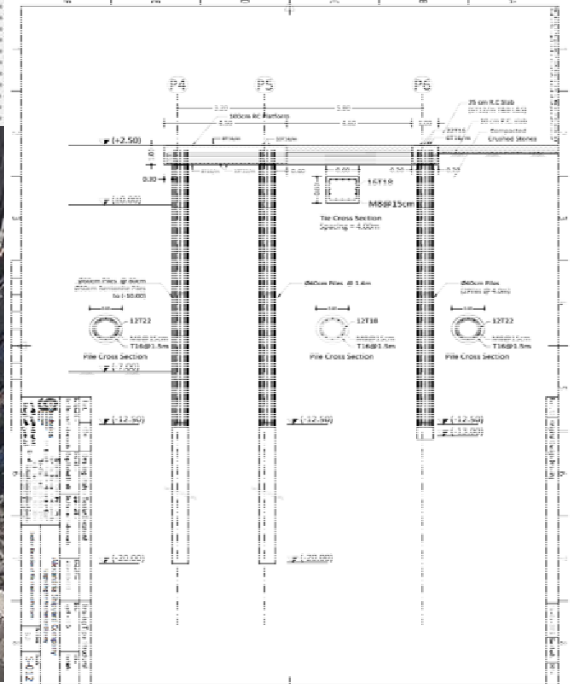
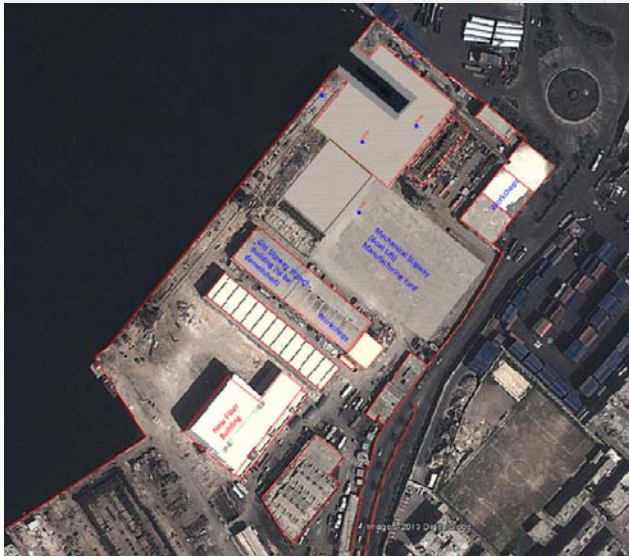
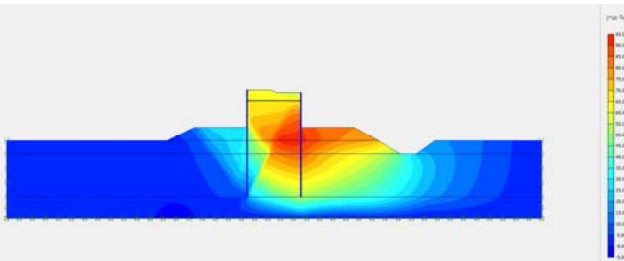
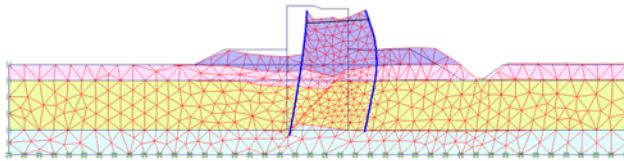
# Marine Projects



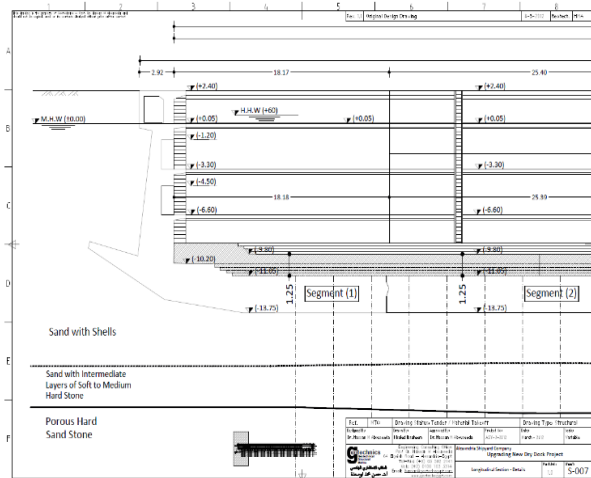
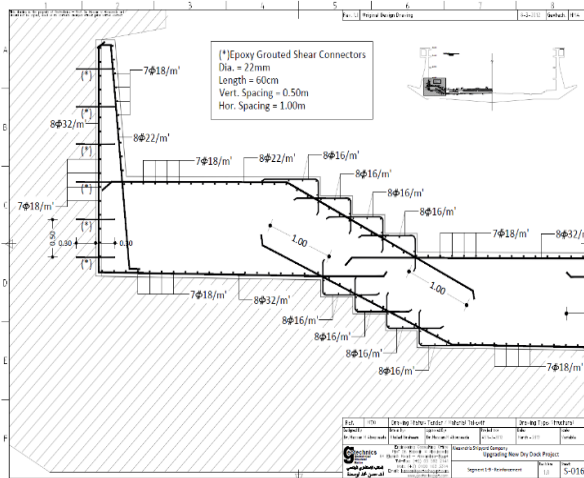
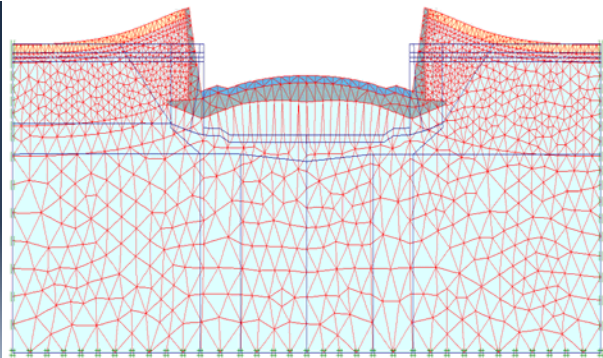
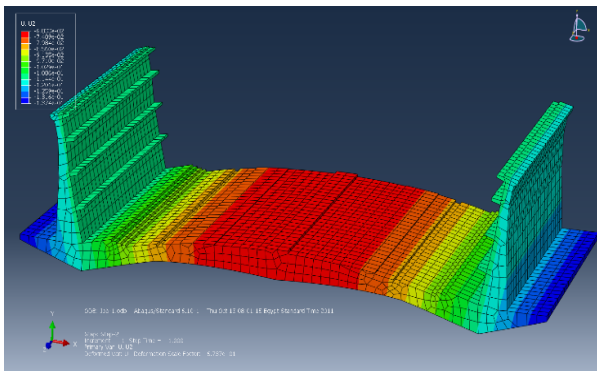
Project	Upgrading Alexandria Shipyard		
Client	Alexandria Shipyard	Location	Alexandria Harbor - Egypt
Value	1.2 Billion EGP (220 Million USD)	Date	2010 – 2014
Role	Design Review – Construction Supervision		



Project	Upgrading Mechanical Slipway		
Client	Alexandria Shipyard	Location	Alexandria Harbor - Egypt
Value	20 Million EGP (4 Million USD)	Date	2011 – 2014
Role	Design – Tendering – Construction Supervision		



<b>Project</b>	<b>Upgrading New Dry Dock</b>		
<b>Client</b>	Alexandria Shipyard	<b>Location</b>	Alexandria Harbor - Egypt
<b>Value</b>	70 Million EGP (12 Million USD)	<b>Date</b>	2011 – 2014
<b>Role</b>	Design – Tendering – Construction Supervision		

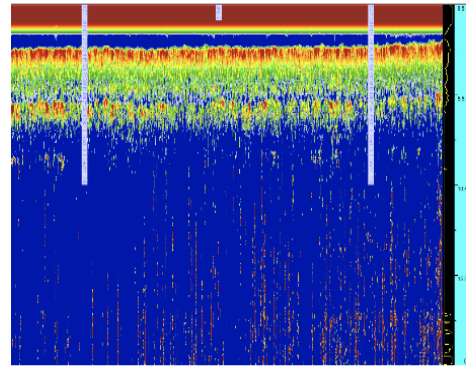


<b>Project</b>	Algabbana 100ton Ship Lift		
<b>Client</b>	Yemen Corps of Engineers	<b>Location</b>	Algabbana – Republic of Yemen
<b>Value</b>	15 Million USD	<b>Date</b>	2010
<b>Role</b>	Design - Supervision		

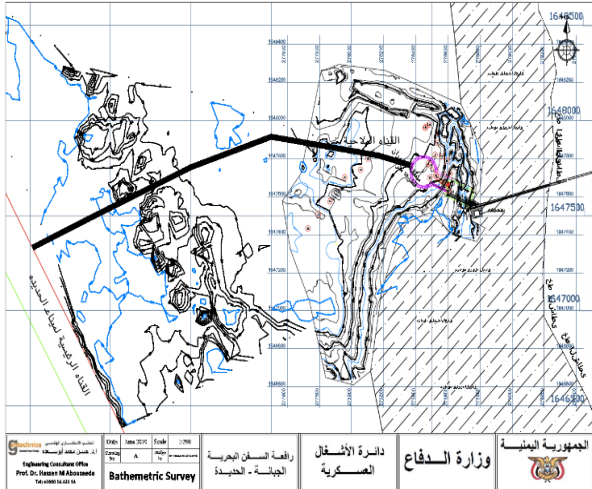


**geotechnics** المكتب الاستشاري الهندسي  
Technical Design ا.د. حسن محمد أبو سعدة

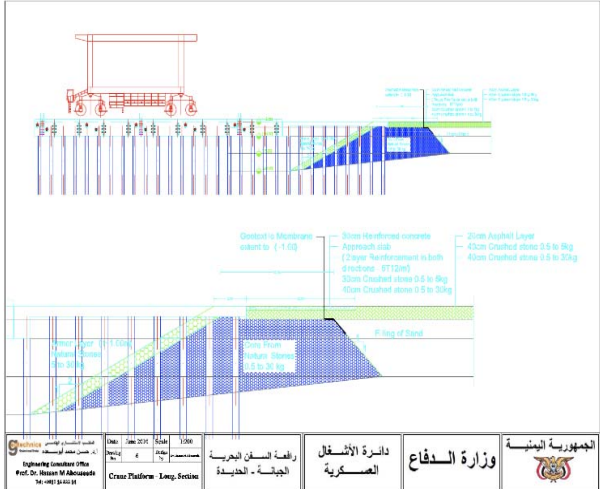
الجمهورية اليمنية - محافظة الحديدة - راقعة السفن البحرية  
المسح الجيوفيزيائي - Geophysical Investigation



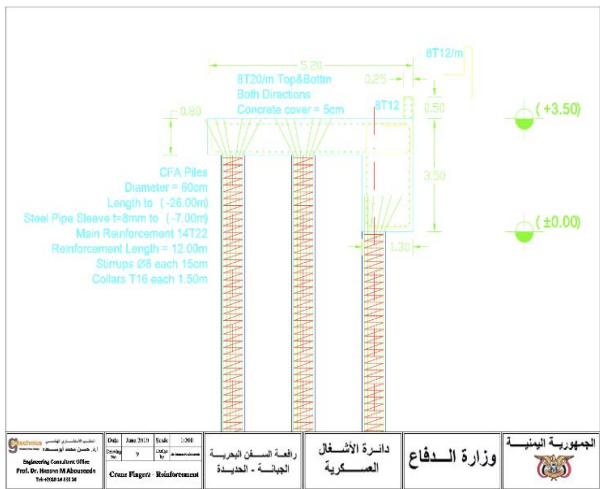
(Lane 2) Points 11-12



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Bathymetric Survey  
Date: June 2010 Scale: 1:500  
Drawing: A  
Project: Port Of Hodeidah  
Prof. Dr. Hassan M. Abu Souda  
Tel: +967 54 612 51

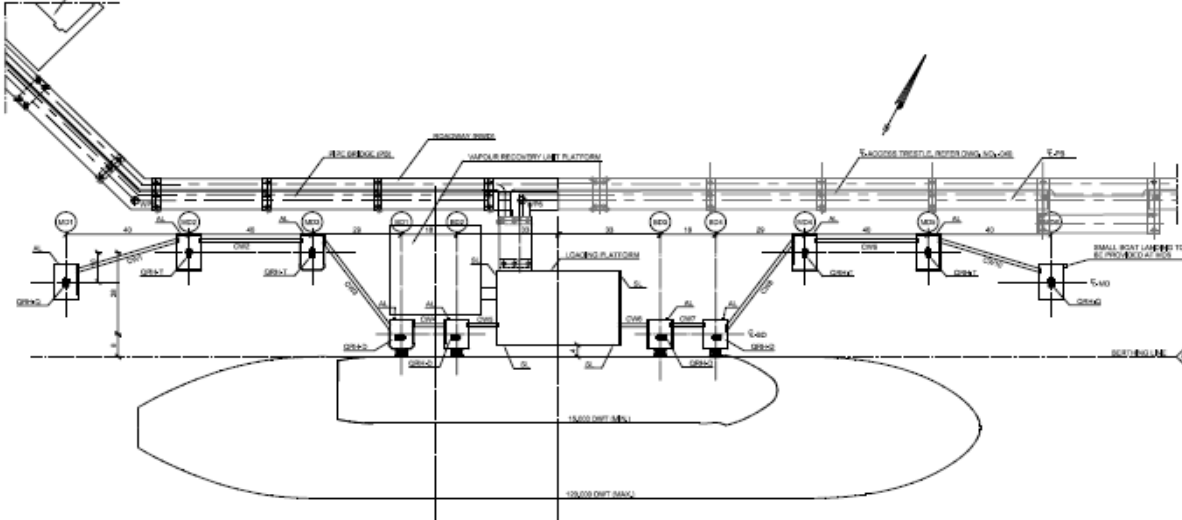
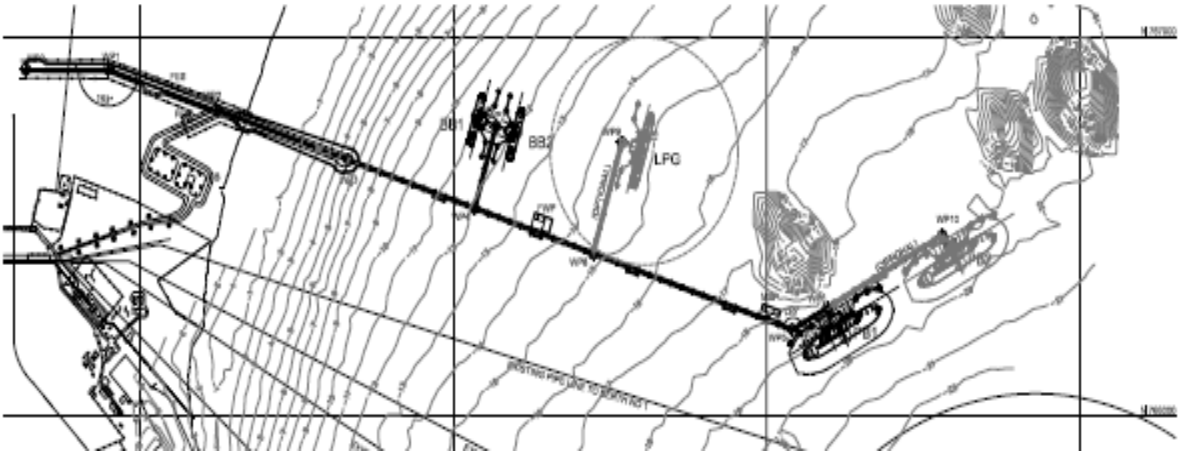
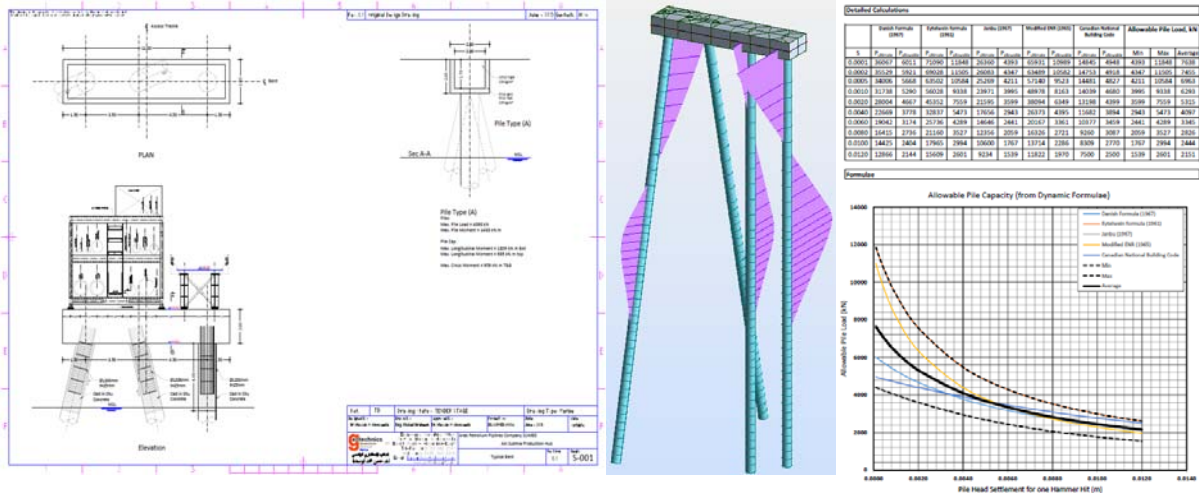


الجمهورية اليمنية وزارة الدفاع دائرة الأشغال العسكرية راقعة السفن البحرية الجبلية - الحديدة  
Cross Platform - Long Section  
Date: June 2010 Scale: 1:500  
Drawing: B  
Project: Port Of Hodeidah  
Prof. Dr. Hassan M. Abu Souda  
Tel: +967 54 612 51

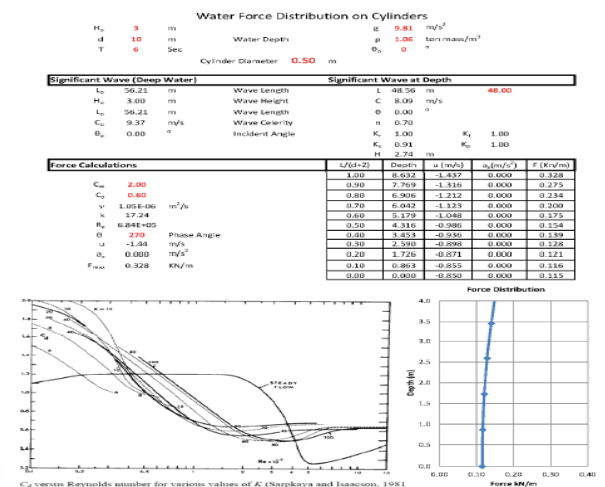
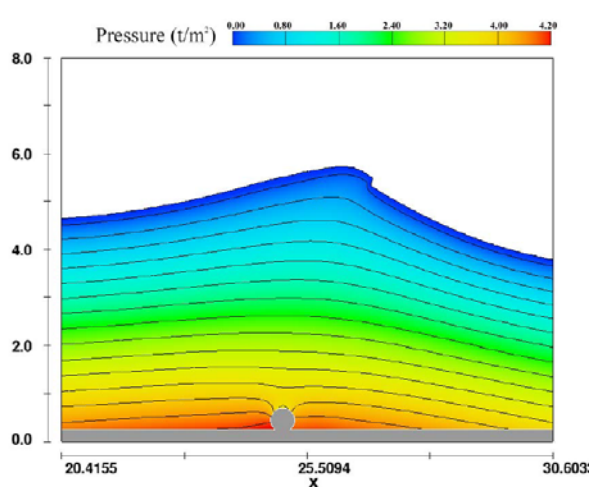
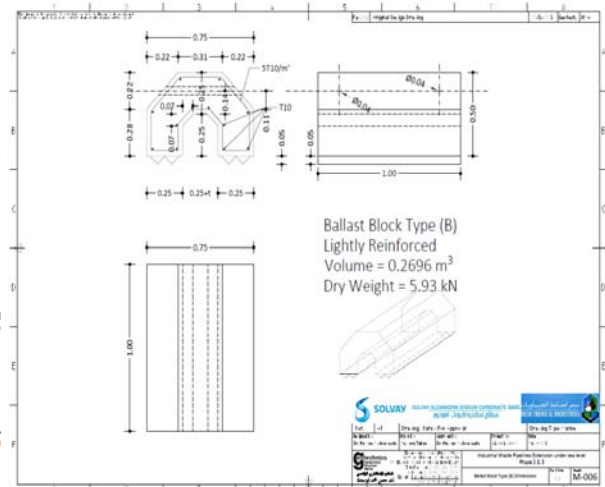
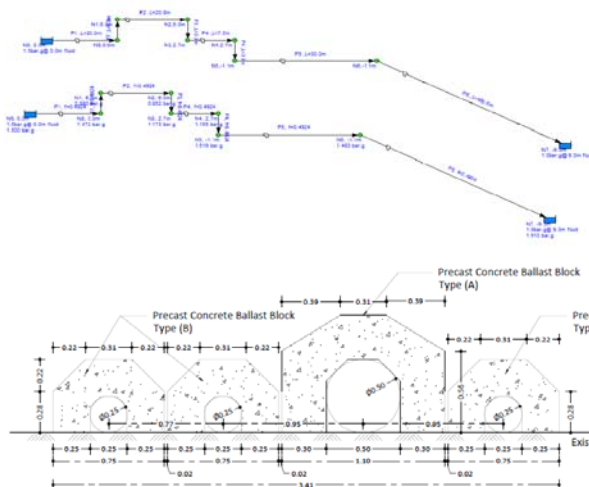
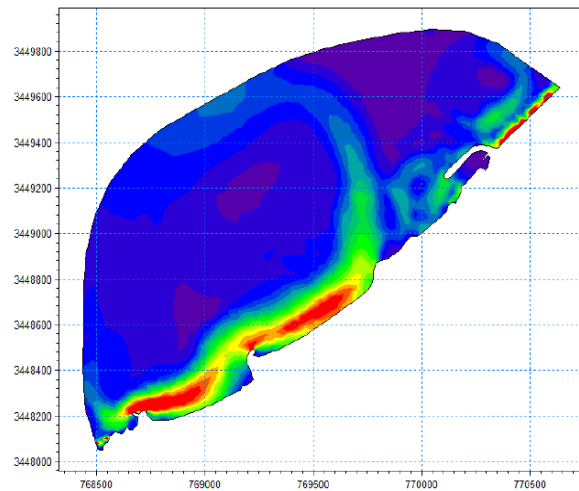
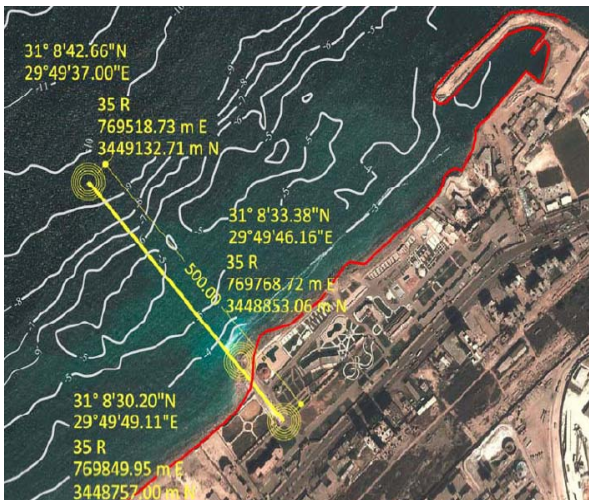


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Cross Platform - Reinforcement  
Date: June 2010 Scale: 1:500  
Drawing: C  
Project: Port Of Hodeidah  
Prof. Dr. Hassan M. Abu Souda  
Tel: +967 54 612 51

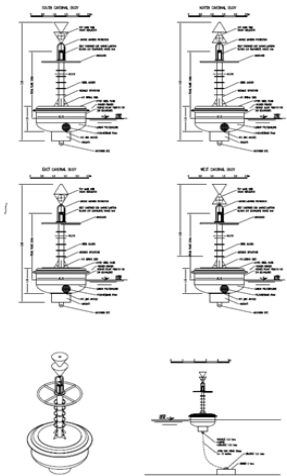
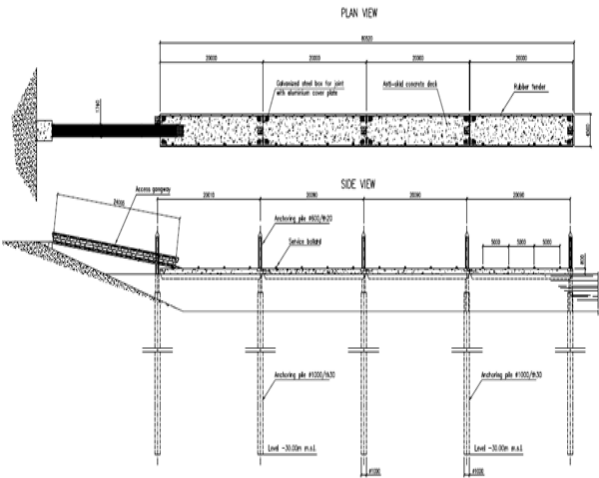
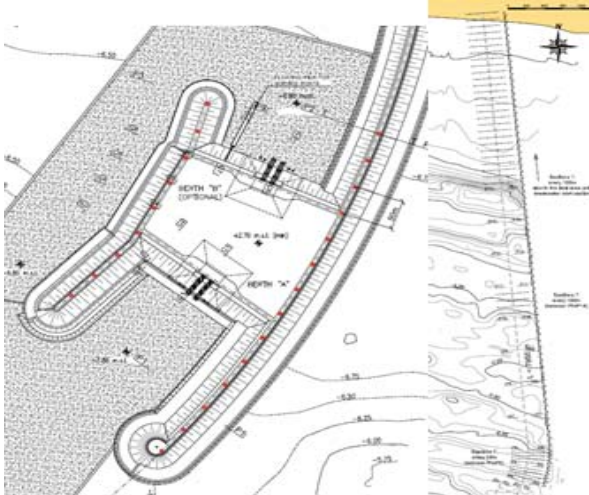
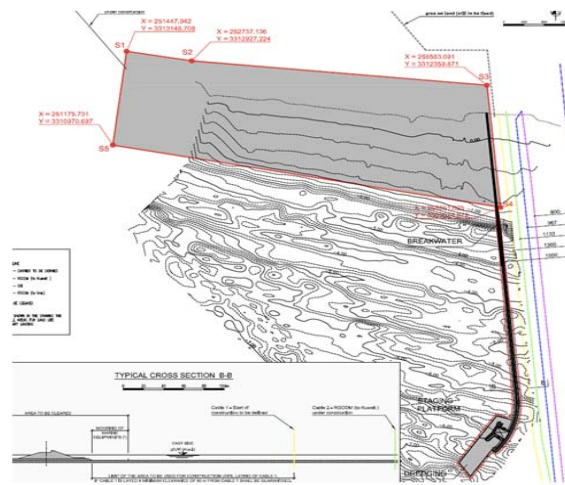
<b>Project</b>	<b>Marine Production Hub (Tender Consortium with PMS – Petrojet – Arab Contractors)</b>		
<b>Client</b>	Arab Petroleum Pipelines Co. (SUMED)	<b>Location</b>	Sokhna - Egypt
<b>Value</b>	220 Million USD	<b>Date</b>	2014 – 2016
<b>Role</b>	Analysis – Design – Supervision (Consortium EPC Contract)		



<b>Project</b>	<b>Marine Discharge Line and Protection – 500m</b>		
<b>Client</b>	Solvay – Soda Ash	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	15M EGP (2.5M USD)	<b>Date</b>	2013 – 2014
<b>Role</b>	Analysis – Design – Supervision		



<b>Project</b>	Al Faaw Grand Port		
<b>Client</b>	Government of Iraq – Arab Contractors	<b>Location</b>	Alfaaw - Iraq
<b>Value</b>	250 Million USD	<b>Date</b>	2012
<b>Role</b>	FEED Study		

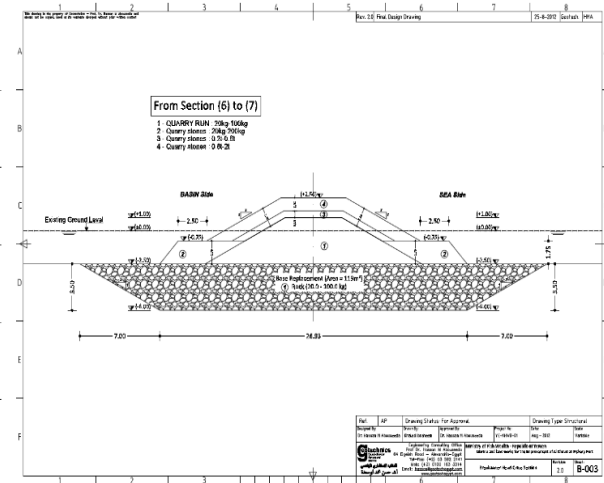
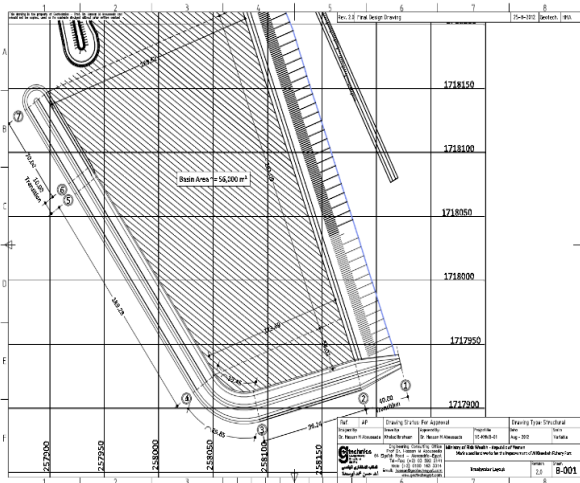
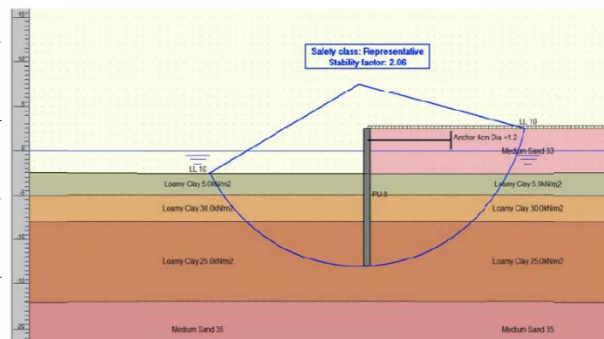
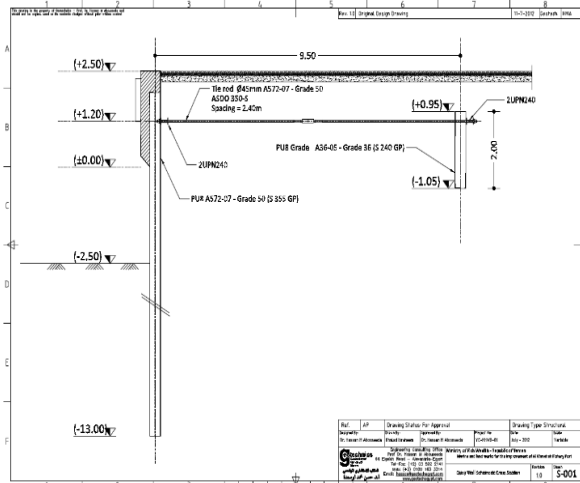
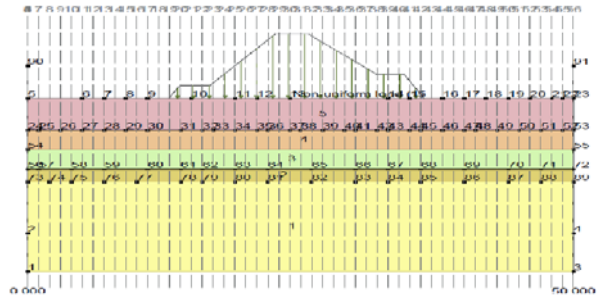
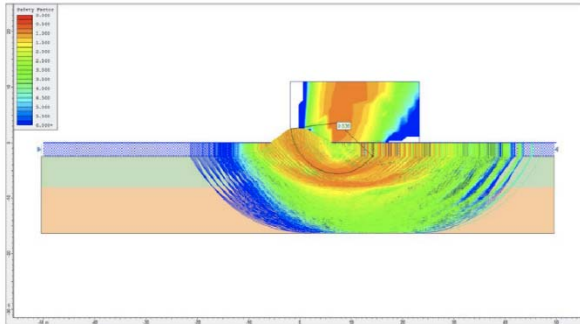




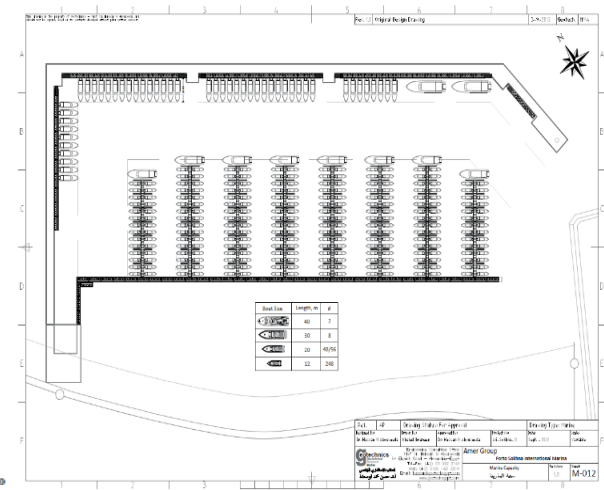
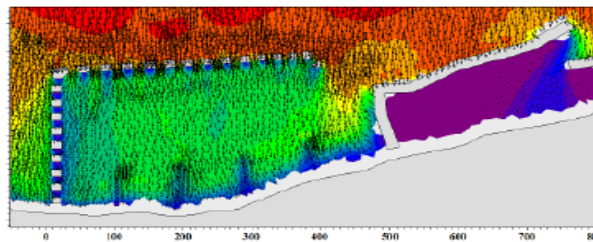
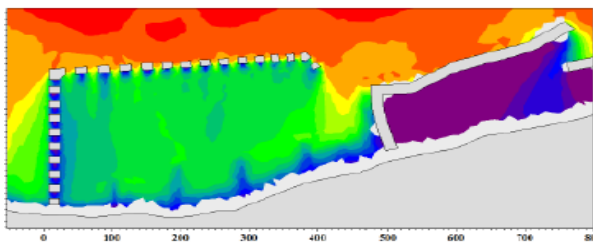
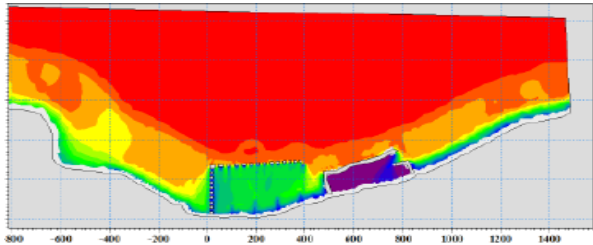
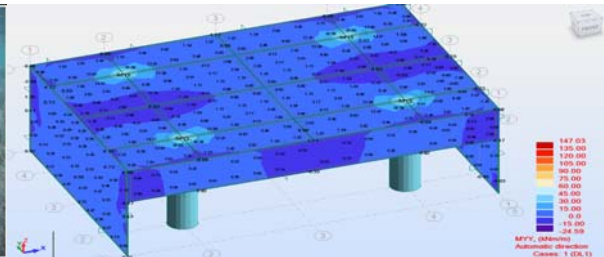
<b>Project</b>	<b>Rafah Port Quay Walls and Marine Protection</b>		
<b>Client</b>	Egyptian Naval Forces	<b>Location</b>	Sinai - Egypt
<b>Value</b>	55M EGP (9.5M USD)	<b>Date</b>	2009– 2014
<b>Role</b>	Analysis – Design - Supervision		



<b>Project</b>	Alkhawba Harbor – Financed by World Bank		
<b>Client</b>	Yemen Naval Forces	<b>Location</b>	Alkhawba – Republic of Yemen
<b>Value</b>	9.5 Million USD	<b>Date</b>	2012 - 2014
<b>Role</b>	Design - Supervision		

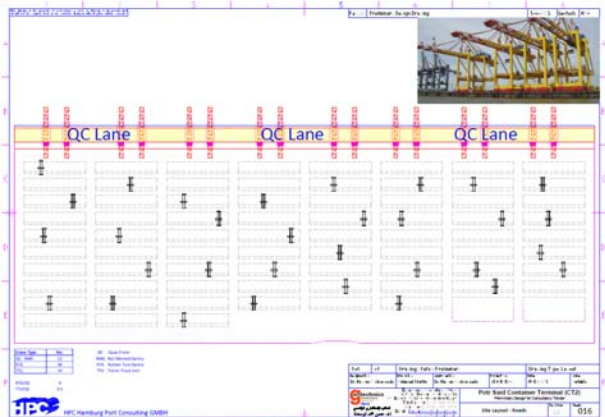
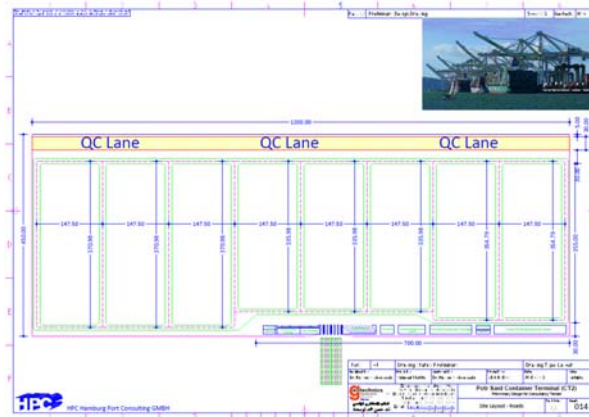
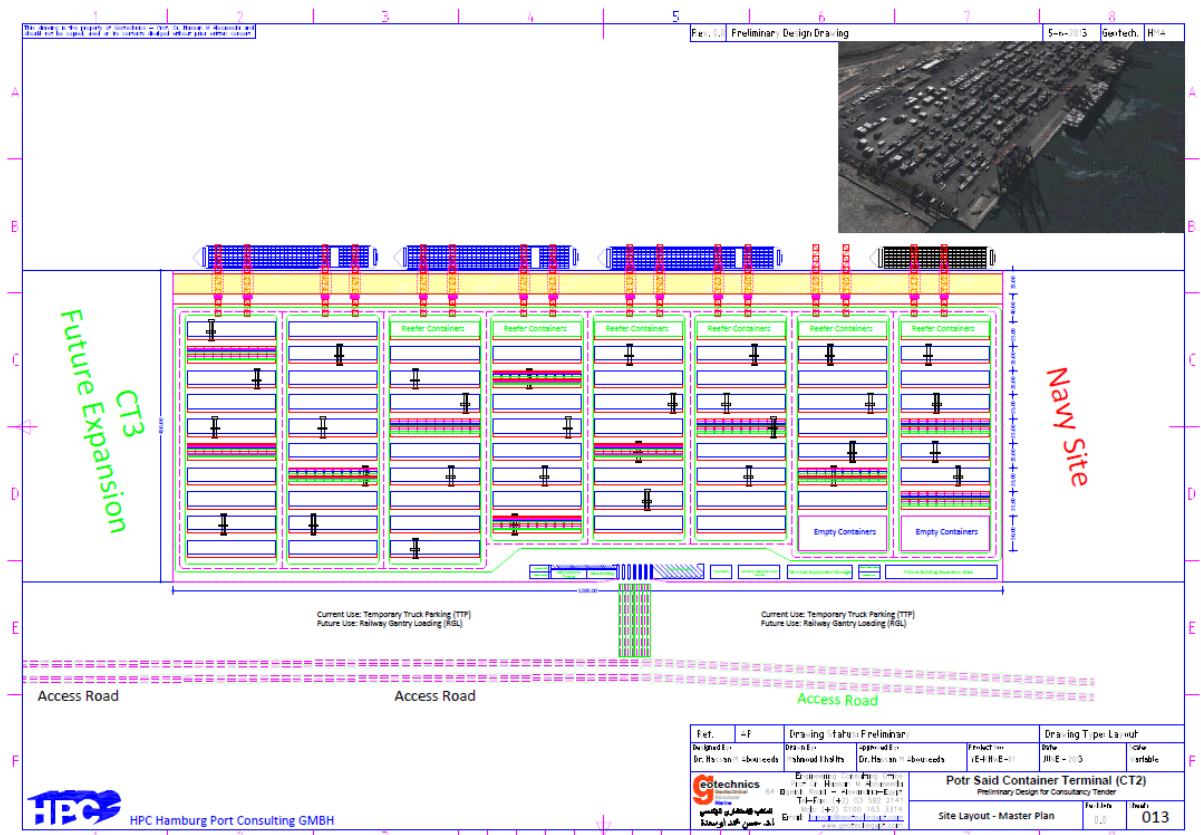


<b>Project</b>	Porto Sokhna Marina		
<b>Client</b>	Amer Group	<b>Location</b>	Sokhna - Egypt
<b>Value</b>	60M EGP (10M USD)	<b>Date</b>	2014 – 2016
<b>Role</b>	Analysis – Design – Supervision		

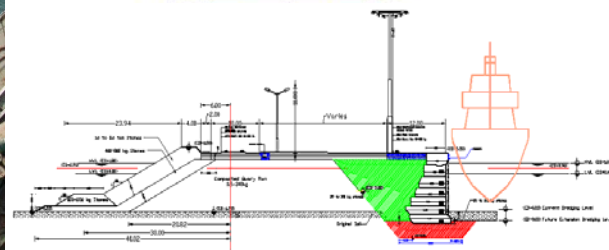
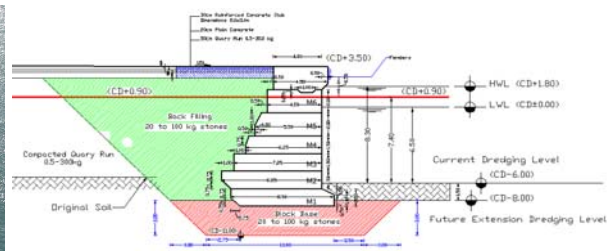
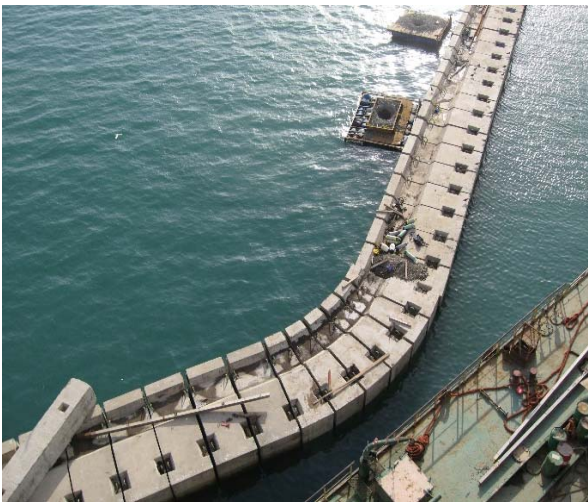
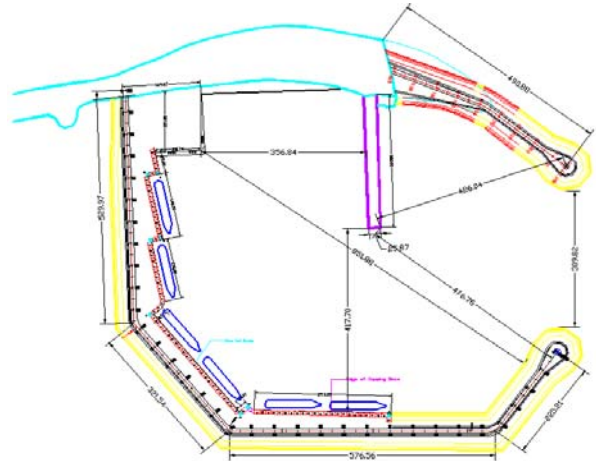


Boat Size	Length, m	#
	40	2
	30	8
	20	48/56
	12	248

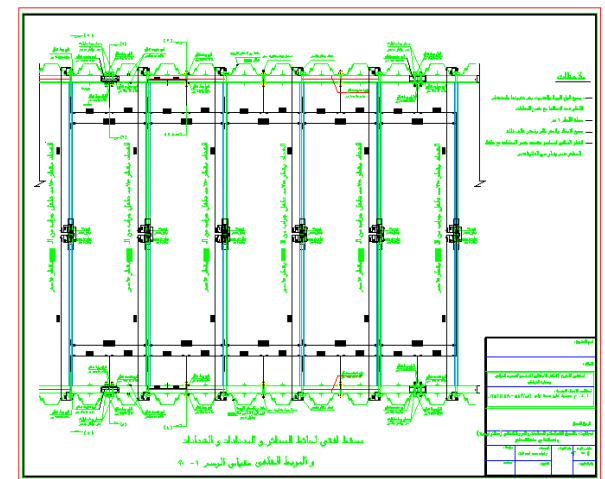
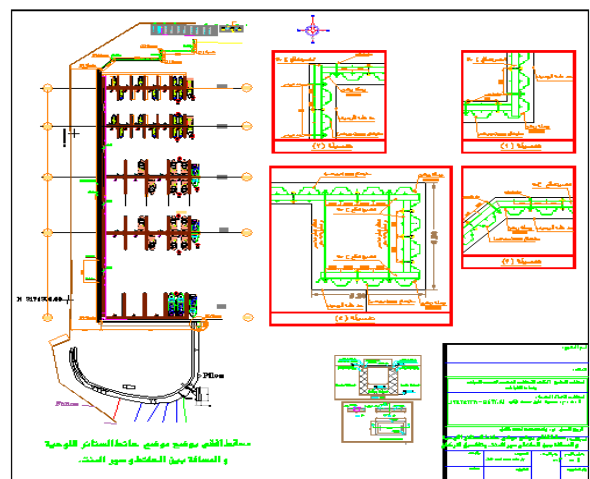
<b>Project</b>	New Port Saed Container Quay wall – 1200m (-17.00) (JV with HPC)		
<b>Client</b>	Port Saed Container Handling Company	<b>Location</b>	Port Saed - Egypt
<b>Value</b>	2300M EGP (380M USD)	<b>Date</b>	2013
<b>Role</b>	Feed Design - Tendering		



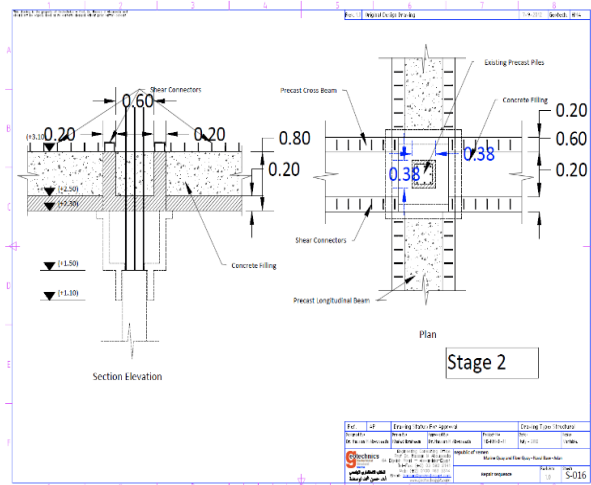
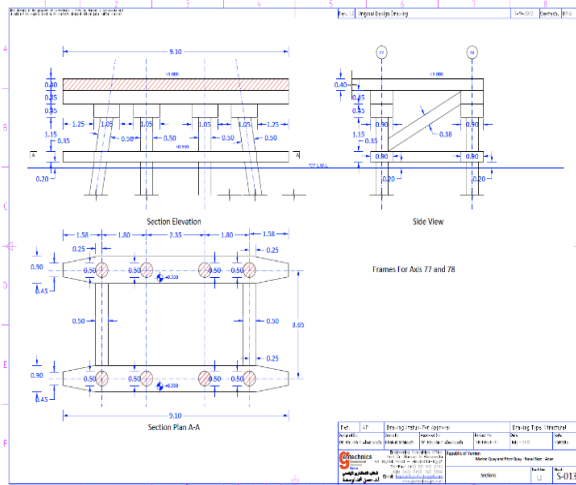
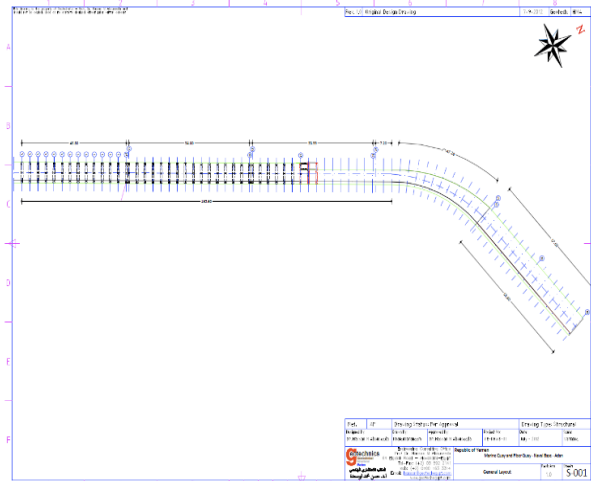
<b>Project</b>	Alkatheeb Harbor		
<b>Client</b>	Yemen Naval Forces	<b>Location</b>	Alhudaida – Republic of Yemen
<b>Value</b>	85 Million USD	<b>Date</b>	2005 - 2010
<b>Role</b>	Design - Supervision		



Project	Khiran Marina		
Client	Touristic Projects Company	Location	Kuwait City - Kuwait
Value	15 Million USD	Date	2006 - 2008
Role	Design - Supervision		



<b>Project</b>	Upgrading Adan Navy Platform – Adan		
<b>Client</b>	Yemen Naval Forces	<b>Location</b>	Adan – Republic of Yemen
<b>Value</b>	6.5 Million USD	<b>Date</b>	2014 - 2017
<b>Role</b>	Design - Supervision		



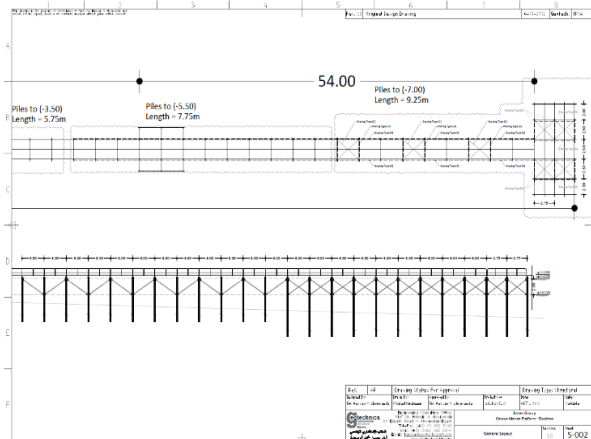
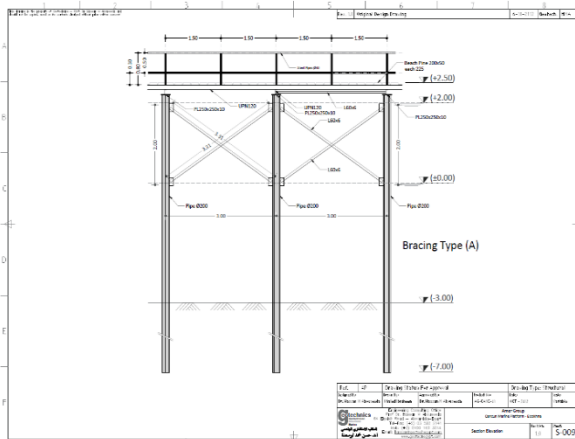
<b>Project</b>	<b>Cancun Marine Platform</b>		
<b>Client</b>	<b>Amer Group</b>	<b>Location</b>	<b>Sokhna - Egypt</b>
<b>Value</b>	<b>1.5M EGP (0.3M USD)</b>	<b>Date</b>	<b>2013</b>
<b>Role</b>	<b>Design - Supervision</b>		

رقم البند	بيان الأعمال	الوحدة	الكمية	القيمة	الجدولة
3	توريد وتركيب كميات طويلة وعرضية حديدية من النوع ST37 حسب مواصفات الكود المصري للمنشآت المعدنية قطاع أعلى الموازيق بالمناصب المبنية باللوحات يتم تثبيتها بالحام سمك 5م وسعها ودهانها ببوليات ايوكسيه ( Jotun jotamastic 87 or equivalent) قبل عملية اللحام عدا الأجزاء التي سوف تتم عليها عملية اللحام فيتم طلائها بنفس المواد بعد عملية اللحام. معمل على البند كافة الأرواح الرابطة سمك ٨م والمسامير واللحامات اللازمة لتنفيذ الأعمال بالكيفية الموضحة باللوحات. البند شامل كافة البوند المنكورة ومعمل عليه توريد كافة المواد والادوات والعمالة اللازمة وكافة الأعمال اللازمة لنهج الأعمال حسب المواصفات القياسية وأصول الصناعة الممتازة ووفقاً للرسومات المرفقة وتعليمات المهندس المشرف. المحاسبية على أساس الكمية المنقذة فعلياً بعد اعتماد مهندس الإشراف.	طن	11.00		
4	توريد وتركيب شبكات طولية وعرضية حديدية من النوع ST37 حسب مواصفات الكود المصري للمنشآت المعدنية قطاع أعلى الموازيق بالمناصب المبنية باللوحات يتم تثبيتها بالحام سمك 6 م وسعها ودهانها ببوليات ايوكسيه ( Jotun jotamastic 87 or equivalent) قبل عملية اللحام عدا الأجزاء التي سوف تتم عليها عملية اللحام فيتم طلائها بنفس المواد بعد عملية اللحام. معمل على البند كافة الأرواح الرابطة سمك ٨م والمسامير واللحامات اللازمة لتنفيذ الأعمال بالكيفية الموضحة باللوحات. البند شامل كافة البوند المنكورة ومعمل عليه توريد كافة المواد والادوات والعمالة اللازمة وكافة الأعمال اللازمة لنهج الأعمال حسب المواصفات القياسية وأصول الصناعة الممتازة ووفقاً للرسومات المرفقة وتعليمات المهندس المشرف. المحاسبية على أساس الكمية المنقذة فعلياً بعد اعتماد مهندس الإشراف.	طن	2.20		

السلطة البحرية لقرية كاتكون - المن السبعة - المواصفات والمقاييس التكميلية

رقم البند	بيان الأعمال	الوحدة	الكمية	القيمة	الجدولة
5	توريد وتركيب أرصيدات خشبية من النوع (Beach Pine) سمك ٥ سم مدهونة بلاءه (Jotun Spontan or equivalent) على الهيكل المعدني بالكيفية والمناسيب المبنية باللوحات يتم تثبيتها باستخدام مسامير من الحديد المغطى قطر ١٦م يتم لحامها بالهيكل المعدني ثم دهانها ببوليات ايوكسيه (Jotun jotamastic 87 or equivalent) ويتم الرباط باستخدام وردة وصامولة من الحديد المغطى والتعليق بالمعجون. معمل على البند كافة المسامير والوردات والصواميل والمعجون وكافة المواد اللازمة لتنفيذ الأعمال بالكيفية الموضحة باللوحات. البند شامل كافة البوند المنكورة ومعمل عليه توريد كافة المواد والادوات والعمالة اللازمة وكافة الأعمال اللازمة لنهج الأعمال حسب المواصفات القياسية وأصول الصناعة الممتازة ووفقاً للرسومات المرفقة وتعليمات المهندس المشرف. المحاسبية على أساس الكمية المنقذة فعلياً بعد اعتماد مهندس الإشراف.	متر مربع	640		
6	توريد وعمل درابزين (Handrail) على جانبي السلالة بالكيفية والمناسيب المبنية باللوحات يتكون من مواسير قطر ٤٠م وسمك ٣م. معمل على البند كافة الأرواح والمسامير والوردات والصواميل والمعجون وكافة المواد اللازمة لتنفيذ الأعمال بالكيفية الموضحة باللوحات. البند شامل كافة البوند المنكورة ومعمل عليه توريد كافة المواد والادوات والعمالة اللازمة وكافة الأعمال اللازمة لنهج الأعمال حسب المواصفات القياسية وأصول الصناعة الممتازة ووفقاً للرسومات المرفقة وتعليمات المهندس المشرف. المحاسبية على أساس الكمية المنقذة فعلياً بعد اعتماد مهندس الإشراف.	متر طولي	405		
7	توريد وتركيب سلم من الحديد الغير قابل للصدأ (Stainless Steel) بكتيت على جانبي السلالة.	عدد	2		
8	توريد وتركيب حلفات رباط من الحديد الغير قابل للصدأ (Stainless Steel) بكتيت على جانبي السلالة.	عدد	4		
9	توريد وتركيب شمعات رباط من الحديد الغير قابل للصدأ (Stainless Steel) بكتيت على جانبي السلالة.	عدد	2		
10	توريد وتركيب حياض مطاطية على جانبي السلالة.	متر طولي	12		

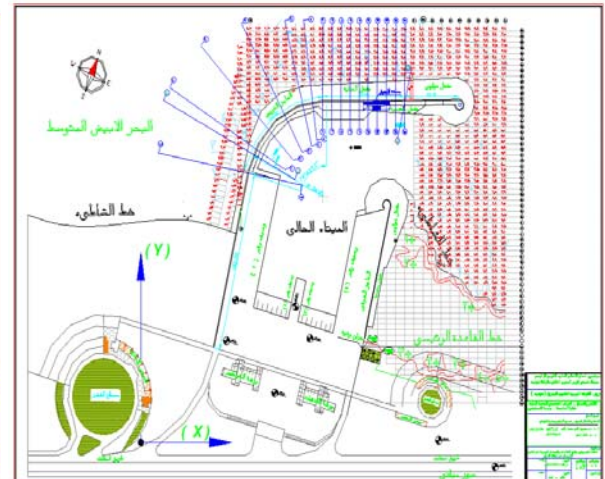
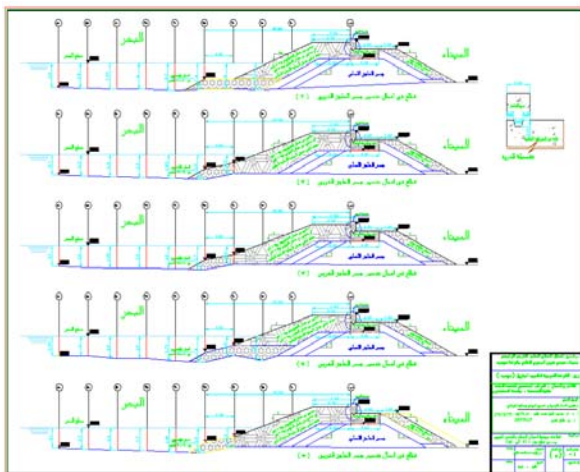
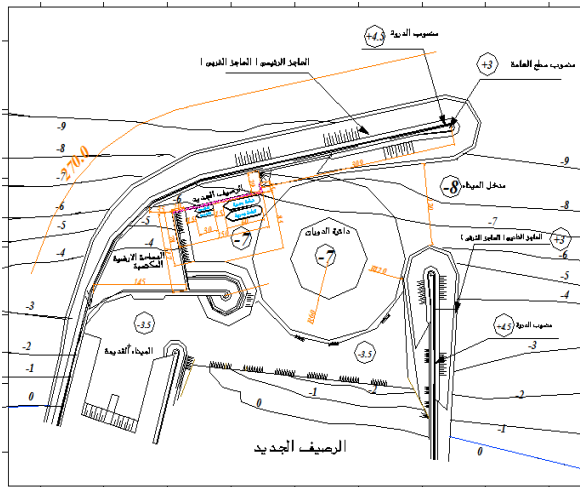
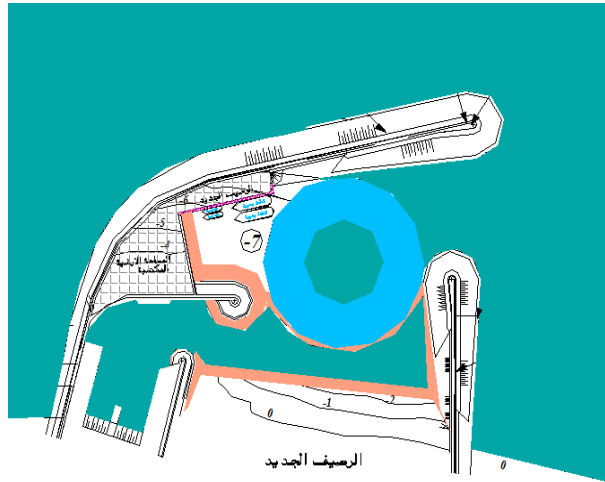
السلطة البحرية لقرية كاتكون - المن السبعة - المواصفات والمقاييس التكميلية



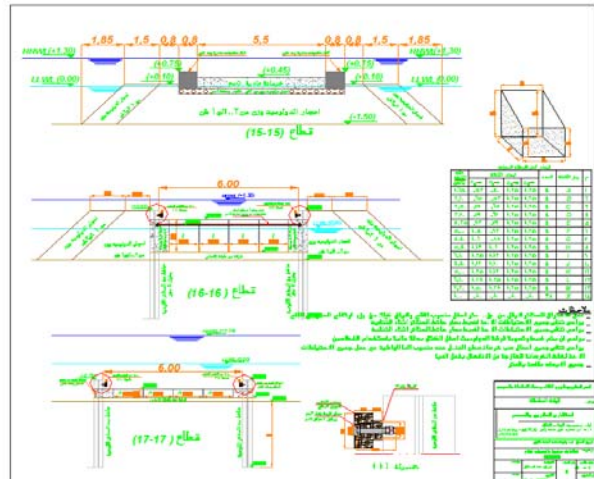
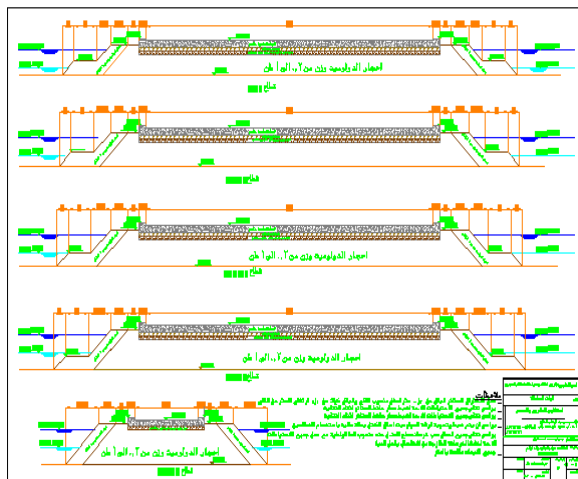
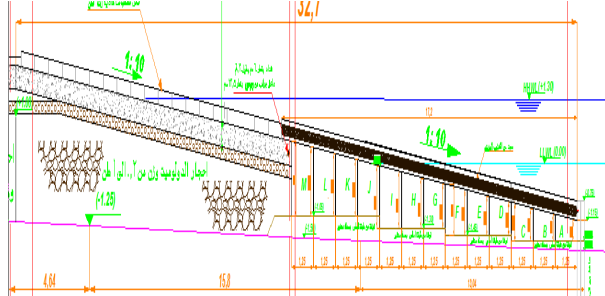
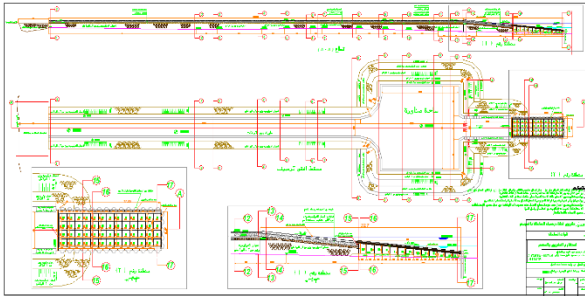
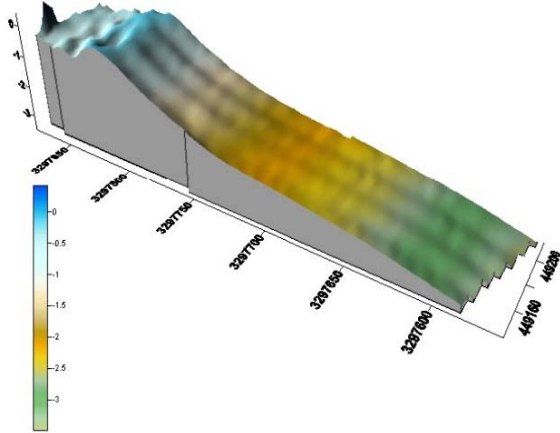




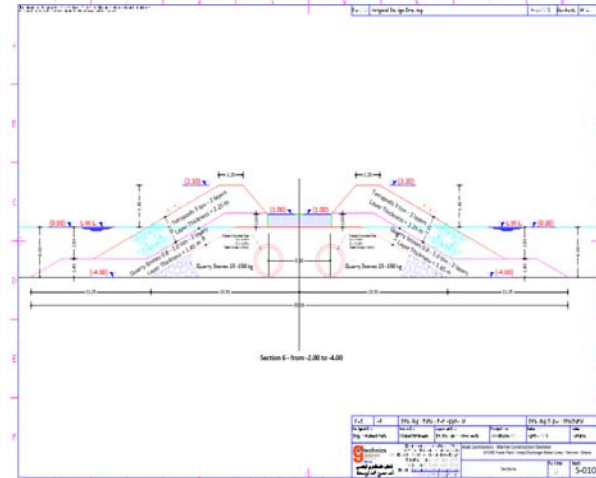
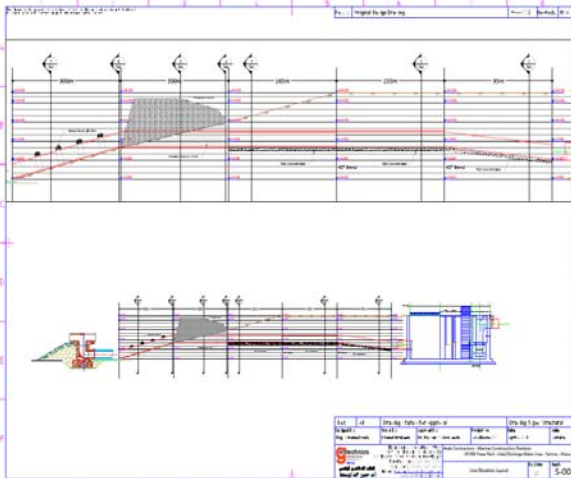
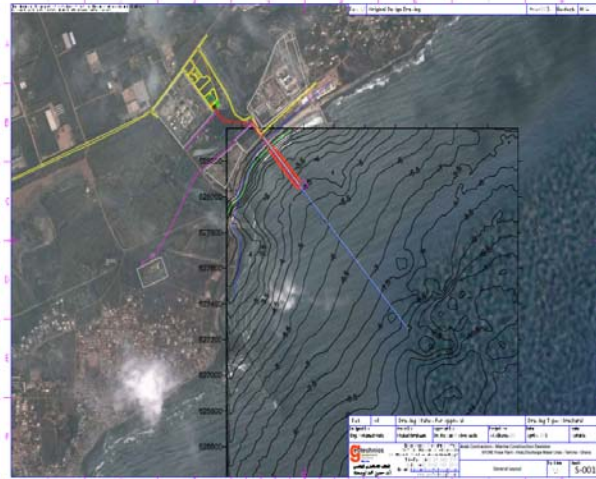
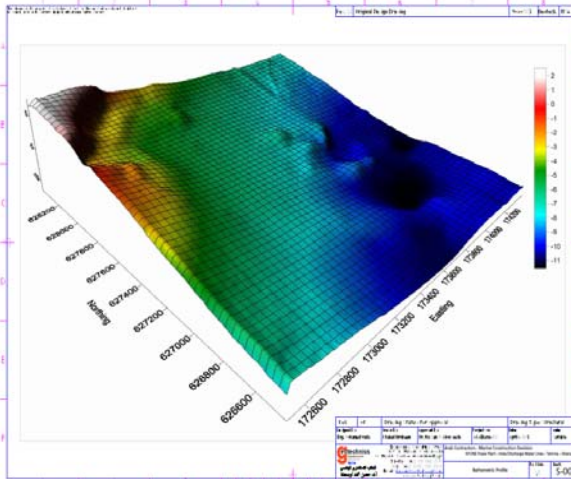
Project	Sumid Oil Terminal		
Client	Arab Petroleum Pipelines Co. (SUMED)	Location	Sukhna - Egypt
Value	15M EGP (2.5M USD)	Date	2004
Role	Design		



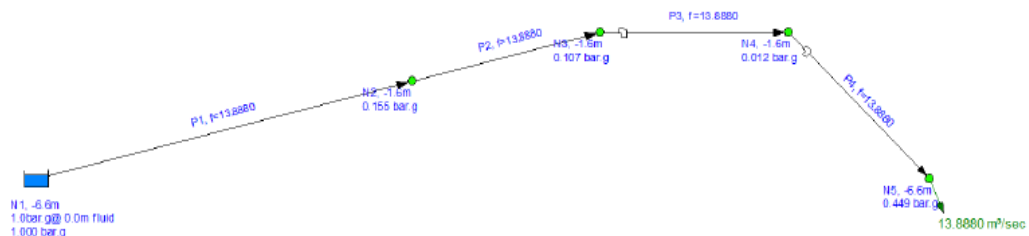
Project	Service Platform		
Client	Egyptian Armed Forces	Location	Suiz- Egypt
Value	12M EGP (2.0M USD)	Date	2005
Role	Design - Supervision		



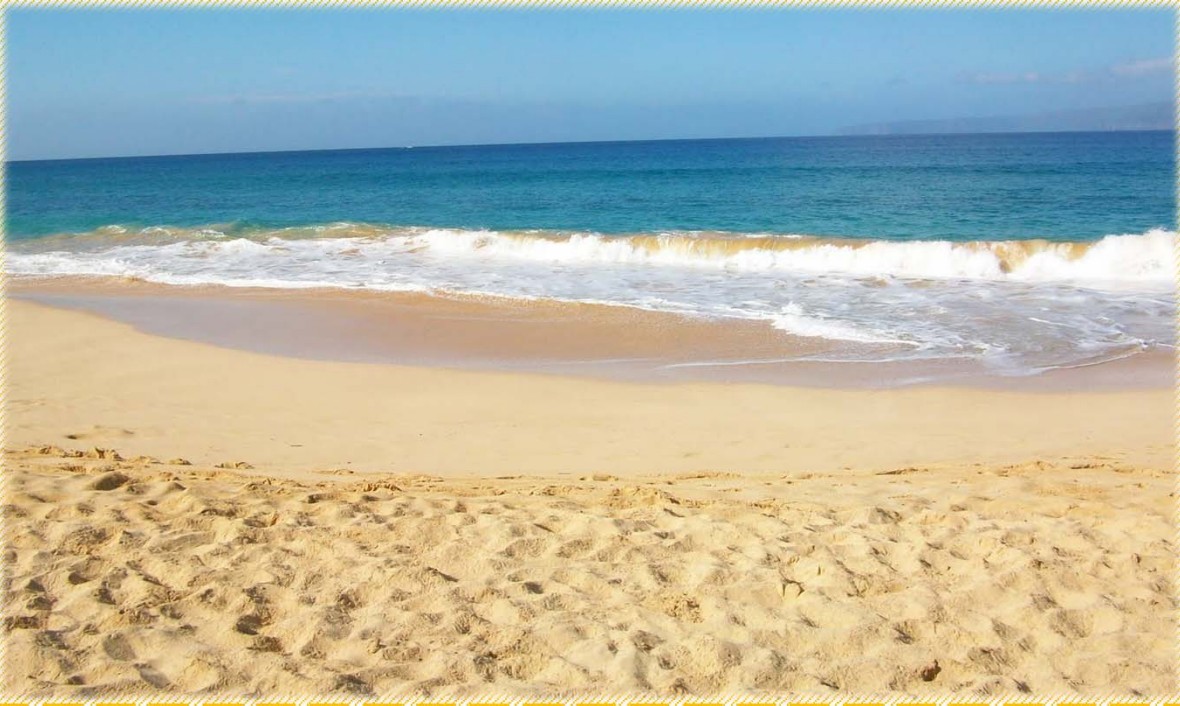
<b>Project</b>	Intake/Discharge Water Lines – 1500m		
<b>Client</b>	Tema Power Generation– Arab Contractors	<b>Location</b>	Temma - Ghana
<b>Value</b>	18 Million USD	<b>Date</b>	2014 – 2016
<b>Role</b>	Analysis – Design		



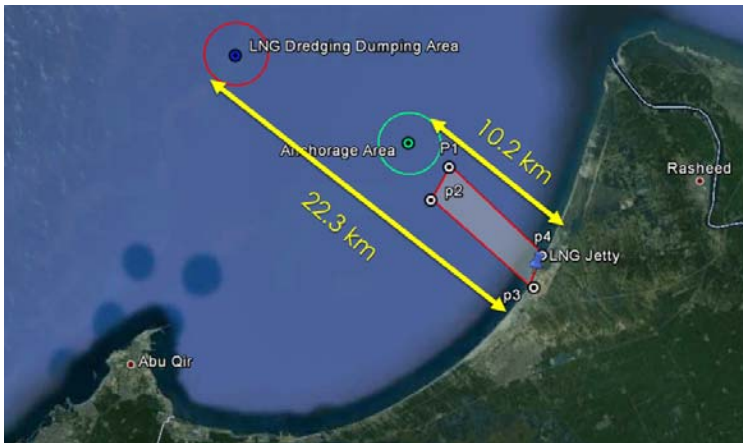
Node Id	Node Type	Node	Elevation m	Liquid Level m	Surface Press. bar/g	Press. at Node bar/g	HGL at Node m,hd Fluid	Demand In m <sup>3</sup> /sec	Demand Out m <sup>3</sup> /sec	Total Flow In m <sup>3</sup> /sec	Total Flow Out m <sup>3</sup> /sec	Notes
1	Tank	N1	-6.6	0	1	3.618	N/A	0	0	13.888	13.888	
2	Join Point	N2	-1.6	N/A	N/A	0.133	-0.013	0	0	13.888	13.888	
3	Join Point	N3	-1.6	N/A	N/A	0.107	-0.512	0	0	13.888	13.888	
4	Join Point	N4	-1.6	N/A	N/A	0.012	-1.474	0	0	13.888	13.888	
5	Join Point	N5	-6.6	N/A	N/A	0.449	-2.013	0	13.888	13.888	13.888	



# Shore Protection Projects



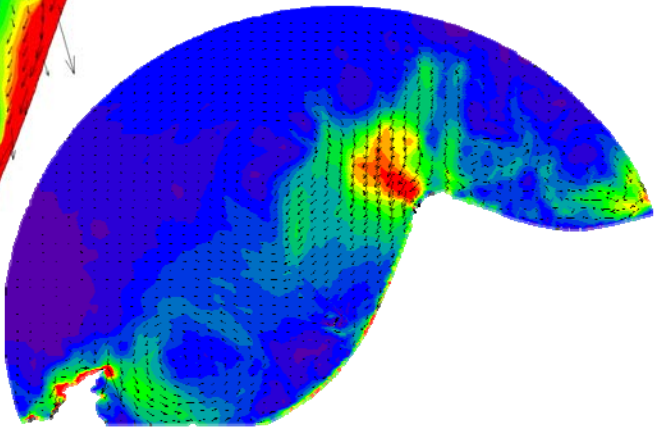
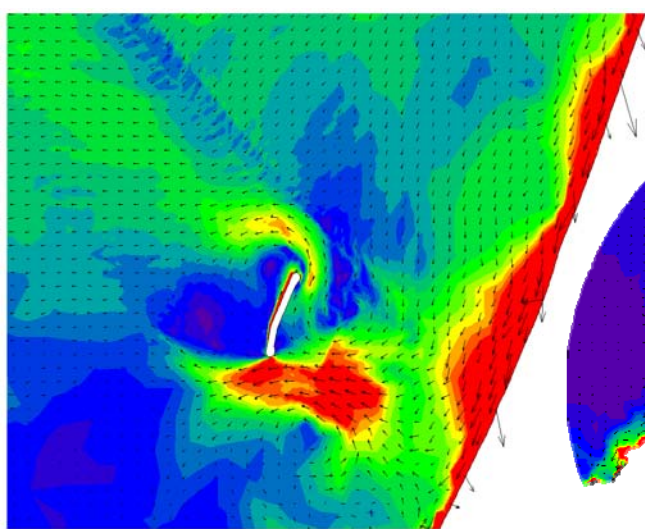
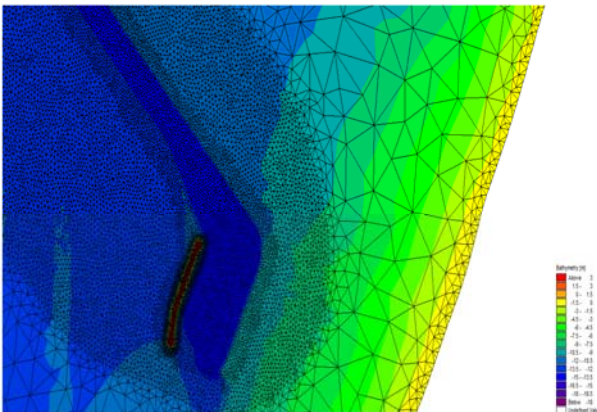
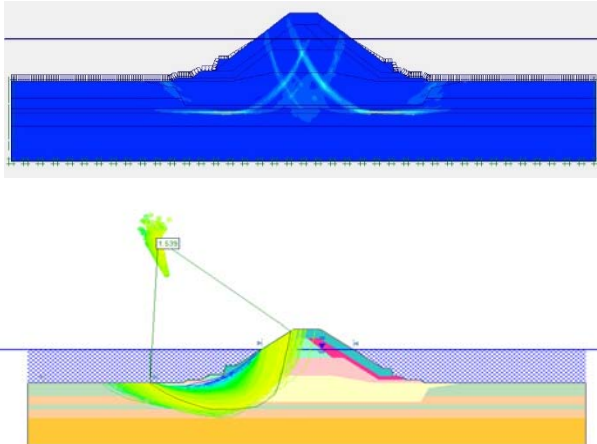
<b>Project</b>	<b>Optimizing Dredging of Approach Channel and Basin</b>		
<b>Client</b>	Egyptian Liquefied Natural Gas ELNG	<b>Location</b>	Edku - Egypt
<b>Value</b>	8 Million USD Annually	<b>Date</b>	2013 – 2014
<b>Role</b>	Analysis - Design - Tendering		



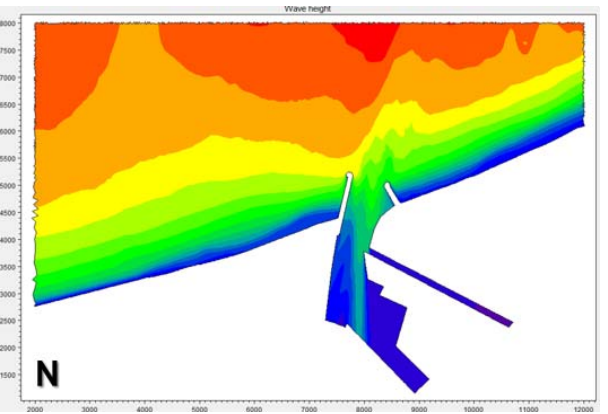
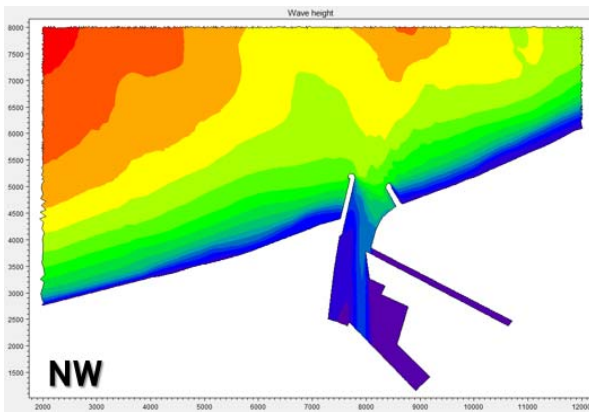
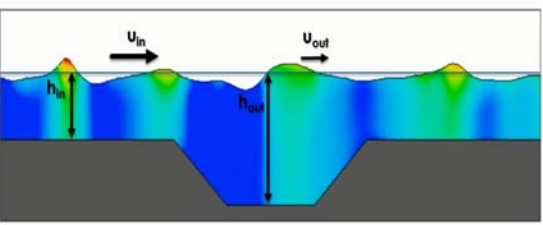
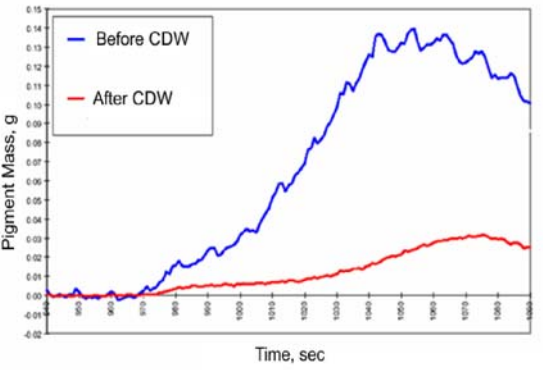
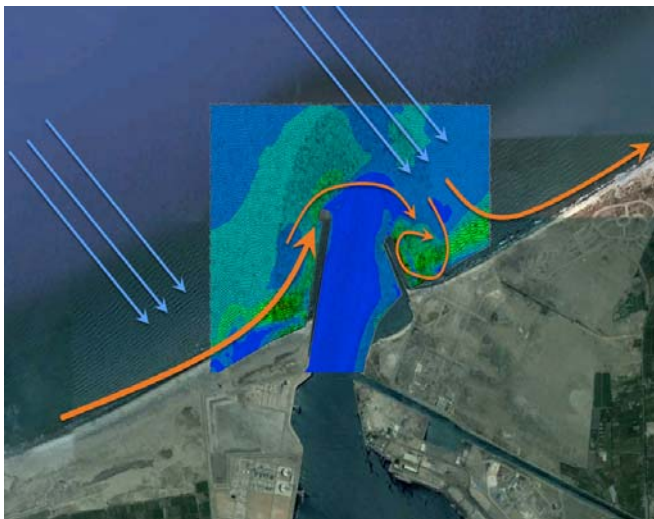
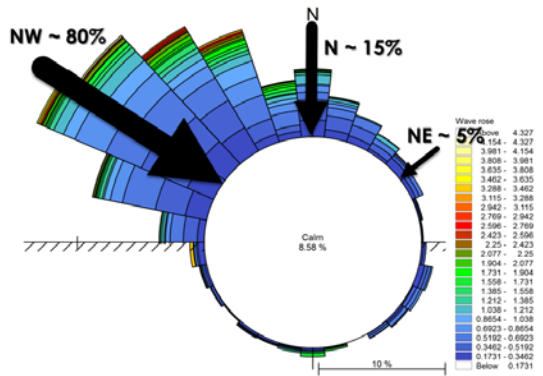
Month	Depth of Infill, m				
	Km 0-1	Km 1-2	Km 2-3	Km 3-4	B&T
Jan	0.72	0.52	0.31	0.18	0.48
Feb	0.68	0.48	0.28	0.17	0.46
Mar	0.62	0.46	0.26	0.16	0.42
Apr	0.22	0.14	0.11	0.06	0.15
May	0.03	0.02	0.02	0.01	0.02
Jun	0.12	0.07	0.05	0.03	0.08
Jul	0.09	0.06	0.04	0.02	0.08
Aug	0.04	0.02	0.01	0.01	0.03
Sep	0.06	0.04	0.03	0.02	0.04
Oct	0.06	0.04	0.02	0.02	0.04
Nov	0.44	0.27	0.22	0.12	0.29
Dec	0.58	0.35	0.3	0.16	0.39

Point	A1	A2	A3	A4	A5	M1	M2	M3	M4	M5	T1	T2	T3	T4	T5
17-Mar-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Apr-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-May-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Jun-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Jul-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Aug-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Sep-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Oct-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Nov-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
17-Dec-10	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90

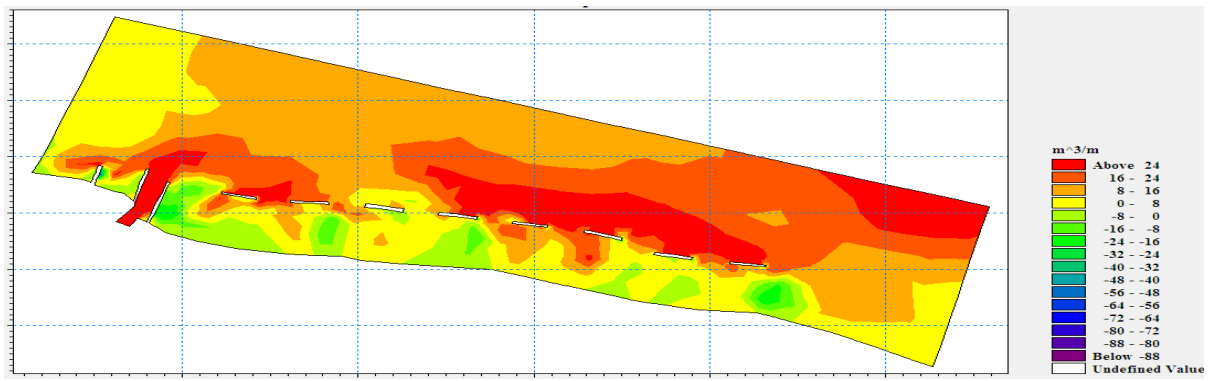
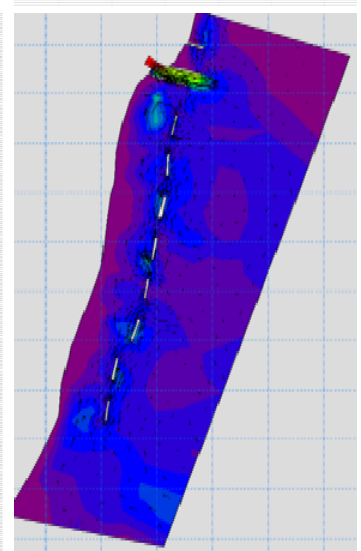
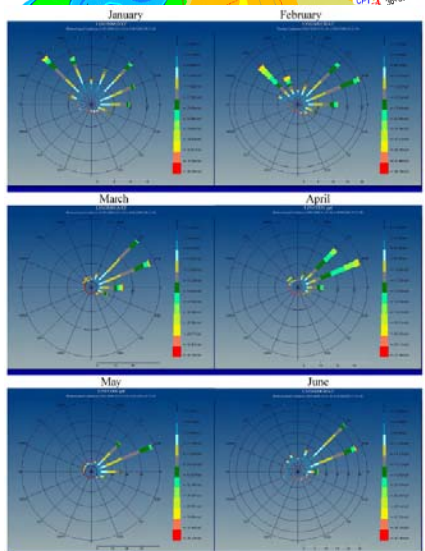
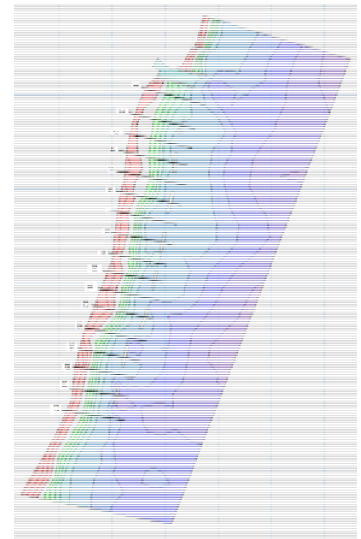
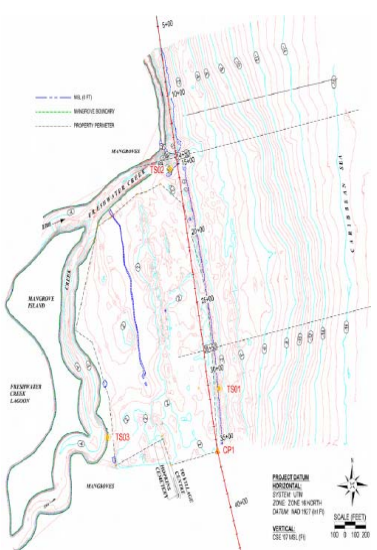
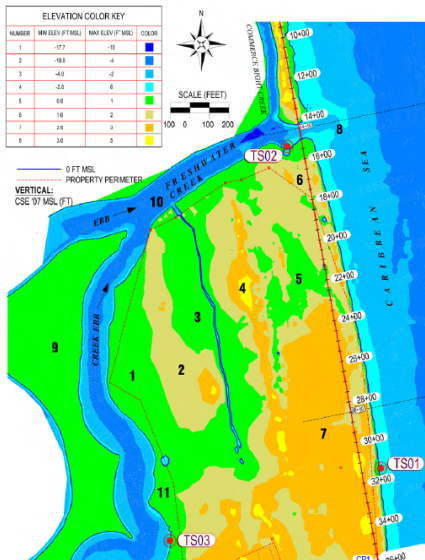
**No Change in Bed Level from May to Mid November**



<b>Project</b>	<b>Optimizing Dredging of Approach Channel and Basin</b>		
<b>Client</b>	Damietta Harbor	<b>Location</b>	Damietta- Egypt
<b>Value</b>	16M EGP Annually (2.5M USD)	<b>Date</b>	2013 – 2015
<b>Role</b>	Analysis - Design - Tendering		

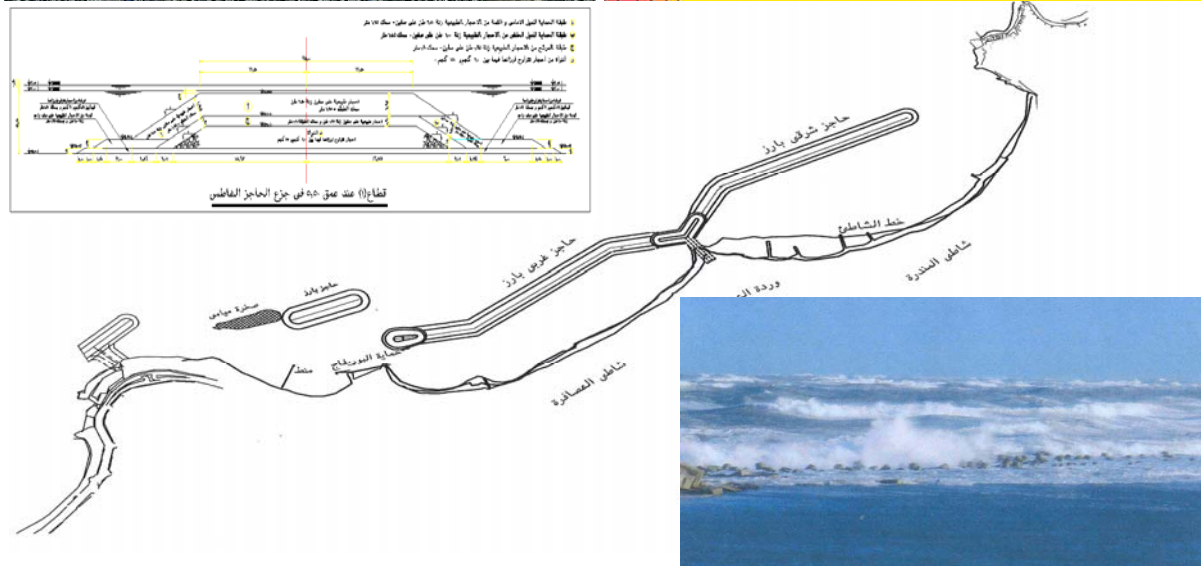
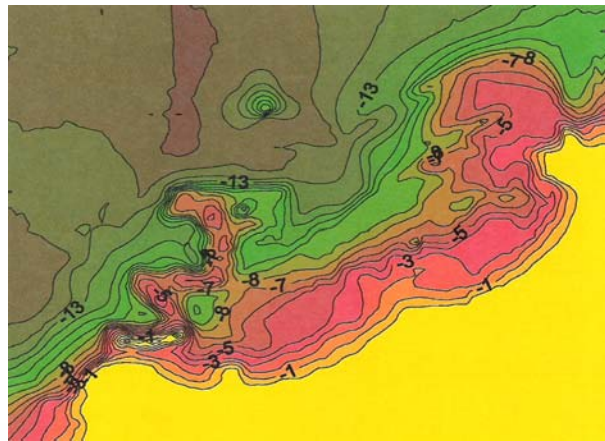


<b>Project</b>	<b>Hydrodynamic and Shoreline Response - East Coastal Protection of Kitchenir Drain</b>		
<b>Client</b>	Shore Protection Agency	<b>Location</b>	North East Coast - Egypt
<b>Value</b>	25M EGP (4.5M USD)	<b>Date</b>	2013 – 2015
<b>Role</b>	Analysis - Design		

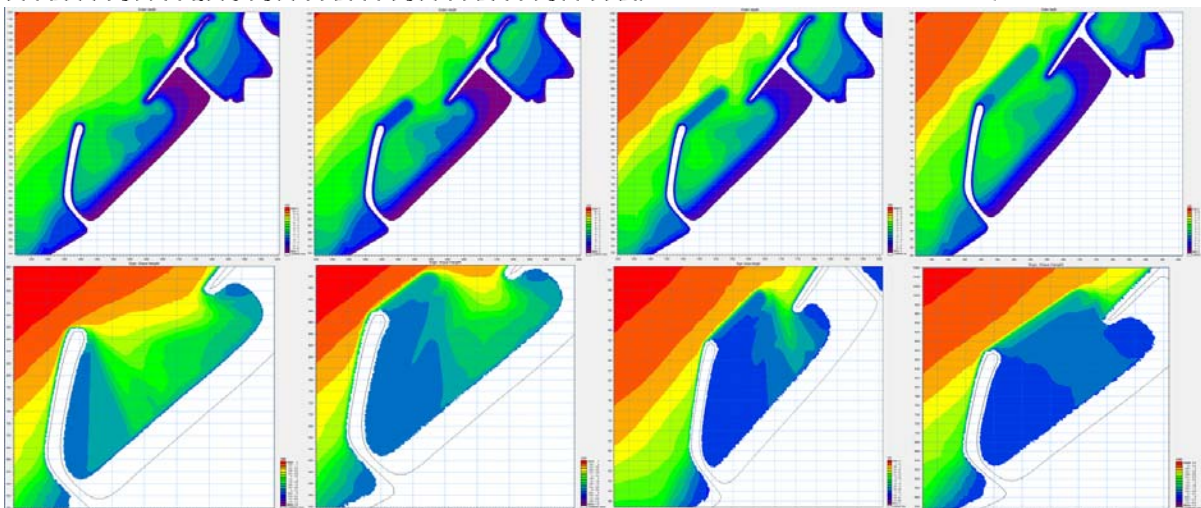
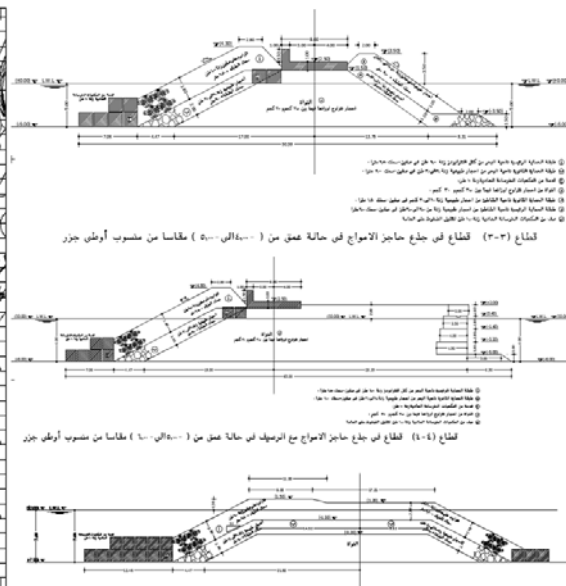
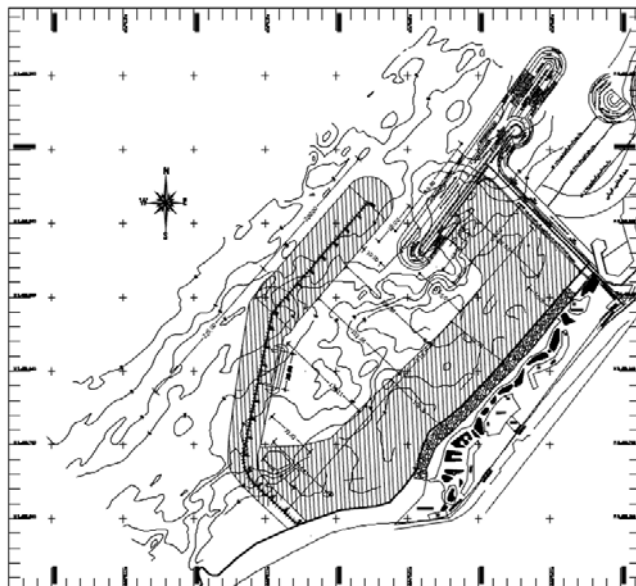
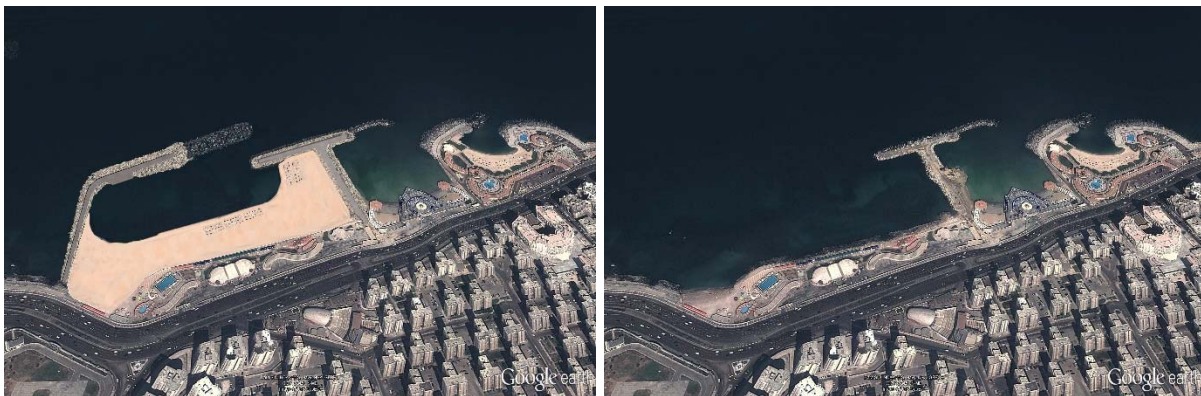




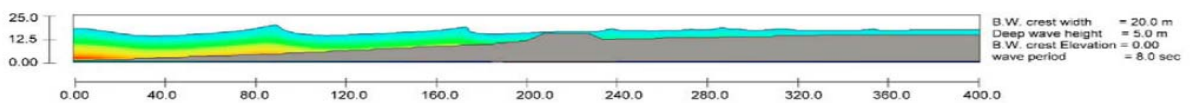
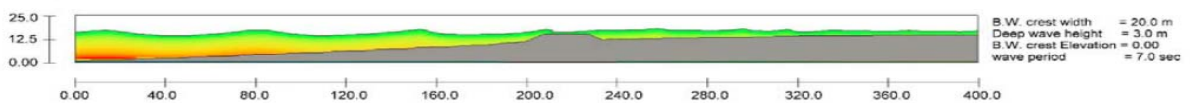
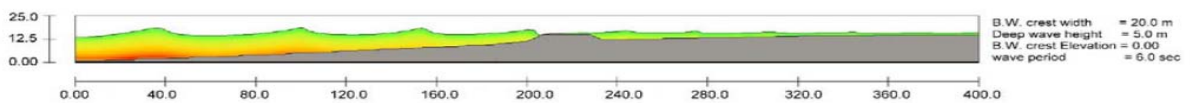
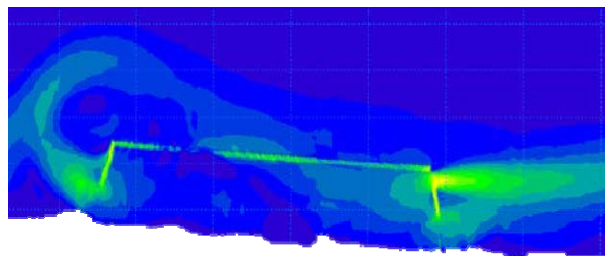
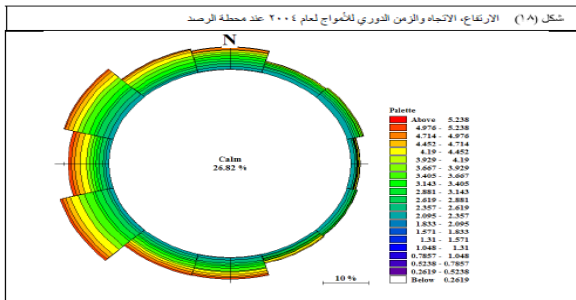
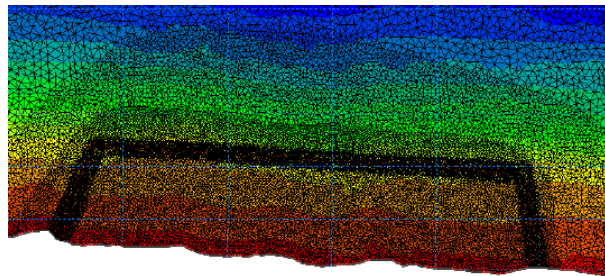
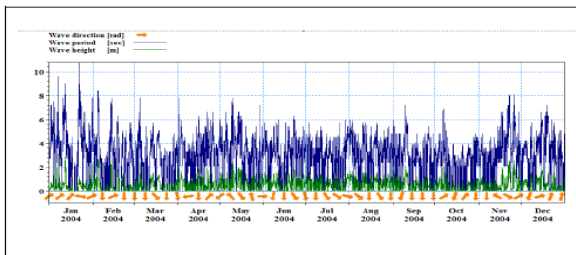
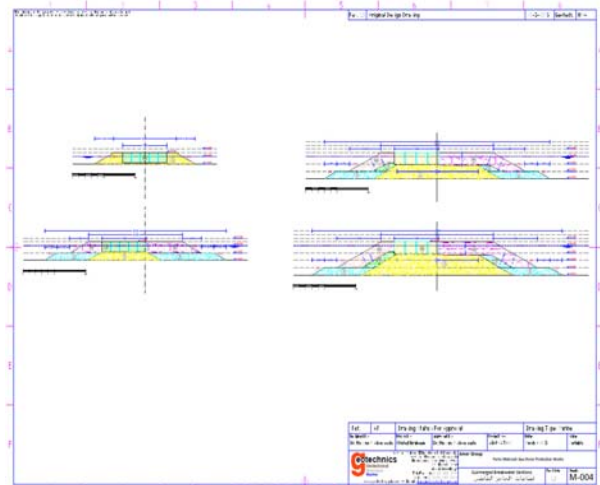
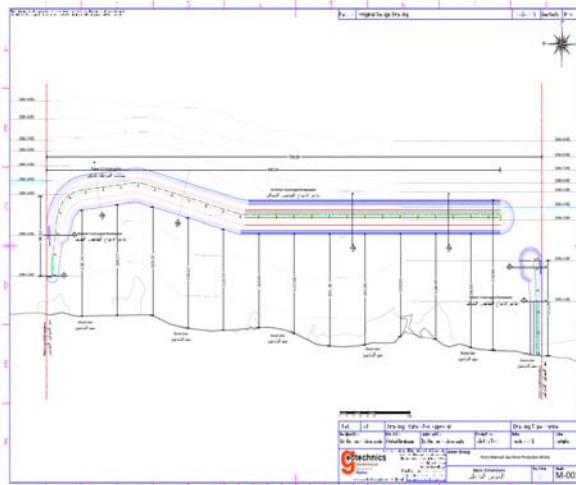
<b>Project</b>	<b>Beach Protection - Miami Beach</b>		
<b>Client</b>	Arab Contractors – Alexandria Governorate	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	200M EGP (35M USD)	<b>Date</b>	2005 – 2008
<b>Role</b>	Analysis – Design - Supervision		



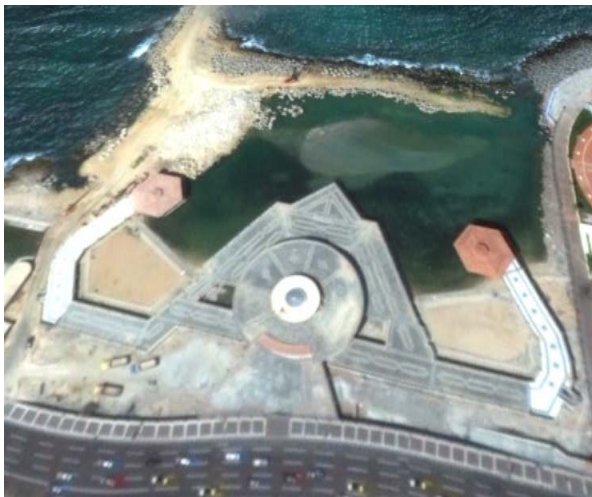
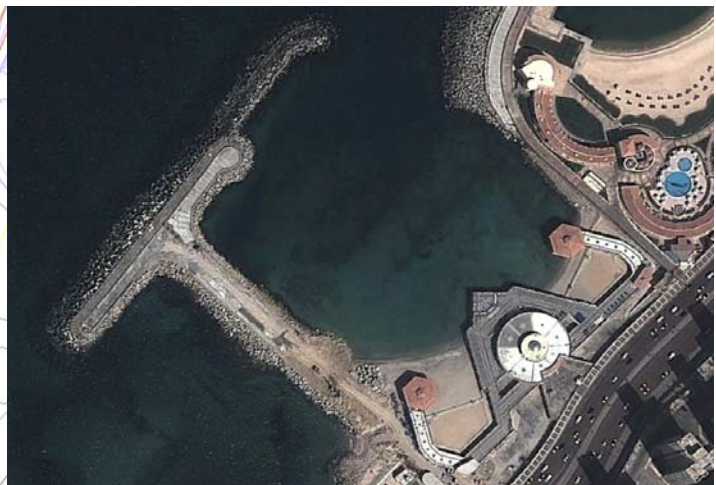
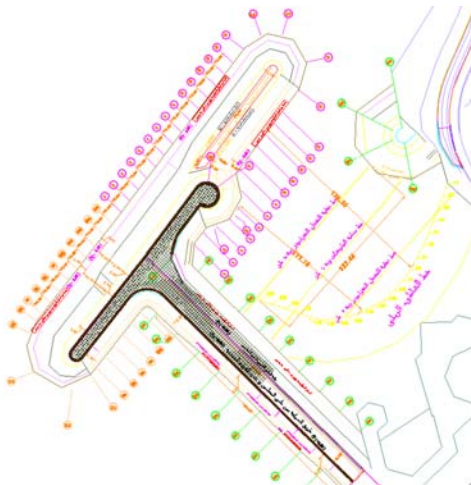
<b>Project</b>	<b>Beach Management and Protection Mostafa Kamel Beach Club</b>		
<b>Client</b>	Ministry of Defense	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	120M EGP (20M USD)	<b>Date</b>	2013 – 2015
<b>Role</b>	Analysis – Design - Supervision		



<b>Project</b> Porto Matroh Bech Protection	
<b>Client</b> Amer Group	<b>Location</b> Marsa Matrouh - Egypt
<b>Value</b> 30M EGP (5M USD)	<b>Date</b> 2014 – 2016
<b>Role</b> Analysis – Design – Supervision	



<b>Project Beach Management and Marine Protection - Teachers Beach Club</b>			
Client	Teachers Syndicate	Location	Alexandria - Egypt
Value	120M EGP (20.0M USD)	Date	2007 – 2010
Role	Design - Supervision		

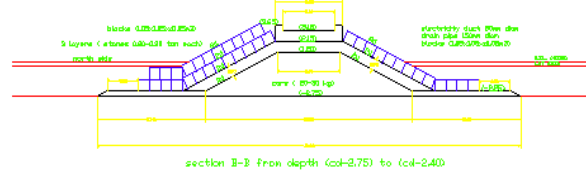
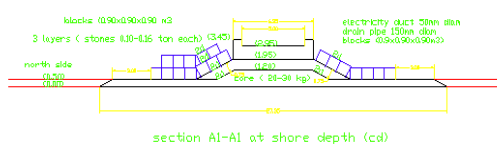
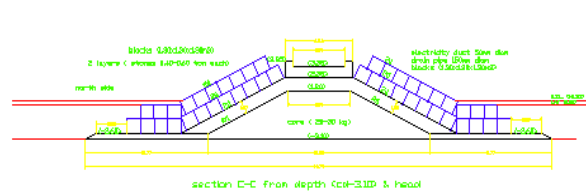
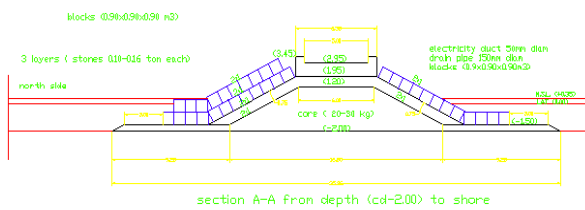
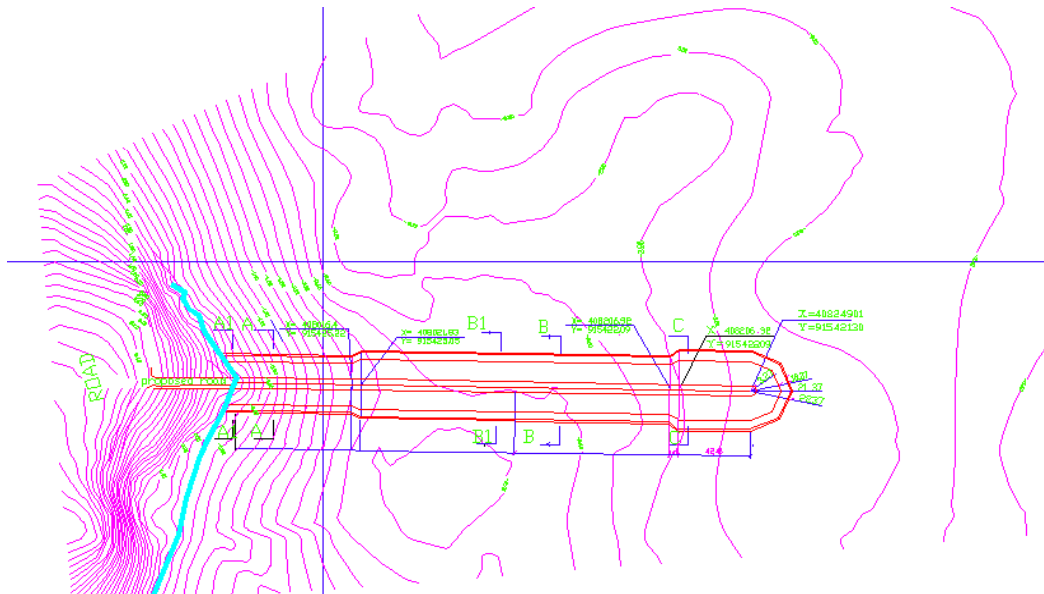




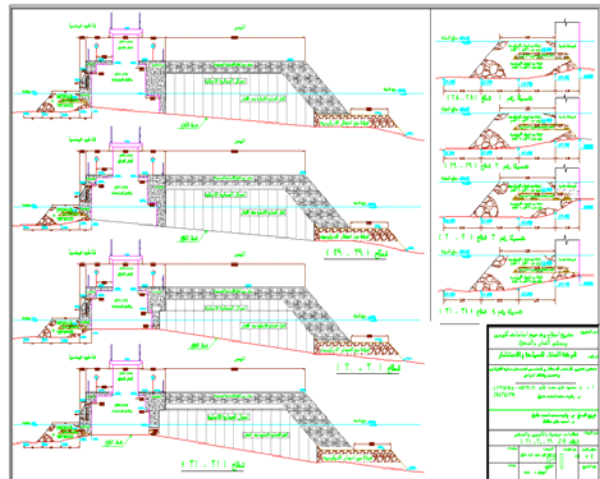
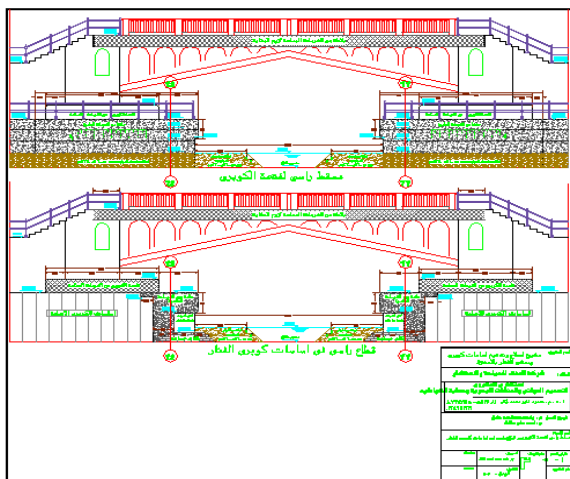
<b>Project</b>	<b>Alexandria Beach Clubs Marine Protection</b>		
Client	Arab Contractors	Location	Alexandria - Egypt
Value	15M EGP (2.5M USD)	Date	2006 – 2009
Role	Design - Supervision		



<b>Project</b>	<b>Alhamera Harbor Marine Protection Maintenance and Dredging Optimisation</b>		
<b>Client</b>	Wepeco	<b>Location</b>	Alalameen - Egypt
<b>Value</b>	5.0M EGP (1.0M USD)	<b>Date</b>	2013 - 2014
<b>Role</b>	Design - Supervision		

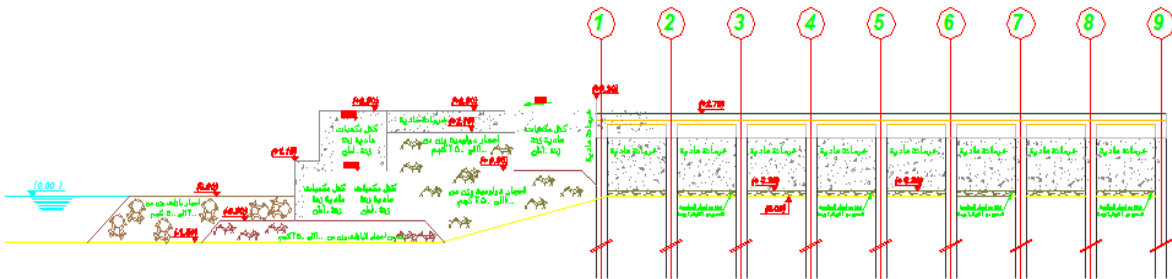
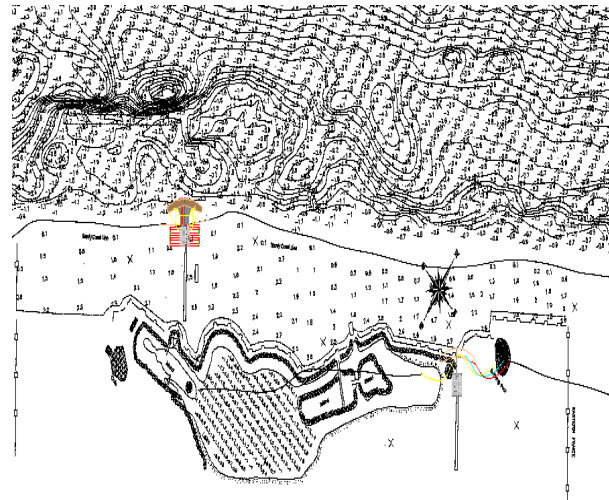
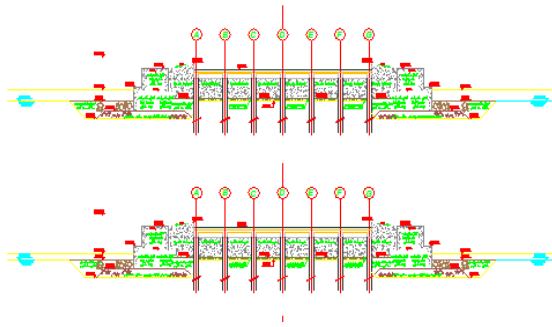


<b>Project</b>	<b>Montaza Bay Area Marine Protection</b>		
<b>Client</b>	Montaza Management Company	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	5.0M EGP (1.0M USD)	<b>Date</b>	2008
<b>Role</b>	Design - Supervision		

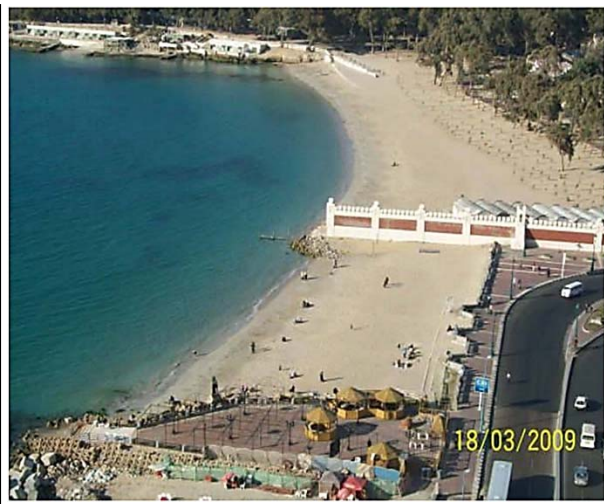




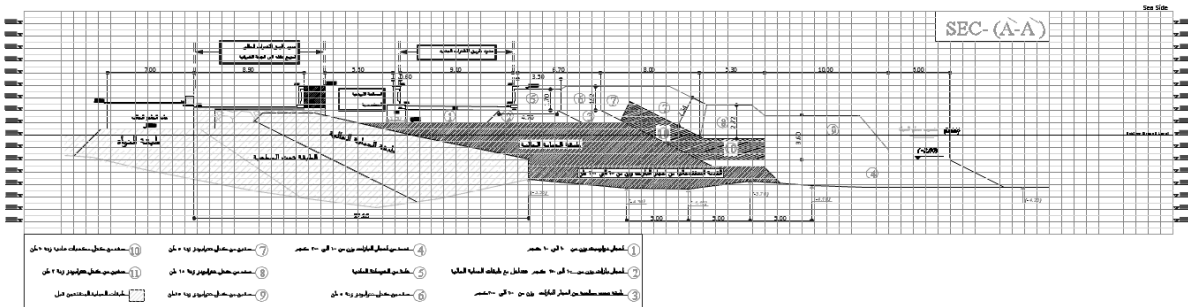
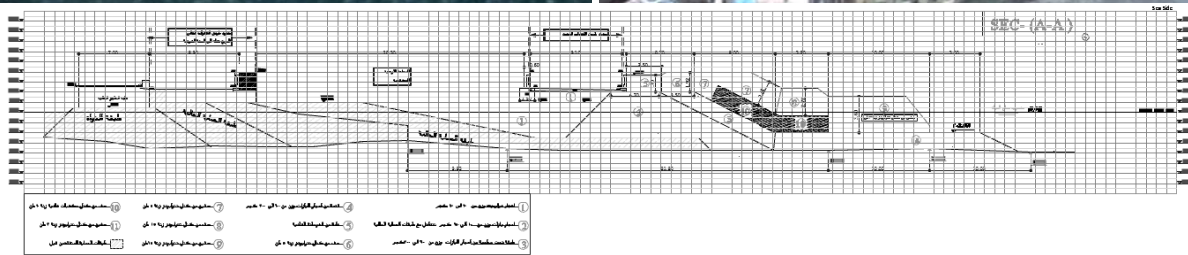
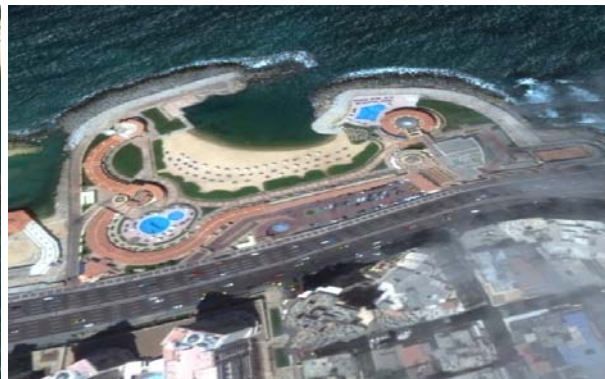
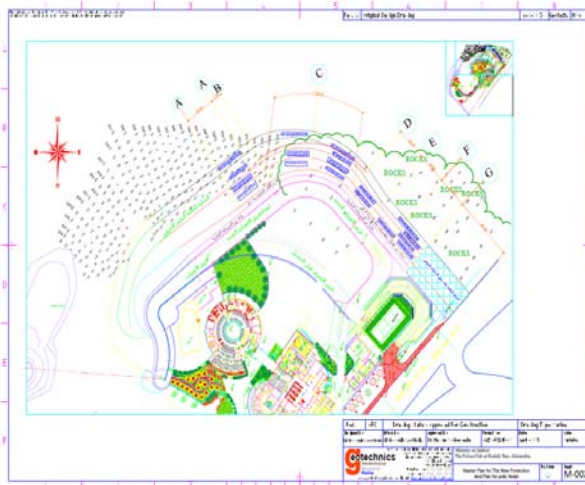
<b>Project</b>	Marine Protection – Sidi Krair Beach		
<b>Client</b>	Egyptian Armed Forces	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	6.0M EGP (1.0M USD)	<b>Date</b>	2008
<b>Role</b>	Design - Supervision		



<b>Project</b>	<b>Aida Beach Management - Montaza</b>		
<b>Client</b>	Montaza Company for touristic Projects	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	35M EGP (6.5M USD)	<b>Date</b>	2006 – 2009
<b>Role</b>	Design - Supervision		



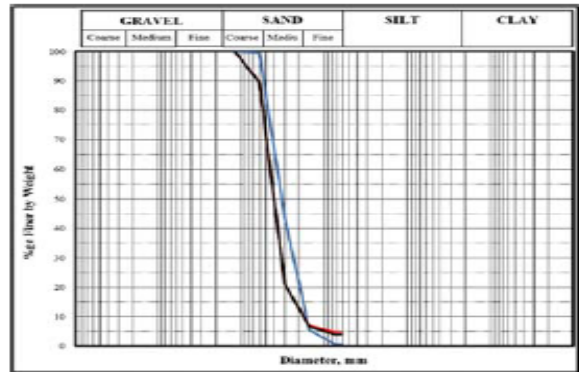
<b>Project</b>	<b>Police Club Bech Protection</b>		
<b>Client</b>	Ministry of Interior – Arab Contractors	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	20M EGP (3.5M USD)	<b>Date</b>	2013 – 2014
<b>Role</b>	Analysis – Design – Supervision		



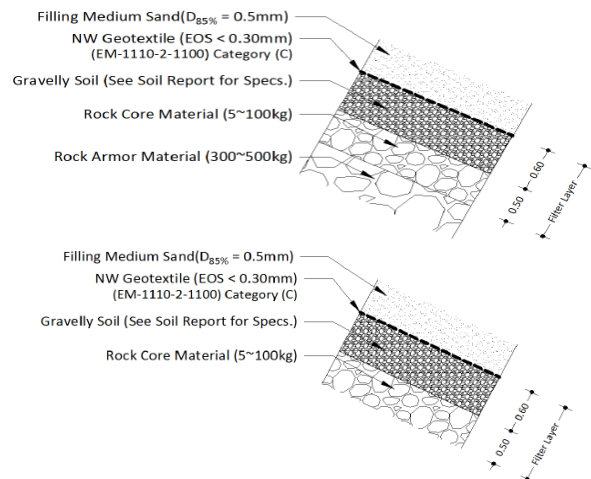
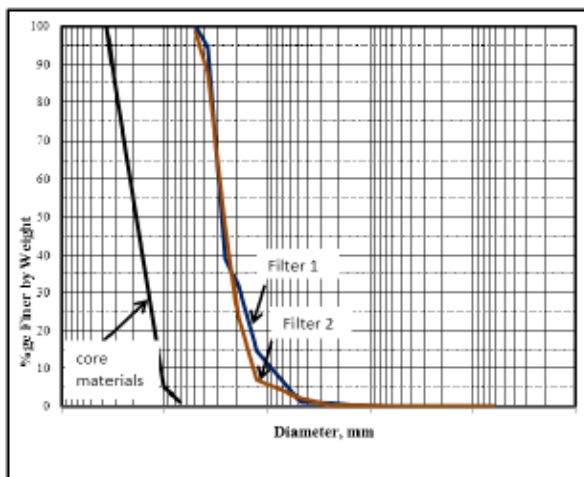
**Project Filter Layers Stability – Newly Built Quay walls**

Client	Arab Contractors	Location	Sinai- Egypt
Value	15M EGP (2.5M USD)	Date	2012 – 2014
Role	Analysis - Design		

Sieve diameter (mm)	foundation			
	sample 4 %ge Finer By weight	sample 3 %ge Finer By weight	sample 2 %ge Finer By weight	sample 1 %ge Finer By weight
50	100	100	100	100
37.5	100.00	100.00	100.00	100.00
25.4	100.00	100.00	100.00	100.00
19.05	100.00	100.00	100.00	100.00
12.7	100.00	100.00	100.00	100.00
4.75	100.00	100.00	100.00	100.00
2.36	100.00	100.00	100.00	100.00
1.18	100.00	100.00	100.00	100.00
0.6	99.80	89.70	89.80	89.50
0.3	43.40	20.90	21.00	21.00
0.15	5.40	6.50	7.00	6.70
0.075	0.60	4.00	4.80	4.00
0.063	0.60	4.00	4.80	4.00
pan	0.60	4.00	4.80	4.00



total weight of sample	1050		
<b>Materials passing through the geotextile cloth</b>			
<b>Total weight =</b>	<b>395 gm</b>		
Sieve (No.)	Sieve (D=mm)	weight of retained	%age path the geotextile
30	0.6	0	0.0
40	0.42	0.00	0.0
50	0.3	3.00	2.0
70	0.21	145.00	96.7
100	0.15	135.00	90.0
120	0.115	72.00	48.0
200	0.075	32.00	21.3
pan		8.00	5.3
Wt=		395.00	
BOS (D5% or less) (mm)=		0.30	



## Quay Wall Projects



<b>Project</b>	<b>Upgrading Alexandria Container Terminal Quay Walls – Alexandria Harbor</b>		
<b>Client</b>	Alexandria Container Handling	<b>Location</b>	Alexandria - Egypt
<b>Value</b>	85M EGP Annually (14M USD)	<b>Date</b>	2013 – 2015
<b>Role</b>	Analysis - Design		

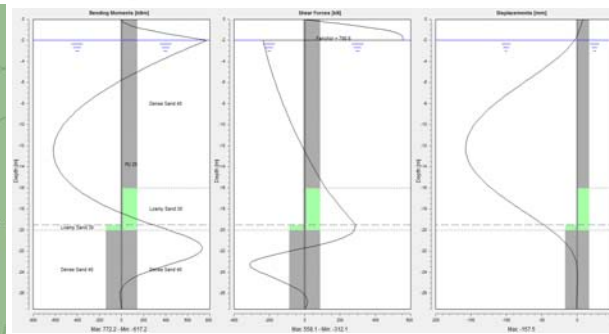
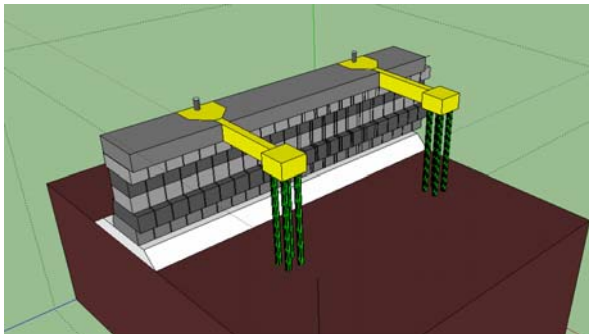
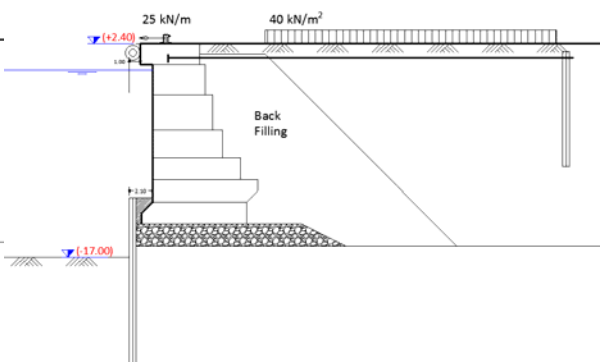
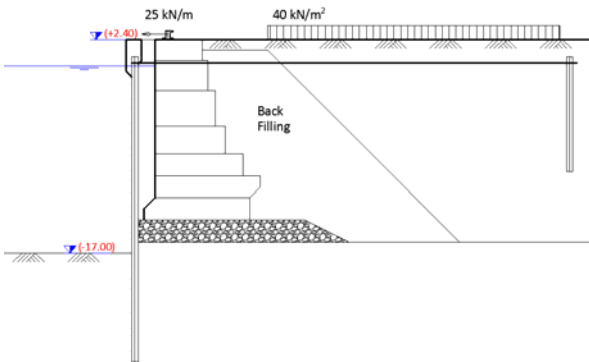
Concrete unit weight, $\gamma_c$ (kN/m <sup>3</sup> )	22.00	Block to block friction coefficient, $\mu_{bb}$	0.55
Fill unit weight, $\gamma_f$ (kN/m <sup>3</sup> )	18.00	Block to rubble mound friction coefficient (base), $\mu_{base}$	0.60
Submerged fill unit weight, $\gamma'_f$ (kN/m <sup>3</sup> )	8.00	Block to Fill friction angle (back), $\theta$ (deg)	26.70
Sea water unit weight, $\gamma_w$ (kN/m <sup>3</sup> )	10.00	Fill friction angle, $\phi$ (deg)	40.00

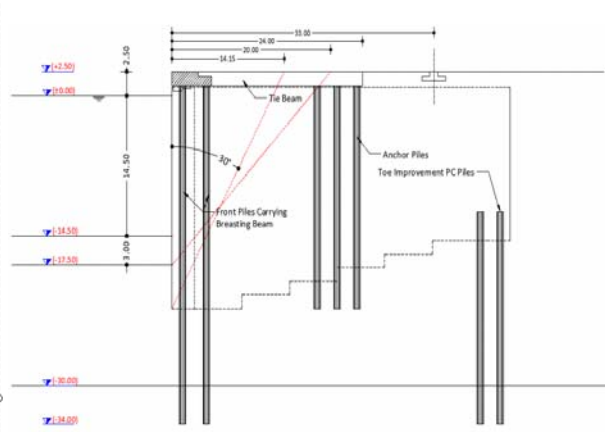
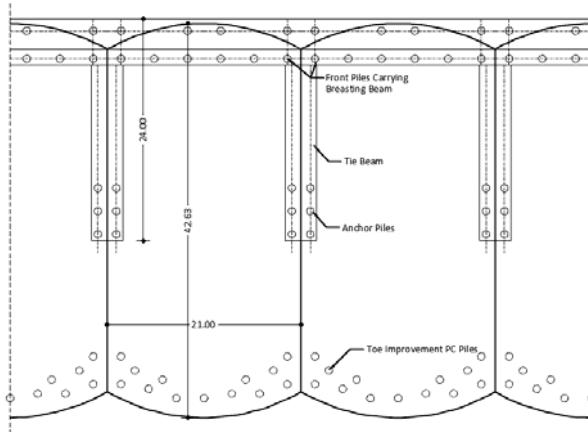
Geometry					
cope level (m)	2.40				
Sea Level (m)	0.00				
Base Level (m)	-7.00				
Block No.	Above Water Level	Below Water Level	Width (m)	Height (m)	Offset (m)
1	0.00	4.30	1.90	0.00	
2	0.82	4.80	2.75	0.00	
3	1.00	5.50	3.25	0.00	
4	1.00	6.40	2.50	0.00	
5	1.00	8.00	2.00	0.00	
6	1.00	9.60	2.00	0.00	
7	1.00	9.60	2.00	-1.00	
No. of Blocks		7.00			
Total area of blocks (m <sup>2</sup> )		108.65			

Summary of Stability Calculations														Failure Remarks		
Case No.	Loading Condition	Dead Load	Surcharge	Fluid Lag	Bolted Pull	Crane Vertical	Crane Horizontal	Seismic Load	Sliding Safety Factor	Overturning Safety Factor	Eccentricity Safety Factor	Contact Stress Safety Factor	Sliding Allowable		Overturning Allowable	Eccentricity Allowable
10	normal								4.55	1.75	7.04	1.75	0.38	1.00	234	400
11	normal								2.89	1.75	4.07	1.75	0.60	1.00	274	400
12	normal								2.35	1.75	3.09	1.75	0.85	1.00	304	400
13	normal								2.89	1.75	4.07	1.75	0.60	1.00	274	400
14	normal								3.40	1.75	5.16	1.75	0.53	1.00	251	400
15	normal								2.37	1.75	3.36	1.75	0.77	1.00	295	400
16	normal								2.07	1.75	2.64	1.75	1.02	1.00	325	400
17	normal								2.37	1.75	3.36	1.75	0.77	1.00	295	400
20	extreme								2.66	1.50	3.72	1.50	0.33	2.00	284	400
21	extreme								2.21	1.50	3.11	1.50	0.41	2.00	306	400
22	extreme								2.26	1.50	3.21	1.50	0.41	2.00	301	400
23	extreme								2.00	1.50	2.50	1.50	0.54	2.00	332	400
24	extreme								2.37	1.50	3.36	1.50	0.38	2.00	295	400
25	extreme								2.07	1.50	2.64	1.50	0.51	2.00	325	400
30	seismic								1.51	1.10	1.86	1.10	0.71	2.00	465	600
31	seismic								1.32	1.10	1.66	1.10	0.83	2.00	520	600
32	seismic								1.32	1.10	1.66	1.10	0.83	2.00	520	600

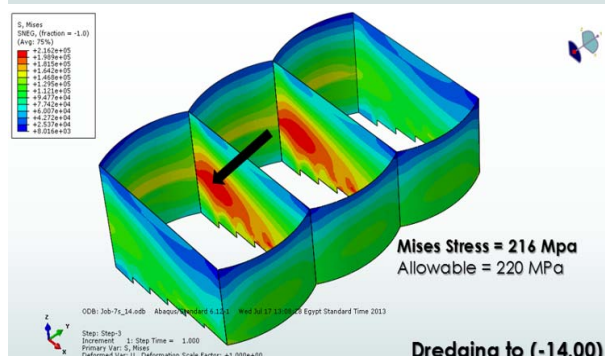
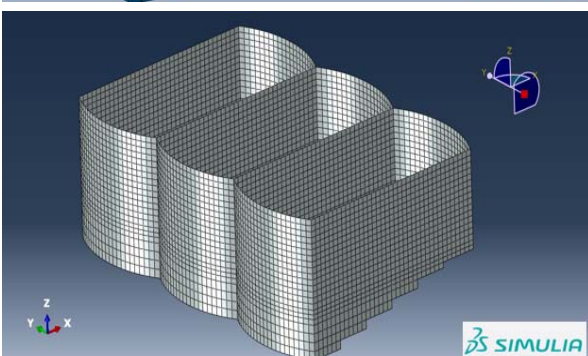
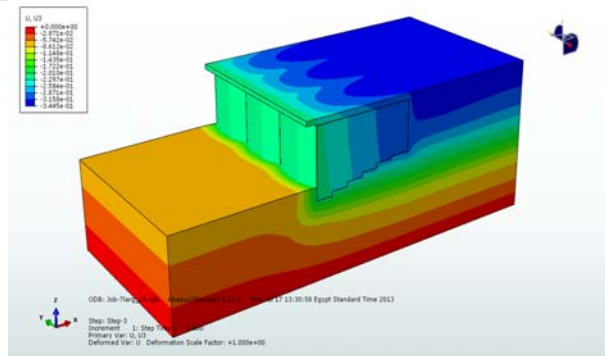
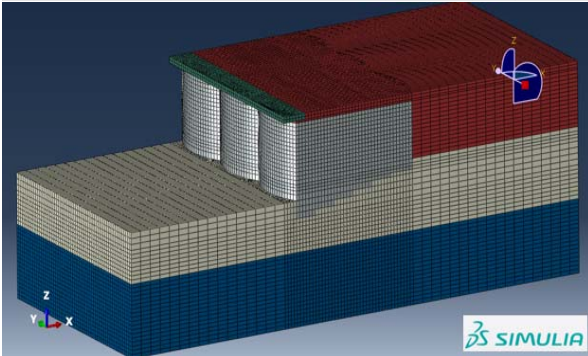
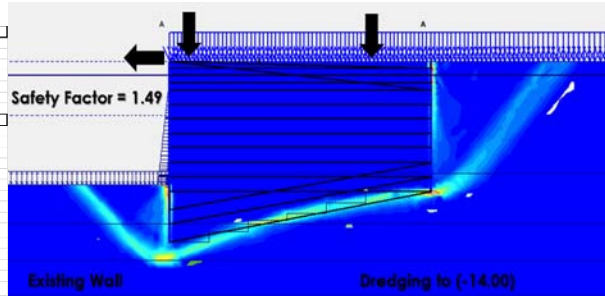
■ Load Factor = 0.50  
■ Load Factor = 1.00  
■ Load Factor = 1.25



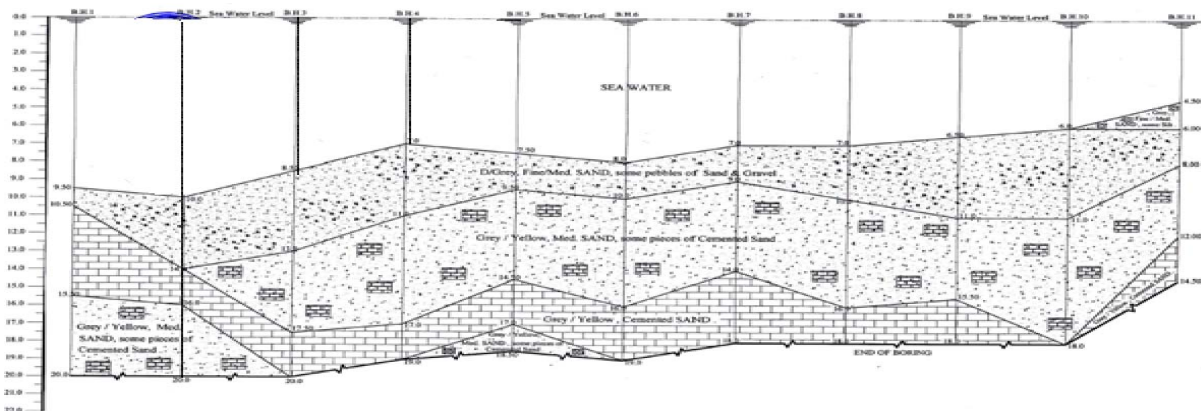
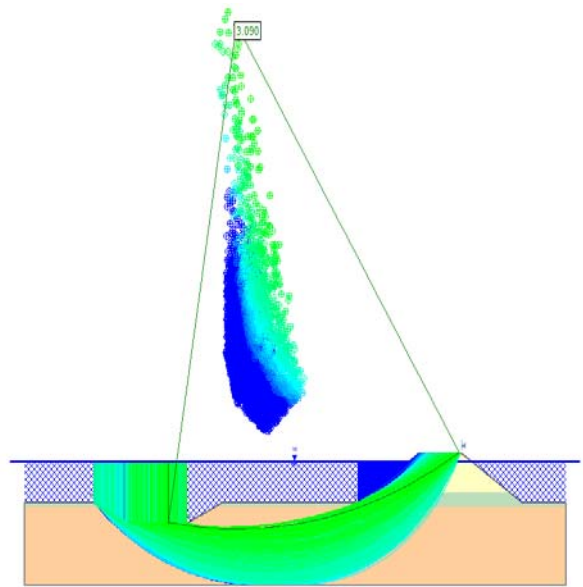
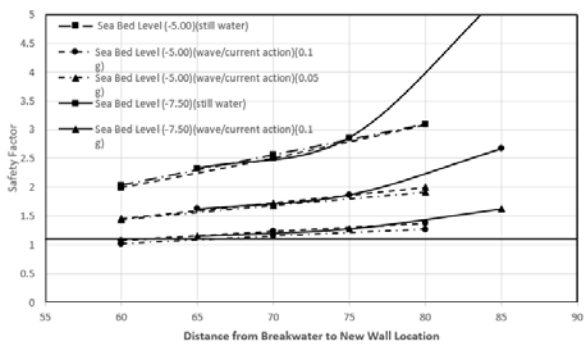
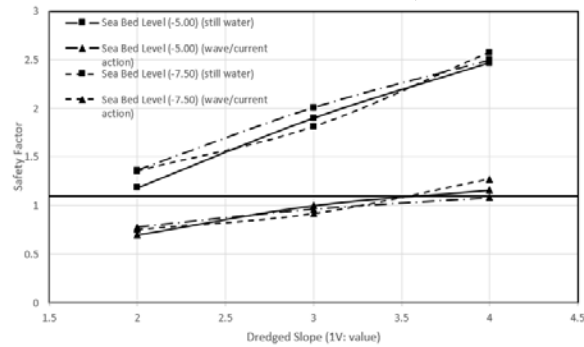
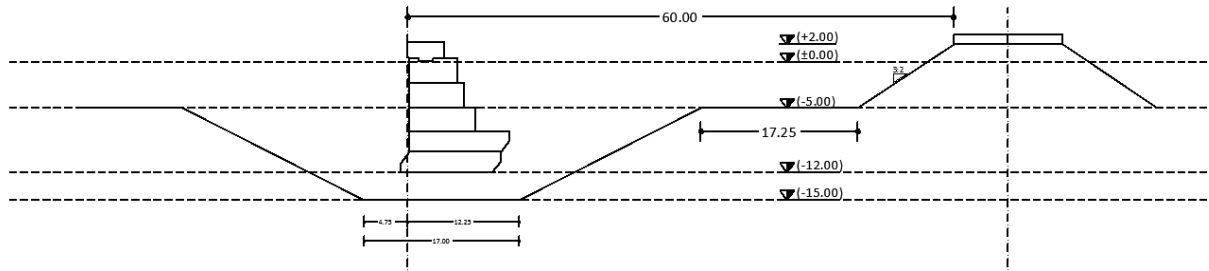
<b>Project</b>	<b>Upgrading Damietta Container Terminal Quay Walls - Damietta Harbor</b>		
<b>Client</b>	Damietta Container Handling	<b>Location</b>	Damietta - Egypt
<b>Value</b>	120M EGP (20M USD)	<b>Date</b>	2013 – 2015
<b>Role</b>	Analysis - Design		



Cellular Wall Properties		Crane Loads	
Bottom Level	-22.50	Vert. Load	Hor. Load
Cell Width	40.00	Sea Side Rail	Land Side Rail
Own Weight of Cell	8008.00 kN/m <sup>2</sup>	570.00	81.43
Base Shear	2800.00 kN/m <sup>2</sup>	590.00	75.71
<b>Mooring Loads</b>		<b>Overturning Check</b>	
Ballast Force	95.00	Mooring	Rotation
Height over top level	0.23	28907.5	2898.8
<b>Sliding Check</b>		<b>Overturning Check</b>	
Mooring	Rotation	Mooring	Rotation
Earth Pressure	1648.04	1211.46	161360.0
Water Pressure	159.95	1211.46	13484.5
Crane Loads (H)	157.14	0.00	7561.2
Crane Loads (V)	85.00	0.00	1851.4
Ballast Force	85.00	0.00	8928.6
			28907.5
			2898.8
<b>Load Case</b>		<b>Sliding</b>	
DW	CP	WP	CR
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
OW		Minimum	
CP	Earth Pressure	Sliding Force	Sliding SF
WP	Water Pressure due to Tidal Lag	8611	2.74
CR	Crane Loads	3020	2.07
BF	Ballast Nail Forces	8611	1.90
		3020	1.75
		8611	1.90
		3020	1.75
		Minimum	1.75
			8.45

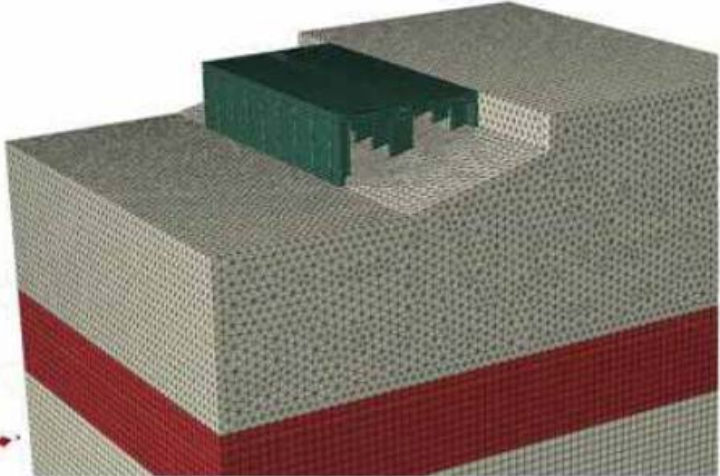
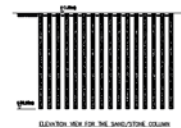
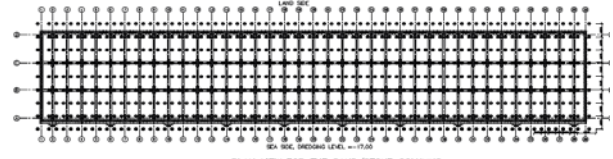
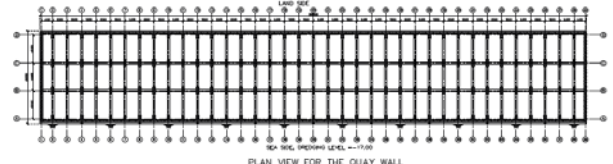
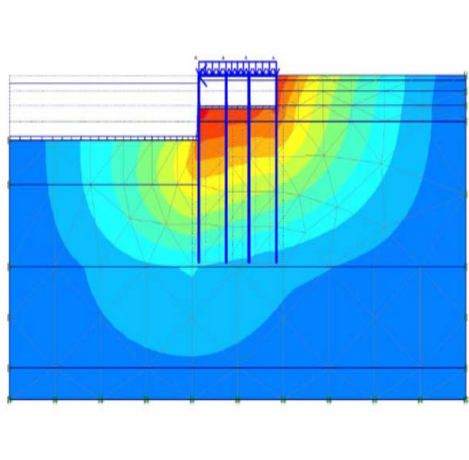
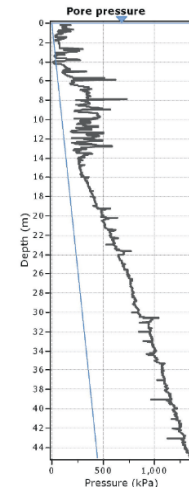
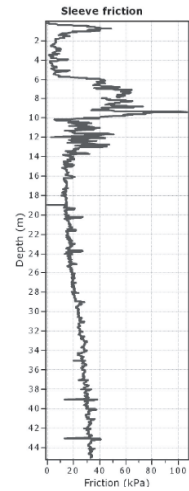
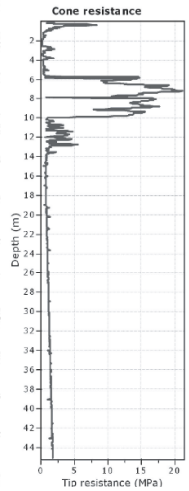
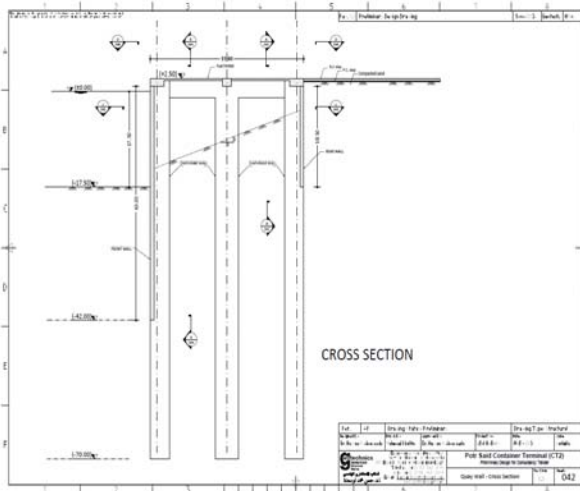


<b>Project</b>	<b>Dredging and Stability of New Quay Walls</b>		
<b>Client</b>	Arab Contractors – Naval Forces	<b>Location</b>	Abou Quir - Egypt
<b>Value</b>	40M EGP (7.5M USD)	<b>Date</b>	2012 – 2013
<b>Role</b>	Analysis - Design		

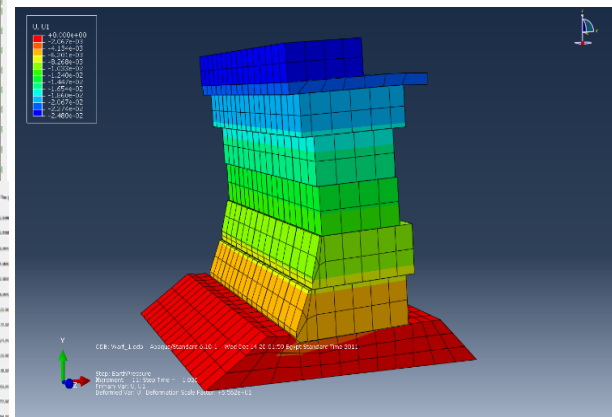
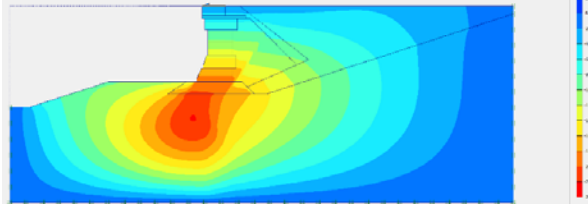
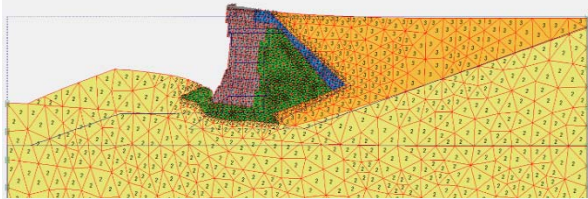
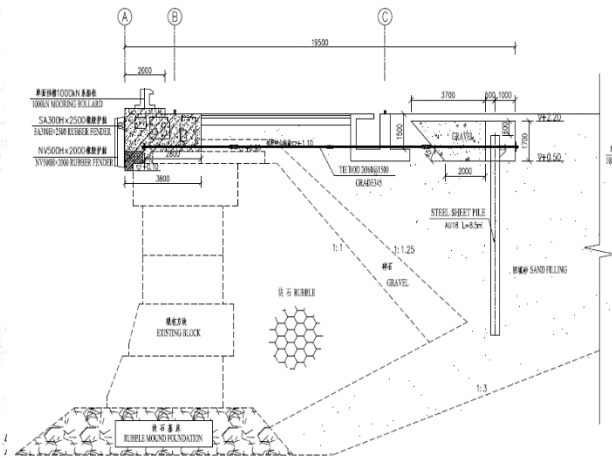
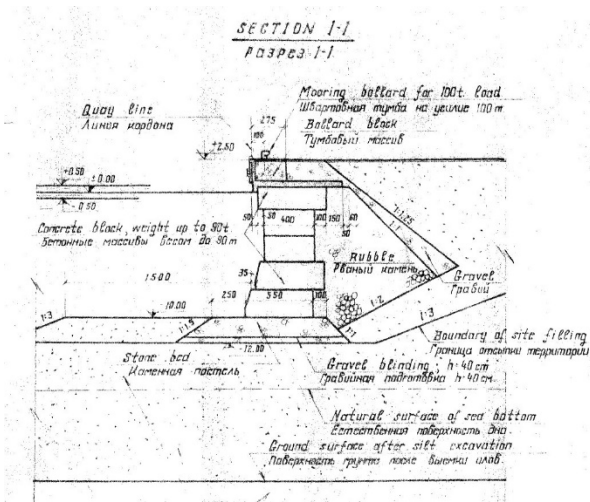




<b>Project</b>	Sharq Eltafrea Container Terminal		
<b>Client</b>	Ministry of Defense	<b>Location</b>	Port Saeed - Egypt
<b>Value</b>	850M EGP (140M USD)	<b>Date</b>	2015
<b>Role</b>	Design - Tendering		



Project	Upgrading Western Wharf		
Client	Alexandria Shipyard Company	Location	Alexandria - Egypt
Value	15M EGP (2.5M USD)	Date	2011– 2013
Role	Design - Supervision		



8 1 2013

Project	Ras Eesa Oil Terminal		
Client	Aleesi Group	Location	Ras Eesa – Republic of Yemen
Value	12 Million USD	Date	2010
Role	Design - Supervision		

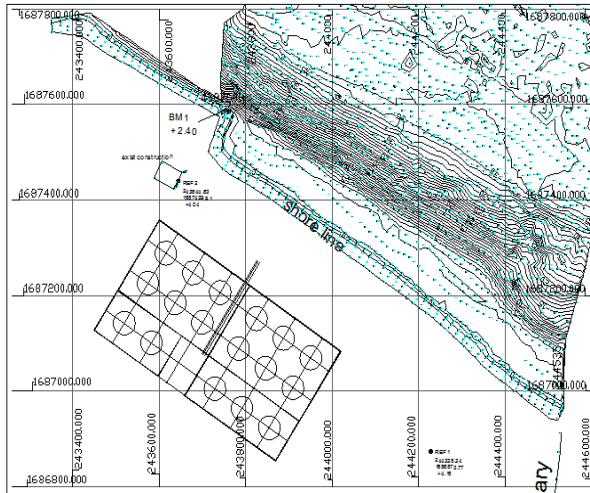
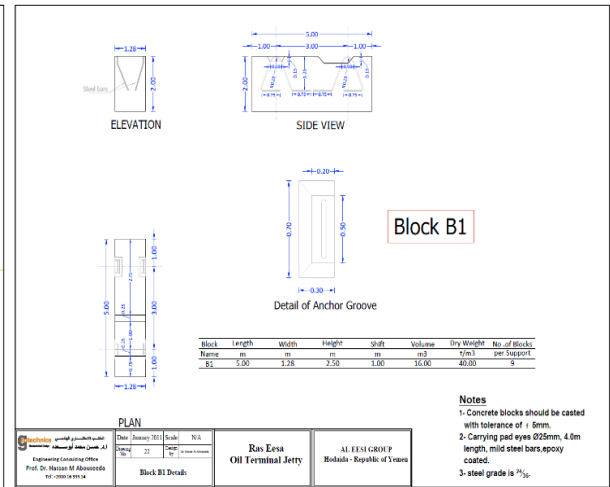
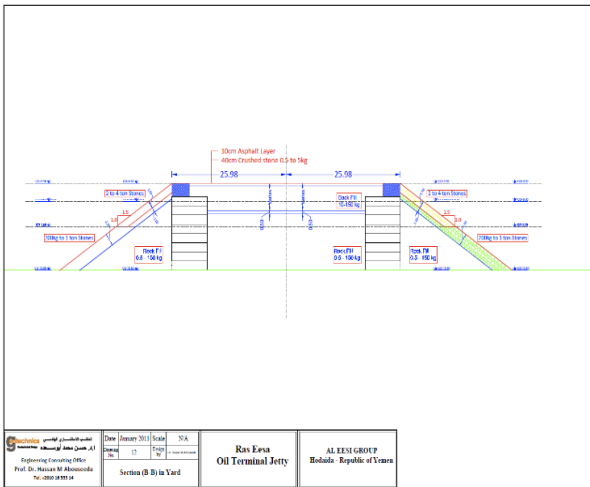
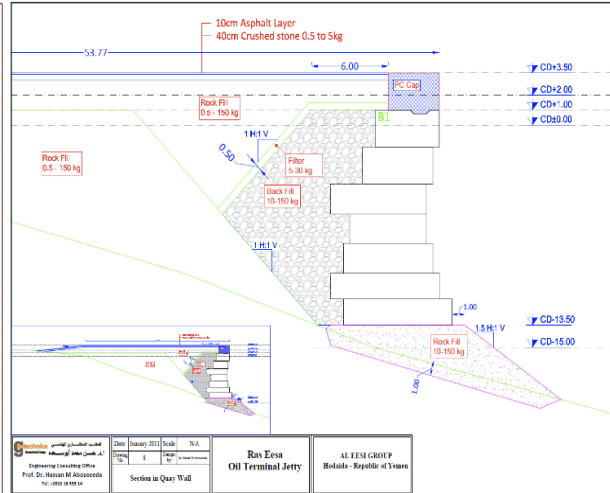
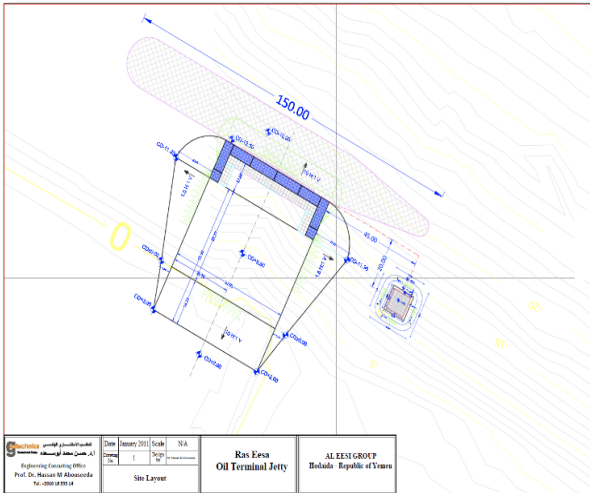


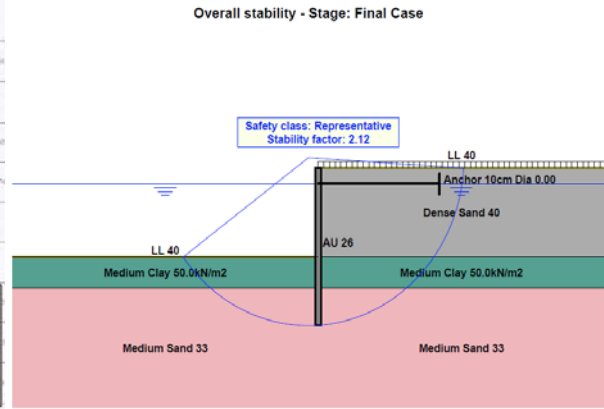
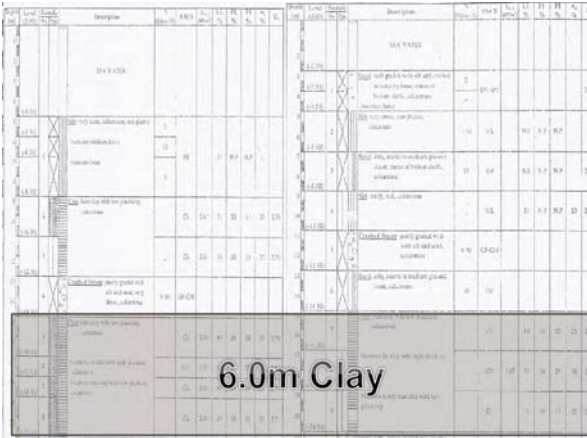
Table 1: Soil Test Results

Soil Layer	Depth (m)	Moisture (%)	Specific Gravity	Void Ratio	Porosity (%)	Unit Weight (kN/m³)	Relative Density (%)	Consistency	Classification
1.00	0.00 - 0.50	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
2.00	0.50 - 1.00	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
3.00	1.00 - 1.50	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
4.00	1.50 - 2.00	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
5.00	2.00 - 2.50	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
6.00	2.50 - 3.00	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
7.00	3.00 - 3.50	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
8.00	3.50 - 4.00	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
9.00	4.00 - 4.50	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL
10.00	4.50 - 5.00	8.80	2.65	0.15	15.00	19.50	70	Stiff	CL

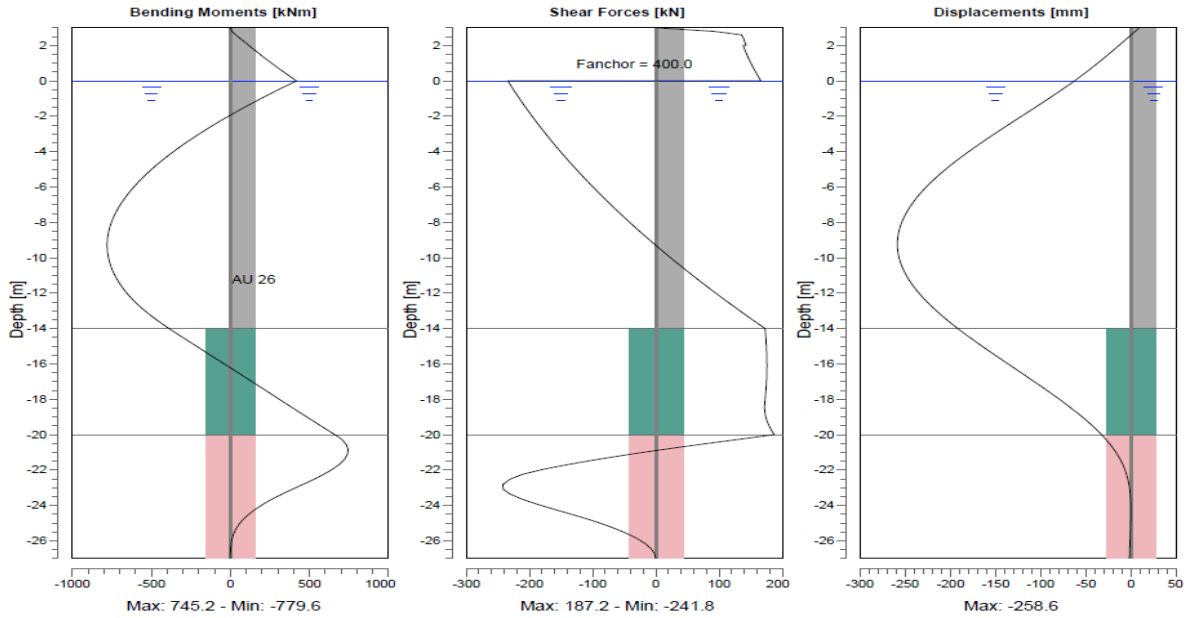


**Notes**  
1- Concrete blocks should be casted with tolerance of ± 5mm.  
2- Carrying pad eyes Ø25mm, 4.0m length, mild steel bars, epoxy coated.  
3- Soil grade is 1%.

<b>Project</b>	Quay Wall Design - 450m		
<b>Client</b>	Adabeya Marine Management Company	<b>Location</b>	Suiz - Egypt
<b>Value</b>	85M EGP (14.5M USD)	<b>Date</b>	2014 – 2016
<b>Role</b>	Analysis – Design		

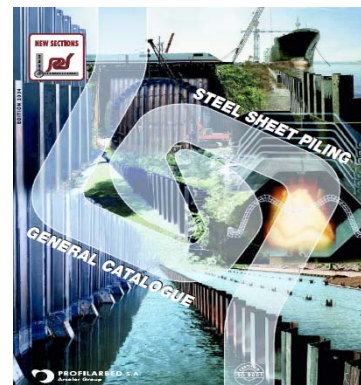


**Moments/Forces/Displacements - Stage: Final Case**

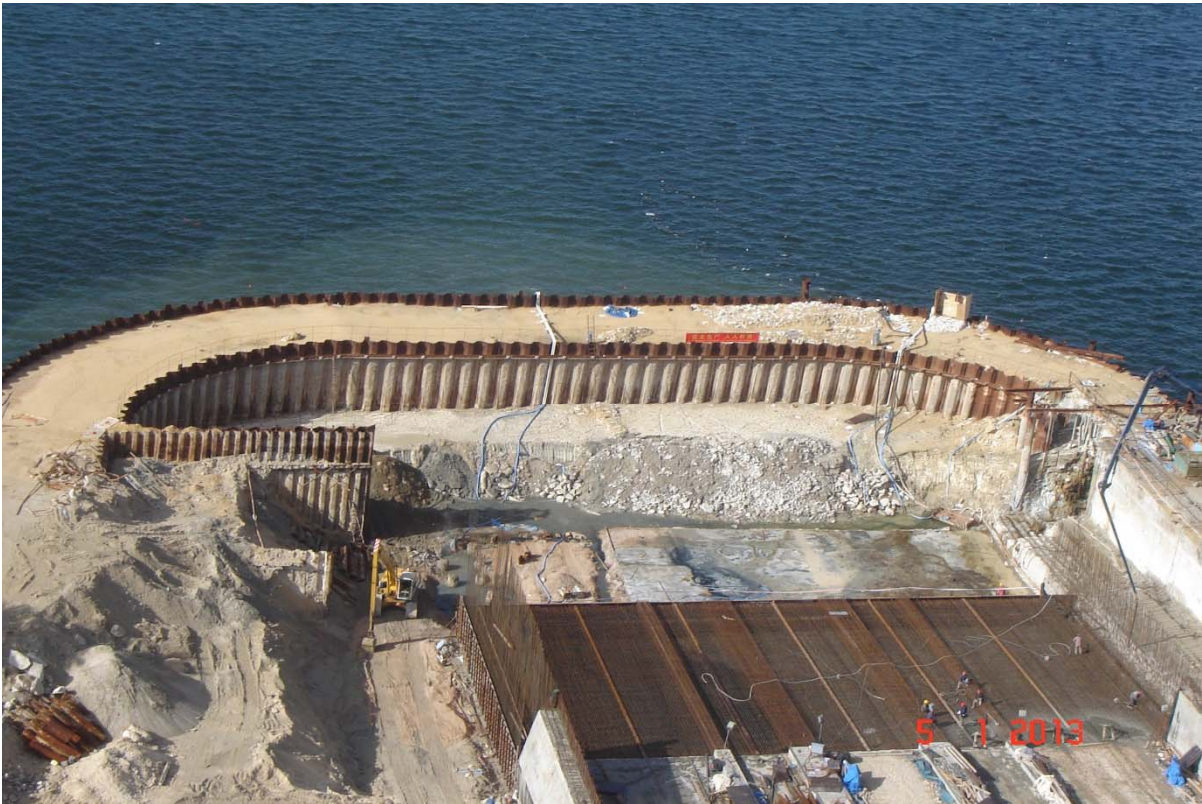


Profil	Dimension		Properties per meter of wall				Mass	Coating area
	b	h	Sectional area	Moment of inertia	Elastic* section modulus	Elastic** section modulus		
Section	mm	mm	cm <sup>2</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	kg/m <sup>2</sup>	Water-side m <sup>2</sup> /m
<b>Combination C1</b>								
HZ 575 A	475.0	575.0	464.9	297600	10085	8475	365	0.534
HZ 575 B	475.0	579.0	503.7	330630	11105	10620	395	0.534
HZ 575 C	476.0	583.0	554.2	367480	12175	11700	435	0.534
HZ 575 D	478.0	587.0	601.1	406610	13615	12735	472	0.541
HZ 775 A	475.0	775.0	585.8	649450	16585	15615	460	0.534
HZ 775 B	475.0	779.0	624.5	708720	17985	17030	490	0.534
HZ 775 C	479.0	783.0	693.7	789060	20055	18735	545	0.540
HZ 775 D	479.0	787.0	732.3	849160	21470	20140	575	0.540
HZ 975 A	475.0	975.0	668.1	1098910	22515	21185	524	0.534
HZ 975 B	475.0	979.0	706.8	1192510	24280	22970	555	0.534
HZ 975 C	480.0	983.0	790.4	1330350	27130	25380	620	0.541
HZ 975 D	480.0	987.0	828.9	1424880	28915	27155	651	0.541

\* Referring to outside of connector  
\*\* Referring to outside of HZ-flange



Project	Double Row Cofferdam – to -12.00		
Client	Alexandria Shipyard Company	Location	Alexandria - Egypt
Value	30M EGP (5.0M USD)	Date	2011– 2014
Role	Design - Supervision		



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