





Science Solve Problems



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Geotechnical Exploration and Studies





Construction Materials
Testing

Quality Control





Special Studies & Monitoring Services

Deep Foundations Testing





Geophysical Surveys & Utility Detection

Training







SECTION 1: OVERVIEW

GEO DYNAMICS ARABIA was founded in Jeddah ,KSA to provide both governmental and private construction sectors with high Quality and Responsible Services in the fields of geotechnical studies ,construction materials testing ,quality control and quality assurance , deep foundations conformity testing, assessment of existing structures, roads, bridges, quality control on concrete and asphalt plants and inspection and testing of steel .

GEO DYNAMICS ARABIA is led by high caliper and recognized professionals with proven experience in GCC.

GEO DYNAMICS ARABIA is registered by the Saudi Council of Engineers in the fields of expertise. In addition we are implementing the national and international Quality Management and Safety Systems and procedures.

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General Manager





SECTION 2: QUALITY POLICY

GEO DYNAMICS ARABIA recognizes that the disciplines of Quality, Health and Safety and Environmental Management are an integral part of its Management function. The company views these as primary responsibilities & the key to good business by adopting appropriate Quality standards.

- The goal of the Organization is to achieve superior external and internal customer satisfaction levels. The top management is committed to providing leadership qualities that will ensure the implementation of supporting Managerial & Operating Systems towards realizing that goal.
- All work that is done by company employees, suppliers and product outlets is part of a process that creates a product or service for a customer.
- Sustained quality excellence requires continuous improvement. This means, regardless of how good your present performance may be, it can be improved. Quality improvements will be followed up in a systematic and planned manner. This applies to every part of the organization.
- Publicity will be given to the quality policy in every part of the organization so that everyone will understand it. All available methods and media will be used or its internal and external promotion and communication.
- Reporting on the progress of the implementation of the policy will be a permanentagenda item in the Management Review Meeting.
- Quality Records (e.g. procedures and associated documentation) shall be available for customer, government or regulatory agencies examination.
- A direct line to the GM office applies to any internal or external pressures of ethics.
- GDA will notify customers of any changes in Ownership, Location, process changes, and certification/registration/accreditation or major audit findings. Notification will occur within 30 days or as required by specific customer requirements.





SECTION 3: HEALTH, SAFETY& ENVIRONMENTAL POLICY STATEMENT

GEO DYNAMICS ARABIA (GDA), is a professionally managed company engaged in geotechnical and materials testing services. The GDA management recognizes Health, Safety and Environment as among the highest goals and objectives.

The Management is fully committed to:

- Comply with all applicable legal and other regulations connected with Occupational Health,
 Safety & Environmental matters, including customer specific requirements.
- Practice pollution prevention methods, wherever feasible and work towards prevention of injury and ill health in our activities.
- Create awareness on Occupational Health, Safety and Environment by team work, training and meaningful communication of the HSE policy to employees, persons working on behalf of the organization and relevant interested parties.
- Achieve customer satisfaction through planned objectives and targets and continual improvement in HSE performance.

Section 4: Objectives Vision, Mission & Values Company Objectives

GEO DYNAMICS ARABIA (GDA) is dedicated to establishing a Quality System that embraces measurable quality objectives. Achieving these objectives will demonstrate top management's dedication of applying a systematic approach to the establishment and maintenance of a Quality Management System:

- Achieving at least 60% in Win vs. Loss Quotes.
- Achieving at least 95% for on time Delivery.
- Having no more than 5% in Customer Complaints.

Further measurable objectives relating to any given project or process may be set. Objectives shall be reviewed on a regular basis to determine achievement levels.





Company Mission

"To provide our clients with Professional, Cost effective, Reliable, Honest and Prompt services."

Company Vision

"To Achieve DISTINCTION in the fields of our expertise."

Company Values

In our Journey to DISTINCTION the following Values shall be maintained:

Professional Ethics and Code of Conduct

Responsibility towards employees, clients and society.

Continual improvement

Seeking and implementing the State of the Art technologies.

Section 5: GDA Registrations & ACCREDETATIONS

GEO DYNAMICS ARABIA is a 100% Saudi owned professional company, registered in Jeddah Under the license number 4030290117

GDA is registered by the Saudi engineering Council as an Engineering Company under the license No. 131

Section 6: KEY EXECUTIVES

GEO DYNAMICS ARABIA (GDA) is run by high qualified managers, with diverse educational backgrounds and fields of experience. Technical Aspects of the Company is being looked after by *Dr. Kayed Awwadeh* who is working in the field of Geotechnical & Materials Design and Testing for more than 23 years, more than 17 years in managerial positions in large scale companies of similar activities. He participated in projects like Development of YAS ISLAND in UAE, OIL & GAS Sectors.





Section 7: GDA SERVICES

The core activities of GDA is land geotechnical studies, materials design &testing, quality control, monitoring and structural assessments, in addition to deep foundation (piles) conformity testing and utility surveys. However, we are looking for expanding our activities beyond the scope mentioned by affiliations with worldwide professional engineering companies in the fields of land &marine geophysical surveys, shallow and deep water, offshore geotechnical investigations and testing.

7.1 Geotechnical Exploration &Studies:

As mentioned above, one of our fields of expertise is conducting geotechnical explorations and studies for all types of projects for governmental, oil & gas and private sectors. We understand that the quality & reliability of our findings, analysis and recommendations are the major factors in the design of a SAFE & COST EFFECTIVE foundations, therefore all our efforts were focused on engaging well trained and experienced staff, using modern equipment, matching with international standards and codes and adapting total quality management system (TQM) to guarantee that all our operations are standardized, monitored, regularly audited (internally and externally) and analyzed for continual improvement.

Site Drilling:

Our Drill Rigs are capable to reach more than 100 meters below the ground level, regardless of the soil/rock strata. We are using various drilling techniques, giving us flexibility choosing the right method for each project site.

- Hollow Stem Auger Drilling.
- Percussion Drilling.
- Rotary wash boring drilling.
- Coring using single and double tube core barrels.





Field testing & sampling including:

- Standard Penetration Testing (SPT).
- Obtaining undisturbed soil samples using Shelby tube.
- Obtaining core samples.
- Permeability testing by single or double packers.
- Pressure meter testing (PMT).
- Installation of stand pipe piezometers.
- Measuring water table, temperature, pore water pressure, water quality, either manually or using instrumented piezometers.
- Cone Penetration testing (CPT), using static piezoelectric cone.
- Surface infiltration.

Laboratory Testing:

Laboratory testing are carried out on disturbed and undisturbed intact soil and rock samples

- Unconfined compressive strength
- Modulus of Elasticity
- Direct shear Strength test
- Consolidation test
- Soil classification tests
- Chemical classification tests
- Permeability tests
- Physical tests

Developing Analysis & Recommendations:

A comprehensive report is prepared by our specialists ,containing factual information of all obtained field and laboratory findings , measurements & classifications in addition to Interpretation of the findings, depending on the project nature.





7.2 Construction Materials Testing & Quality Control:

7.2.1 Materials testing:

GDA Materials laboratory is composed of a modern spacious testing premises satisfying the requirements of international Codes and Standards for the testing agencies, In addition to the legal HSE requirements. The testing laboratory consists of two subsections, one for the physical testing, and the other for sensitive chemical testing. GDA testing laboratory, in both physical and chemical subsections, is equipped with a wide range of modern equipment and testing apparatuses, covering not only the routine testing required but also a range of specialized non-routine tests.

The testing are carried out strictly in compliance(personnel, equipment & procedures) with the latest version of a recognized National or International test Standards. We are mainly following either the ASTM and/or British standard depending on the projects specifications.

In addition to the laboratory sections, GDA has a designated premises for routine and special care storing customers samples, for a various periods extending for few months in some cases as per our Quality Management System.

The following presents the testing range covered by both physical& chemical







7.2.1.1. Concrete Testing Fresh Concrete Testing:

- Sampling
- Slump test
- Temperature measurement
- Air content
- Bleeding
- Setting time
- Preparing of cube specimens compacted manually or by vibration for compressive strength, and/or durability testing.
- Preparing Cylinders specimens for compressive strength testing and/or for durability testing.
- Preparing of beams for flexural strength test

Hardened Concrete Testing:

- Concrete & Masonry Mix Designs
- Compressive strength using cylinder or cube specimens.
- Flexural strength test
- Modulus of Elasticity
- Brazilian test (tensile splitting test)
- Density
- Air Voids and Water Absorption
- Water Penetration test
- Initial Surface Absorption Test (ISAT).
- Rapid Chloride Penetration Test (RCPT)
- Total sulphate content
- Total chloride content
- Water Cement Ratio
- Cement content
- Aggregate content





7.2.1.2. Cement, GGBS,FA & MS Testing:

- Chemical Composition
- Setting time
- Particle density
- Fineness
- Pozzolanic activity Index

- Consistency
- Heat of hydration
- Soundness
- Compressive strength

7.2.1.3. Aggregate Testing:

- Sieve Analysis
- Silt dust & clay
- Bulk density
- Coefficient of uniformity
- Soundness
- Shape analysis (flakiness & elongation indexes)
- Clay lumps & friable particles
- Light weight pieces
- Drying shrinkage
- Aggregate alkali reactivity
- Crushed stone faces
- 10 % fines
- Aggregate crushing value (ACV)
- Aggregate impact value (AIV)
- Los Angeles abrasion resistance
- Acid soluble sulphates
- Acid soluble chlorides

- Moisture content
- Specific gravity & water absorption
- Compaction fraction
- Sand Equivalent
- Sell Content
- Organic content





7.2.1.4. Soil Testing:

- Particle size distribution by Sieve Analysis
- Moisture content'
- Liquid limit (LL)
- Plasticity index (PI)
- Soil classification
- Drained Consolidation test
- Maximum moisture density relationship by standard Proctor
- Maximum moisture density relationship by modified Proctor
- California Bearing Ratio (CBR)(Laboratory & Field)
- Field density of compacted soil layers by Sand Cone Method
- Field density of compacted soil layers by Sand Nuclear Method
- Plate bearing test
- Sulphate content
- Chloride content
- Total soluble salts in soils
- PH value
- Soil thermal resistivity (laboratory & field)
- Soil electrical resistivity (laboratory & field)

7.2.1.5. Rock Testing:

- Moisture content
- Unconfined compressive strength
- Modulus of Elasticity
- Petrographic analysis
- Carbonate content
- Point Load Index



- Hydrometer Analysis
- Specific gravity –particle density
- Plastic limit(PL)
- Linear Shrinkage
- Drained direct shear strength



7.2.1.6 Construction Materials Testing;

- Masonry blocks testing, compressive strength,
- Masonry blocks testing, water absorption strength,
- Masonry blocks testing, dimensions & density,
- Terrazzo tiles , dimensions, absorption & Flexural strength ,
- Ceramic tiles, dimensions, modulus of rupture, absorption,
- Ceramic tiles , chemical resistance,
- Paving blocks, flexural & compressive strength, absorption, abrasion resistance,
- Curbstone, dimensions, flexural & compressive strength & absorption,
- Cast iron manhole covers load test.

7.2.2.0 Quality Control Services:

7.2.2.1 Quality Control of Large Projects:

When it comes to projects Quality Control, you definitely need to get GDA services with long years of experience in this field, as we are not only testing agency, performing tests, submitting reports and here services ends. We will do the quality checks prior to use the materials, assess the results, develop recommendations when needed, and provide technical assessment and troubleshooting when something goes wrong.





The following services can be provided:

- Study of projects specifications and develop test Plan (TP)
- Discussion the TP with Owners/consultants representatives for approval.
- Design the on-site laboratory to accommodate the variety and number of tests to be conducted.
- Equip with modern test facilities.
- Staffing, depending on the project's needs,accommodating peaks.
- Accreditation. Every on-site laboratory shall have a Quality System complying with ISO 9001, and ISO 17025 certifications.
- Sampling, and testing.
- Preparing daily, weekly and comprehensive monthly reports, including all needed statistical analysis.

7.2.2.2 Quality Control of READY MIX Concrete Plants:

- Establishing Quality Control Plan,
- Comprehensive testing of ingredients(cement, aggregates, additives & water),
 for initial approval
- Comprehensive initial and periodic check of the patch plant, including scales calibration, (as per NRMCA checklist),
- Comprehensive initial and periodic checking of the Transit Mixers, as per NRMCA checklist,
- Periodic check of the production,
- Preparing comprehensive monthly report including statistical analysis, conclusions and recommendations.





7.3 Deep Foundation Conformity Testing:

Our trained Engineers by a well-known "PDI "specialized piles testing organization in USA, offer a full range of specialized pile testing including;

- Low strain pile integrity (Velocity only)
- Low strain pile integrity (Force & Velocity)
- Pile Caliper Logging using three arm caliper up to 1.5 m diameter.
- Pile Cross Hole Sonic Logging (CHSL).
- Tomography analysis of (CHSL) profiles.
- High Strain Dynamic Testing using remote sensors.
- Pile instrumentation, using Vibrating Wire Gages (Sister Bars).
- Instrumenting Load Tests, (Vertical (compression), Lateral and pull out (tension)).

7.4 Special Studies:

GDA is not only a Testing Agency, but also we consider ourselves Consulting Engineering Company in the fields of structural assessments of buildings, bridges, ports, highways and pipelines. Our expertise is covering both reinforced concrete and steel structures, in addition to fine knowledge of bituminous mixtures and compacted asphalt layers behavior and problems.

7.4.1 Structural Assessment:

- Visual Inspection, including identification of all defects, like cracks, sagging.,
 Signs of steel corrosion, wet spots...etc.
- Programming of the study, using the visual inspection results.





Non-Destructive Testing (Reinforced Concrete Elements):

- Structural Loading tests on slabs, bridges, Beams...etc.,
- Cover to reinforcement by using electromagnetic cover meters,
- Coating thickness using thickness gages and microscopes,
- Coating bonding strength using pull off testers,
- Steel corrosion survey using Electro half-Cell potential technique.
- Steel corrosion using corrosion rate metes,
- Steel corrosion using electrical resistivity techniques,
- Concrete uniformity and strength using Ultrasonic Pulse Velocity Technique,
- Concrete Strength using Schmidt Hammer,
- In-Situ water permeability,

Destructive Testing (Reinforced Concrete Elements):

- Drilling and obtaining concrete core specimens of various diameters for various testing purposes,
- Compressive strength of core specimens,
- Water Permeability on concrete core,
- Rapid Chloride Testing on concrete core,
- Petrographic analysis on concrete core,
- Cement content, water/cement ratio on concrete core,
- Chloride content Profile on concrete core,
- Sulphate content profile on concrete core,
- Opening Witness points.
- Installation Monitoring Instruments (see monitoring section)





Steel Structures:

- Hardness testing,
- Magnetic Particle inspection (MPI),
- Eddie Current .
- Ultrasonic Testing,
- Coating Thickness,
- Coating Continuity,
- Coating bonding strength.

7.4.2 Assessment of Concrete & Asphalt Pavements:

Our services includes:

- Performing Pavement Condition inspections (PCI),
- Studies to identify the root cause of the defected concrete or asphalt layers by :
 - Trial pitting
 - Obtaining slab samples from asphalt layers for conformity testing,
 - Obtaining core samples for degree of compaction & air voids,
 - Conducting deflections analysis using deflect meter

7.5 Instrumentation & Monitoring:

Engineering science rapidly developed for the last decade, what was impossible to measure and quantify before, now, using a variety of sophisticated instruments, it's possible to measure stresses, strains, deflections, underground movement...etc. We are working with Structural Engineers, foundation designers and Contractors, Maintenance Engineers and Consultants.





The following presents some our monitoring services:

- Pile instrumentation using Sister Bars and load transfer monitoring during the load tests,
- Bridges , slabs, beams deflection monitoring using strain transducers, loggers and thermocouples,
- Temperature and Maturity monitoring in Mass Concrete using Command Center sensors, which can provide information up to 6 months,
- Lateral soil movement by installing and monitoring INCLINOMETERS, either with in-place inclinometers or using manual probes,
- Water Table fluctuation, pore water pressure, underground water temperature and conductivity by installing instrumented deep piezometers with in hole retrievable piezometer /logger ,or permanent one,
- Soil layers vertical movement (settlement) by installing settlement gauges of various types,
- Concrete Cracks monitoring using variety of types of crack meters,
- Structures tilting using variety of tilt meters,
- Vibration Monitoring ,
- Noise Monitoring
- Air Quality Monitoring (Air pollution parameters)





7.6 Training:

GDA as a testing and consulting institution, is adapting knowledge share and transfer policy.

Our seniors with the accumulated extendable field experienceare, for symbolic fees, running training sessions, seminars and hands on training for Engineering staff,

- Site explorations, methods, field sampling & testing,
- Geotechnical analysis, including principles of shallow & deep foundations,
- Quality control & Quality assurance,
- Testing: concrete, soil, aggregates, asphalt, steel, etc.,
- Introduction to international standard Specifications and Codes for Engineers Specifiers.
- Monitoring methods and techniques.
- Concrete & Hot Mix Asphalt Mix Designs.
- Structural Assessment & Evaluation , methods of testing, methods of repair, preparing repair B.O.Q ,
- Assessment of existing rigid and flexible pavements.
- Deep foundation quality control & conformity testing
- Other training programs can be tailored based on the needs.







7.7 Utility Detection:

GDA provides specialized utility detection & surveys using various types of Ground Penetrating Radars (GPR). Our Geophysics will develop and perform the required surveys based on the information gathered from our client and site observations. Each project is considered as a special case.

The utility detectionSurveys can map the sub-surface environment for a wide range of features, to inform invasive investigations, prior to excavating, tunneling and drilling taking place.

Our Underground Mapping helps Design the Risk out of projects to:

- Decrease risk of harm& injury to persons
- · Decrease risk of damaging buried infrastructure
- Minimize disruption & inconvenience to general public
- · Minimize project delays& reduce costs
- · Understand service diversion needs
- Pin-point invasive investigation requirements
- Negate unnecessary excavations





A full GDA Underground Mapping Survey can locate:

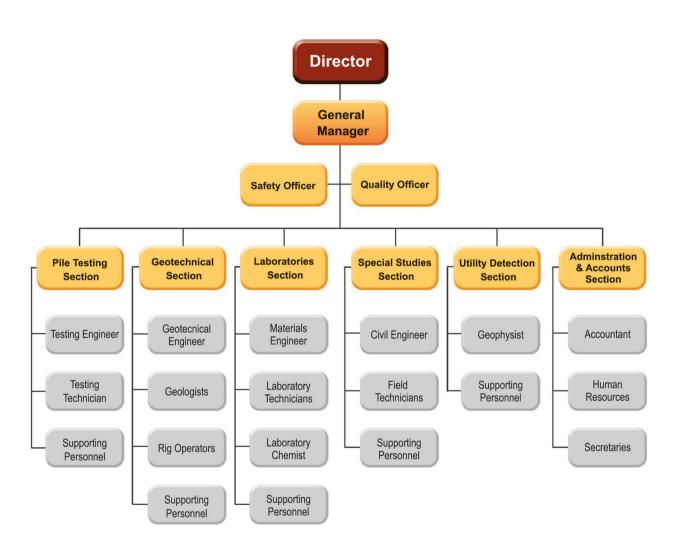
- Buried Services and Utilities including Water, Power, Gas, Telecommunications, Fiber
 Optics, Drainage and other linear targets.
- Voiding such as evidence of erosion, cellars, badger setts, well/mine shafts and tunnels.
- Sub-surface features such as old building lines, foundations, buried concrete, tanks and other hazards.
- Disturbed and saturated ground (which may result from water or oil leaks).
- Depth to Bedrock, the water table or ground layers.
 Drawing results are provided in AutoCAD and PDF formats, displayed, primarily in 2D plan view format with 3D information, designed to be read by anybody from Designers to Ground workers.





8.0 Company Structure:

The following presents our company organizational structure.







9.0 Facilities & Equipment:

9.1 Our Facilities

GDA has a dedicated two story building with more than thousand square meters (1000m²) of laboratories space, divided into physical and chemical testing subsections all on one level, in addition to storing yard and maintenance space. The administration & engineering occupies the whole second level. All is owned by GDA.

9.2 Equipment

The following tables presents our equipment:

Soil Investigation Field Sampling & Testing Equipment:

Truck Mounted Drilling Rig (Dando), equipped with drilling rods, SPT hammer, casings, mud pumps, and hand tools

Drilling Rig International , equipped with drilling rods, SPT hammer, casings , mud pumps, and hand tools

CPT, 20 tones, truck mounted with Piezocones, computer readout unit and penetration rods

Packers, single & double

Split spoon Barrels

Shelby Tubes(3 inch in diameter)

Dynamic Cone Penetrometer

Pressure Meter (Oyo- Japan)

Electrical Resistivity Meter (Megger)

Thermal resistivity Meter (Hukseflux)

Field Vane Shear (ELE)

Dip meters (solinst)

Accessories & Tools





Concrete Testing Equipment

3000 KN servo Automatic compression machine, with 100 KN flexural unit

3000 KN Automatic compression machine

Coring Machine up to 350mm diameter coring with water pump

Core Bits various (50,75,100,150,200,250 mm dia)

Water Permeability Testing machine with six cells (cylinders & cubes), with compressor and pressure gauge

Air Meters

Digital Thermometers

Slump Cones

Setting time penetrometer with different needles

Steel containers (3,5,10,15 liters)

Saw cutter

Precise Stone Grinder

Cube molds (150*150*150 mm)

Cylinder molds (150*300 mm)

Beam molds (700*150*150 mm)

Prove it Rapid Chloride Permeability (3 cells)

Table Vibrator

Command Center unit complete (concrete temperature monitoring)

Command sensors with various cable lengths

Half-cell potential corrosion apparatus with copper-copper probes

Laboratory ultrasonic pulse velocity measuring units (Presque Pundit-Lab) Ultrasonic pulse velocity measuring units (Pundit PL20000

Profoscope rebar detector

Profometer rebar locator

Concrete Electrical resistivity meter





Soil & Aggregates Testing Equipment:

Digital shear Test Apparatus

Digital Drained Consolidation Test apparatus

Falling Head Permeability test apparatus

Falling Head Permeability test apparatus

Set of ASTM sieves

Set of BS sieves

Sieve shakers

Sand equivalent apparatus

Hydrometer test Set (ASTM H151 & 152)

Proctor (standard & modified) molds & rammers

Automatic soil compactor

California Bearing Ratio (CBR) molds complete with surcharge weights, swelling tripods and gauges

California Bearing Ratio (CBR) tester, with proving ring and digital options

Set for specific gravity –particle density of soils and aggregates

Linear shrinkage molds

Liquid Limit Device

Set for plate bearing test

Set for field California Bearing Ratio (CBR)

ASTM sand cones

BS sand cones

Speedy moisture density meter

Laboratory Vane shear tester

Pocket penetrometers

Point Load apparatus





Rock Unconfined Compression test machine

Los Angeles Machine

Aggregate Impact Value apparatus

Aggregate crushing Value apparatus

10% fines test apparatus

Drying Shrinkage comparator

Asphalt & Bitumen Test Equipment:

Asphalt samplers

Bitumen samplers

Quartering devise, splitters

Automatic Marshall Compactor

3000 gm Centrifuge Extractor

Asphalt laboratory mixer with isomantle electric heater

Marshall molds

Marshall stability & flow tester

Water bath

GMM apparatus

Constant temperature ovens

Coring machine with 4 in. diamond bits

Benkelman beam

Straight edge(3m)

Asphalt digital thermometers

Bitumen specific gravity flasks

Bitumen penetrometer

Bitumen ring & ball apparatus





Cement Testing Equipment

Vicat apparatus

Air Blaine fineness apparatus

Heat of hydration apparatus

Cement soundness apparatus

Flow table

50*50*50 mm cement molds

Chemical Equipment:

Analytical Balance (0.00001gm)

Balances (0.01gm)

Spectrophotometer

Muffle Furnace

Stirrers, titration wares,

Reagents, solutions

TDS, PH meters

General Purpose Equipment

Ovens of various capacity

Balances various sensitivity

Calibration set of weights

Master sieve ASTM

Master sieve BS

Sample splitters

Various hand tools & accessories





Bureau of Assessment Services

Managing Assurance with Confidence

Certificate of Registration

This is to certify that



Geodynamics Arabia

Postal Code: 23671, Harmen Road, Jeddah, Kingdom of Saudi Arabia.

has been assessed by Bureau of Assessment Services and hereby attests that the organization complies with the requirements of Quality Management System

ISO 9001:2015

(Quality Management System)

The Quality Management System is applicable to:

Geotechnical Investigation, Materials Testing, Utility Detection and Building Assessment & Training.

[EA/NACE: 34/71.12 & 71.20]

Certificate issue date Certificate valid till Certificate No

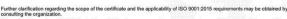
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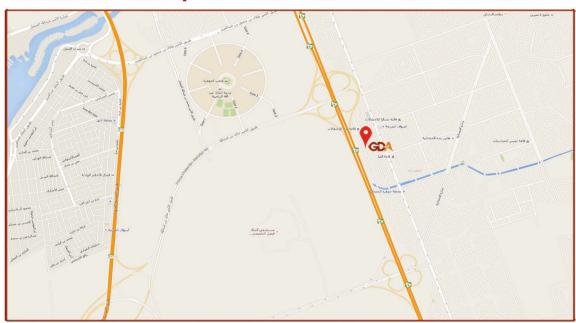


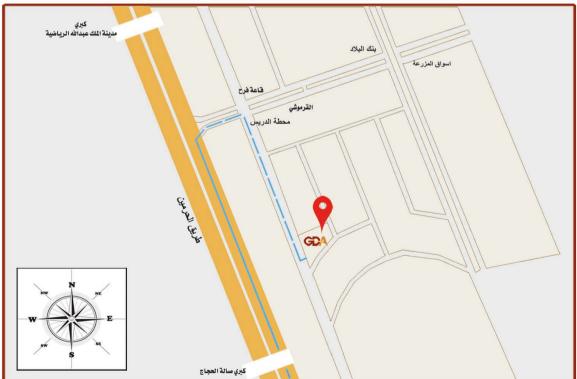






10 : Location Map







SEA





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