

MOSTAFA REDA ABDO SAYED AHMED

Senior Roads Design & Infrastructure Modelling Engineer | Highways & Interchanges | Civil 3D, BIM & Clash Coordination

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Profile

Senior Road Designer & Infrastructure Modelling Engineer with 9 years of hands-on experience in the design and modelling of roads, highways, and interchanges across Saudi Arabia and Egypt.

Strong background in road geometry, grading, profiles, and cross-sections, with advanced use of Autodesk Civil 3D for corridor and surface modelling.

Actively involved in infrastructure modelling and BIM coordination for wet and dry utilities, ensuring clash-free designs using Navisworks.

Experienced in delivering constructible shop drawings, temporary works, and design modifications aligned with site conditions and project requirements.

Core Technical Skills

Road Design & Geometry

- Horizontal & Vertical Alignment Design
- Profiles, Cross Sections & Superelevation
- Road Grading & Earthworks Coordination
- Highways, Intersections & Interchanges Design
- Temporary Roads, Detours & Traffic Staging Support

Infrastructure & Utility Modelling

- Stormwater, Potable Water, Sewerage & Irrigation Networks
- Utility Level Coordination with Road Profiles
- Wet & Dry Utilities Modelling (Road Interface Focus)

BIM & Coordination

- 3D Corridor & Surface Modelling using Civil 3D
- Clash Detection & Resolution using Navisworks
- Multidisciplinary Coordination (Roads, Utilities, Structures)

Design Delivery & Construction Support

- Shop Drawings Preparation (Roads & Infrastructure)
- Design Modifications Based on Site Conditions
- Quantity Take-Off & BOQ Verification
- IFC Drawings Review & Technical Compliance

Professional Experience

Senior Design Engineer (Civil – Roads & Infrastructure)

May 2023– Ongoing

El Seif Engineering Contracting – Saudi Arabia

Project: Sport Boulevard P08 & P09 – Underpass Works

(King Abdulaziz Rd & Abu Bakr Rd with Prince Mohammed bin Salman Rd)

Scope: Underpass tunnels, roads, wet & dry utilities, electrical, mechanical, structural & architectural works.

Key Responsibilities & Contributions

- Carried out road design and redesign for missing and revised elements, including temporary roads and detours, based on site and construction requirements.
- Prepared road shop drawings (alignments, profiles, cross sections) ensuring constructability and compliance with approved IFCs.
- Developed 3D road corridors and surface models using Autodesk Civil 3D, including custom subassemblies where required.
- Performed BIM coordination and clash detection across roads, wet utilities, and dry utilities using Navisworks, resolving conflicts prior to construction.
- Modelled and coordinated wet utilities (stormwater, potable water, sewage, irrigation, firefighting) with road levels and profiles.
- Supported dry utilities coordination (Street Lighting, HV, MV, LV, STC) with road and infrastructure works.
- Assisted QS team with quantity take-offs and verification against BOQ.
- Reviewed IFC drawings and provided design modifications to suit site constraints and construction sequencing

Road Designer & Infrastructure Engineer

November 2020 – May 2023

Concord Company – Egypt

Project 1: Bait El Watan – New Cairo

Scope: Internal roads, potable water, irrigation & sewerage networks.

Key Responsibilities & Contributions

- Executed road geometry design, grading, and level coordination to ensure proper tie-in with surrounding plots.
- Prepared road and utility shop drawings, focusing on constructible solutions aligned with site conditions.
- Developed 3D road models using Civil 3D and coordinated with utility networks to avoid clashes.
- Calculated earthworks and road quantities and verified them against BOQ.
- Reviewed contractor performance and supported monthly and final payment statements.

Project 2: Main Sewage Lines & Lift Station No 4 _ (New Cairo – New Administrative Capital)

Scope: two main sewage lines (Ø 2500 mm & Ø 2200 mm) and Sewage Lift Station No. 4.

Key Responsibilities & Contributions

- Prepared shop drawings for sewer networks and associated road works.
- Performed grading and earthworks coordination around lift station and along sewage corridors.
- Supported redesign of access and service roads to meet construction and operational needs.
- Coordinated road levels with sewer lines and other utilities.
- Verified quantities and supported payment certification.

Technical Office Roads Consulting Engineer

October 2019 – November 2020

Future Consult Office – Egypt.

Project: Internal Roads and Land Settlements – Beit El Watan, New Cairo

Scope: Internal roads and land settlements in the Beit Al Watan area in New Cairo.

Key Responsibilities & Contributions

- Reviewed contractor submissions to ensure compliance with project specifications and contracts.
- Prepared and managed technical documentation for internal roads and land settlements.
- Reviewed design drawings and revisions to ensure correct technical execution.
- Verified monthly statements and quantities.

Technical Office Roads Engineer

November 2018 – October 2019

Abokastour Company – Egypt

Project: Internal roads, land settlements and networks in the Beit Al Watan area at New Cairo.

Scope: Internal roads, land settlements, potable water, irrigation and sewage networks in the Beit Al Watan area in New Cairo.

Key Responsibilities & Contributions

- Reviewed IFC drawings and implemented road design modifications based on site conditions.
- Prepared road and utility shop drawings including alignments, profiles, and cross sections.
- Calculated and reviewed road work quantities against BOQ.

SOFTWARE & TECHNICAL TOOLS

Design & Modelling

- Autodesk Civil 3D – Road Geometry, Corridors, Grading & Infrastructure Modelling
- Subassembly Composer – Custom Road Assemblies
- InfraWorks – Conceptual Road & Corridor Modelling

BIM & Coordination

- Navisworks Manage – Clash Detection & Multidisciplinary Coordination
- BIM-based Model Review & Issue Resolution

Drafting & Documentation

- AutoCAD – 2D Drafting & Shop Drawings
- Microsoft Excel – Engineering Calculations & Quantity Take-Off
- Microsoft Word & PowerPoint – Technical Reports & Submittals

EDUCATION

Bachelor of Civil Engineering

El Shorouk Academy – Egypt

June 2017

- Overall Grade: **Very Good (75.96%)**
- Graduation Project: **Management**
- Graduation Project Grade: **Excellent**

LANGUAGE

- Arabic: Native
- English: Intermediate to Upper-Intermediate (Reading, Writing & Speaking)

DRIVING LICENSES

- Saudi Arabia Driving License
- Egypt Driving License