Architectural Engineering Design

Services:

- Architectural Design
- Interior Design
- BIM
- Restoration/Rehabilitation of Ancient Structures and Monuments
- Permits
- LEED
- Sustainability
- Life Safety
- Fencing and Gates
- Specialist design such as Laboratories
- Furniture and equipment
- External lighting
- Alterations to existing buildings
- Models and mock-ups
- As-built drawings
- Animation
- VR

Codes and Standards:

- The Egyptian Building Code
- The Egyptian Fire Code
- NFPA
- Green Pyramid Rating System
- IBC
- LEED Standards
- MODON Development Standards (KSA)
- MOMRA Standards (KSA)
- Neufert Architecture Design Standards
- OSHA
- Saudi Building Codes (SBC)
- Time Saver Architecture Design Standards
- UBC

Software:

- Adobe After Effects
- Adobe Photoshop
- Adobe Premier
- AutoCAD (Drawing)
- Enscape
- InDesign
- Lumion
- Revit (Drawing)
- Sketchup
- 3D studio max

Structural Engineering Design

Services:

- Structural Design of Concrete and Steel Structures
- Structural Modelling and Linear and Nonlinear Static and Dynamic Analysis
- Structural Investigation and Assessment of Concrete and Steel Structures
- Restoration/Rehabilitation of Ancient Buildings and Monuments
- Peer Review
- Design Review for Precast and Prestressed Concrete Structures
- Seismic Hazard Assessment Studies
- Seismic Retrofit Analysis and Design
- Analysis and Design of Side Support Systems
- BIM
- Value Engineering
- Strengthening and upgrading of existing structures
- Permits

Codes and Standards:

- AASHTO
- ACI Standards
- AISC Standards
- ASCE Standards
- British Standards
- DBC
- Egyptian Codes of Practice (ECP)
- Eurocode
- International Building Code (IBC)
- MODON Development Standards (KSA)
- MOMRA Bridge Design Specifications (KSA)
- Royal Commission Standards (KSA)
- Saudi ARAMCO Standards
- Saudi Building Codes (SBC)
- UBC

Software:

- ADAPT
- ASDIP Foundations
- ASDIP Retaining Walls
- ASDIP Steel
- Concise Beam
- CSI COLUMN
- ETABS
- PROKON
- RCM ACI Builder
- SAFE
- SAP 2000
- STAAD.PRO
- ANSYS
- AutoCAD (Drawing)
- Revit Structure

Electromechanical Engineering Design

Services:

- HVAC Systems
- Plumbing systems (Water Supply, Drainage and Storm systems)
- Firefighting and Fire Alarm Systems
- Mechanical systems (Compressed Air, Industrial Gases, Steam & Condensate, Medical Gases, Fuel Oil and Fuel Gases)
- Electrical systems (Lighting, Power, Earthing, Lightening, …etc)
- Light Current systems (CCTV, Security, Access Control, Triple play, …etc)
- BMS (Building Management Systems)
- O & M Manuals
- Dry Infrastructure Networks (MV, LV, Light Current)
- Permits (Civil Defense, …etc)
- BIM

Codes and Standards:

- ADDC (Abu Dhabi Distribution Co.
- AIA
- API
- ANSI
- ASHRAE Standards and Guidelines
- ASME
- ASPE
- ASTM
- BICSI
- BS
- CIBSE
- DEWA
- EIA
- EFC
- EPC
- ETSI
- NFPA
- FM Global Data Sheets
- GSAS
- HCIS
- HTM
- IBC
- IECC
- IEEE
- IESNA
- IFC
- IFGC
- IPC
- IMC
- ISO
- ISPSC
- ITU
- Kahramaa
- NEMA
- NEC
- NPC
- NSPC
- NTRA
- QCD
- SBC
- SEC
- SEWA
- TIA
- UAE-FLSC
- UAE-Smoke Management
- UPC
- USEC
- USPC

Electromechanical Engineering Design Continued

Software:

- ASHRAE Psychometric (HVAC)
- ASHRAE Duct Fitting (HVAC)
- AutoCAD (Drawing) and Revit (Drawing)
- Bentley SewerCAD
- Bentley StormCAD
- Bentley WaterCAD
- Carrier, HAP (HVAC)
- Carrier Refrigerant Piping Design (HVAC)
- CALC- RITE
- Calculux V5b (Electrical)
- DIALux 4.1 (Electrical)
- Docwin (Electrical)
- Ducab (Electrical)
- Duct Sizer (HVAC)
- Easy street (IEMCO) (Electrical)
- Elite-Fire (Firefighting)
- Elite – CHVAC
- Elite – RHVAC
- Elite – HVAC tools
- Elite – Ductsize
- Ecodial3.3 (Electrical)
- EGY LUX Lighting (Electrical)
- ETAP
- Generator size (Cummins Power Suite)
- Heat Recovery
- Helioscope (Solar PV design)
- How Much (HVAC)
- HVAC Noise (HVAC)
- Navisworks
- Pipe Flow Expert (Firefighting, Plumbing and Piping Systems)
- Pipe Sizer (HVAC)
- Phillips Lighting (Electrical)
- PVsyst (Solar PV design)
- Strike Risk V2.0 (Electrical)
- Siteco-Siemens (Electrical)
- SIMARIS

Water and Environment Engineering Design

Services:

- Water Networks
- Sewage Networks
- Storm Water Drainage Networks
- Irrigation Networks
- Subsurface Drainage Networks
- Water Treatment Plants
- Wastewater Treatment Plants
- Desalination Plants
- Hydraulic Analysis and studies
- Surge Analysis and Anti-Hammer Systems
- Leak Detection Analysis
- Environmental & Social Impact Assessment (ESIA)
- Pump Stations
- Flood Protection Engineering
- Dump Sites Lining and Closure
- O & M Manuals
- SCADA Systems
- BIM
- Schematics and master planning
- Hydrological studies
- GIS
- Cathodic Protection & Stress Analysis

Codes and Standards:

- Abu Dhabi Distribution Company General Guidelines
- MODON Standards (KSA)
- NEOM Standards (KSA)
- Royal Commission GEM (KSA)
- Saudi Ministry of Housing Standards
- Saudi Aramco Engineering Procedure

Software:

- Arc (GIS)
- AutoCAD (Drawing)
- AutoDesk Civil 3D
- AutoDesk Collaborate
- AutoDesk Navisworks
- AZMI
- Bentley Hammer
- Bentley Sewer GEMS, Sewer CAD
- Bentley Water GEMS, Water CAD
- BIM 360
- Biowin
- DIALux
- Google Earth
- Global Mapper
- Gpsx
- KY Pipe (Water and Environment)
- MS Project
- Revit (Drawing) – Dynamo Revit, AutoDesk Revit
- Solibri Model Checker

Transportational Engineering Design

Services:

- Highway design & interchanges
- Road network design
- Traffic Impact Assessment Studies
- Pavement Structural Design
- Parking Studies
- Tunnels, Bridges & Special Structure
- Traffic Signage
- Mathematical Modeling / Simulation
- Public transit networks and stations
- Demand and Need Evaluation Studies
- Roadway and Bridges Geometric Design
- ITS (Intelligent Transportation Systems)
- Roadway drainage systems
- Design of Airside Airport Facilities (Runways, Taxiways and Apron)
- Material Engineering
- Asphalt Quality Control Works
- Geometric design

Codes and Standards:

- A Policy on Geometric Design of Highways and Streets 2011 (AASHTO Green Book)
- Abu Dhabi - Road Geometric Design Manual
- ARAMCO Technical Guidelines (KSA)
- Dubai - Road Geometric Design Manual
- The Egyptian Code for Urban and Rural Roads Design and Construction
- Geometric Design of Highways and Streets, AASHTO
- Guide for the Development of Bicycle Facilities 1999 (AASHTO bike book)
- Guide for the Geometric Design of Driveways (NCHRP report 659)
- Highway Capacity Manual 2000-(HCM 2000)
- Manual of Uniform Traffic Control Devices (MUTCD) (KSA)
- Ministry of Municipal and Rural Affairs (MOMRA) Road Design Manual (KSA)
- Ministry of Transportation - Highway Design Manual – MOT (KSA)
- MYAS General Design Criteria and Technical Guidelines (KSA)
- Royal Commission for Jubail and Yanbu: Guiding Engineering Manual (GEM) (KSA)
- Standard Specification for Construction Works (Bahrain Ministry of Work)
- Traffic Control System Handbook
- Transit Capacity Manual Third Edition

Software:

- AutoCAD (Drawing 2016)
- AutoDesk Vehicle Tracking (2021)
- Autoturn
- Civil 3D (2021-2023)
- Dynamo C3D
- Navisworks (2021)

Urban Planning & Landscape Engineering Design

Services:

- Regional & Urban Planning; Cities/ Villages planning; Spatial planning; Land use planning and Community services planning
- Local Planning
- Detailed Planning
- Environmental Planning
- Re-planning slums and unplanned urban areas
- Action area
- Urban Design
- Landscape Design
- BIM
- Industrial planning
- Touristic planning
- GIS
- Demographic Analysis
- Social Analysis
- Regional Analysis
- Urban Geography
- Population Growth Scenarios
- Regional Development Scenarios
- Environmental Sustainability Indicators
- Environment Impact Assessment
- Environmental Analysis and Assessment
- Strategic Environmental Assessment

Codes and Standards:

- Americans with Disabilities Act 2010 (ADA)
- American National Standards Institute (ANSI)
- Construction law
- Egyptian Building Code no 119
- GEM - LS RCJY Guiding Engineering Manual (KSA)
- International Environmental Laws and Agreements
- Jubail Management Procedures (JMP)
- Landscape Design Manual Volume 2 - Royal Commission for Jubail and Yanbu
- RCER – Royal Commission Environmental Regulations 2015
- Royal Commission Engineering Manual 2016
- Royal Commission Guideline Specifications
- SASO – Saudi Arabian Standards Organization
- Saudi Code
- Sustainable Development Indicators

Software:

- Adobe Photoshop
- AutoCAD 2D and 3D (Drawing)
- Coral Draw
- Free Hand
- GIS, GIS Basic
- Lumion
- Revit
- Sketch Up

Quantity Survey & Contracting Engineering Design

Services:

- Preparation of tender forms (Instructions to Tenderers - General and Particular Conditions – Tender Appendices)
- Bill of Quantities (Pretender – Post Tender)
- Cost Estimation
- Technical Specifications
- Tender evaluation of technical and financial bids
- Reports for contractor bidding documents
- Analyzing and reviewing change orders
- Preparation of invoices revision & preliminary & final project delivery
- Contract agreements preparation and review
- Dispute and Arbitration

Codes and Standards:

- CSI
- Egyptian Law No. 182 of 2018
- FIDIC Contract Standards (Red, Yellow, Pink, Silver, Gold, and Orange Book)
- NRM

Software:

- AutoCAD
- Microsoft Office
- Revit

Energy and High Voltage Engineering Design

Services:

- High and Extra High Voltage Substation
- Medium Voltage Distribution Networks
- Solar Energy Power Plants (PV Plants)
- Wind Energy Power Plants
- Waste Energy Recovery
- Energy Audits (Buildings and Industrial)
- Energy Audit and Energy Efficiency
- Smart Grid Electrical Networks
- Environmental Management System (EMS)
- Transmission and Distribution (T&D) Systems
- Electrical Systems Design
- Technical & Commercial Evaluation/ Analysis Of Bidders Offers
- Technical training
- Technical and Economic Feasibility Studies

Codes and Standards:

- Egyptian Codes
- Egyptian Electricity Transmission Company (EETC) Codes and Standards
- International Codes
- RC Codes (KSA)
- Saudi Electricity Company (SEC) Codes

Software:

- CDEGS & CYMGRID (Grounding System Design Calculations)
- DIALux (Indoor and Outdoor Lighting System Design Calculations)
- ELITE CHVAC (Heat Load Calculations)
- ELITE DUCT SIZE (HVAC Duct Sizing Calculations and Analysis)
- MICROSTATION (Drafting)
- STAAD-PRO (Structure Analysis and Design)

Design Management

Services:

- Contract Management
- Planning and Scheduling
- Value Engineering
- Cost Management
- Health, Safety & Environment (HSE) plans/audits
- Quality Management
- Risk Management
- Document Control
- Feasibility Studies
- Time Management
- Professional Training and Technical Assistance
- Local Regulations and Permits Application
- Project Integration and coordination
- Stakeholders Management
- Change Management
- Tendering Process Management
- Building Information Modelling (BIM)

Codes and Standards:

- AIA (American Institute of Architects) Project Delivery and Design-Build Guideline
- ANSI/EIA-649 standard “Configuration Management Standard
- BS 6079 - Project Management. Principles and Guidance for the Management of Projects
- ECP 203
- Egyptian Code for Construction Projects Management (code no. 311/2015)
- ISO 10007 “Quality Management Systems - Guidelines for Configuration Management”
- ISO 19650-1:2018 - Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling
- ISO 21500:2012 - Guidance on Project Management
- PMBOK Guide 7th edition, Project Management Institute (PMI) Standards
- RIBA Plan of Work (Royal Institute of British Architects)

Software:

- Aconex
- Autodesk AEC
- Autodesk BIM 360
- Autodesk Design Review
- Microsoft Project
- Primavera
- Power BI
- PROCOOR
- Trello

Geotechnical and Heavy Civil Engineering Design

Services:

- Geotechnical Investigations
- Geotechnical testing
- Geological and Geophysical Studies
- Shallow and Deep Foundations
- Retaining structures
- Soil-Structure Interaction Modeling
- Deep excavation Support and Shoring systems for soils and rocks
- Ground Improvement and Advanced Foundation Technology
- Groundwater Control and Construction Dewatering systems
- Foundation underpinning
- Earth and Rock Slope Stability Analysis and Stabilization
- Design of Earth and Rockfill Embankments
- Liquefaction Potential Studies and mitigation
- Site Grading studies
- Landfill design
- Dredging and Reclamation studies
- Topographical surveys and GIS Applications

Codes and Standards:

- AASHTO
- ASCE Standards
- ASTM Standards
- British Standards (BS)
- Canadian Design Manual
- Canadian Standards Association (CSA)
- Construction Industry Research and Information Association (CIRIA)
- Egyptian Code of Practice (ECP)
- EUROCODE 7 (EN)
- Federal Highway Administration (FHWA)
- UAE Codes
- USACE Engineering Manuals
- Saudi Building Code (SBC)

Software:

- Allpile
- AutoCAD
- ETABS
- GEO5
- Geo-slope
- GGU-Retain
- gINT
- GRLWEAP
- LiqSVs
- LPILE
- MacStars
- MSEW+
- MUDFLOW
- PLAXIS 2D and 3D
- SAFE
- SAP 2000
- Settle 3D
- Slide 2D
- SP Column
- StoneC
- WALLAP