

Karim Mohamed Aboali

BIM Structural Engineer

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SUMMARY:

I am a BIM Structural Engineer and Coordinator with proven expertise in LOD 500 modeling, multidisciplinary coordination (Structural, Architectural, MEP, Civil), and BIM automation using Dynamo and Revit API (C#). Skilled in clash detection, BEP implementation, and delivering high-quality BIM models, shop drawings, and quantity take-offs in compliance with international standards. Strong background in both building and infrastructure projects.

Professional Experience :

BIM Coordinator at First Fix-KSA :-

(01/2025 – Present)

❖ Shura Island P06, Red Sea (Buildings + Infrastructure):-

- Coordinated BIM models for buildings and infrastructure across ST, AR, MEP, and Civil disciplines.
- Lead clash detection and resolution processes using Navisworks, and managed uploads through BIM 360 /ACC and Aconex.
- Automated documentation and modeling with Dynamo scripts and Revit add-ins.
- Ensured compliance with LOD 400/500 and BEP standards.
- Implement and maintain BIM standards, templates, and workflows in coordination with project teams.
- Civil 3D models up to LOD 500 and coordinator with other contractors.
- Generate schedules, drawings, and detailed documentation directly from BIM models.
- Coordinate with other Contractors & consultant & the owner.

BIM Structural Engineer at FirstFix-KSA :-

(10/2023 – 12/2024)

❖ Shura Island P09, Red Sea:-

- Created and managed structural BIM models (up to LOD 500) for high-rise buildings and infrastructure projects.
- Created and updated 3D BIM models and Revit families for Structural, Architectural, and MEP teams.
- Created reinforcement 3D Bim models in Revit, including accurate rebar placement and scheduling.
- Created Civil 3D models up to LOD 500 and coordinator with other contractors.
- Collaborate with multidisciplinary teams, including other BIM modelers, designers, and engineers, to ensure models are fully coordinated and integrated.
- Perform clash detection and resolve coordination issues using Navisworks and BIM issue trackers.
- Uploaded and managed federated models on **BIM 360** and **Aconex** platforms.
- Produced shop drawings, as-built drawings, and accurate quantity take-offs.
- Check design & Re-design drawings validation for Structure building.
- Developed Dynamo scripts and Revit tools to streamline workflows.

EDECS El Dawlia for Engineering & Contracting :-

(3/2023 - 10/2023)

- Bim Structural Engineer in New Giza.

Egyptian Armed Forces Engineering :-

(12/2020 - 3/2023)

- Technical Bim Engineer in Sharm-sheikh.
- Design + Re-Design Structure building in new administrative Capital.
- SHOP-Drawings of Constructure in New administrative Capital.

❖ BIM Automation Developer by (Professional Dynamo + APi C#).

❖ Work Coordination & Clash detective by (Naviswork + Revit)

❖ Design of Constructure by Codes (ACI318/19 – ECP203)

❖ Design of (Shallow-Deep) Foundation + Shoring system.

❖ Calculation all of (Structure + Foundation + Steel + Soil parameters + Settlement).

❖ SHOP-Drawings of Constructure (RFT + Concrete + Steel) By (Revit+ sofistik+Tekla) using Code (ACI 318/19 – ECP 203).

❖ Education

- B.Sc. in Civil Engineering.
- El Shorouk Academy, Egypt — 2020.
- Grade: Very Good with Honours (80.47%)
- Graduation Project (Geotechnical): Excellent (88.35%)

❖ Software Skills:

- REVIT (STR+AR+MEP) ●●●●●●
- Navisworks Manage ●●●●●●
- Dynamo ●●●●●●
- Tekla Structures ●●●●●●
- CSI Program (SAP2000 – ETABS– SAFE – CSICOL) ●●●●●●
- (AutoCAD + Auto rebar) ●●●●●●
- Prokon ●●●●●●
- MIDAS GTS NX – MIDAS GEN – MIDAS N GEN) ●●●●●●
- PRIMAVERA P6 ●●●●●●
- Microsoft Office (WORD – EXCEL – POWERPOINT) ●●●●●●
- Sofistik (R.F.T) ●●●●●●
- BIM360 ●●●●●●
- CIVIL 3D ●●●●●●
- STAAD.Pro ●●●●●●
- ASD ●●●●●●
- Limcon ●●●●●●
- WALLAP Program ●●●●●●

❖ COURSES

- BIM Management – Niqat Globa (8/2024-12/2024)
- Civil 3D Infrastructure (12/2023-8/2024)
- ITI BIM Automation Developer 3 month online (2/2023-6/2023)
- Steel Design + Tekla Shop Drawing Course (online/2023)
- Cad master Shop-Drawings Course (offline/2023)
- Cad master CSI Structure Design Diploma (offline/2019)
- REVIT Structure Course (online /2019)
- Cad master AutoCAD Course (offline/2019)
- Midas Course (online/2020)
- BIM Bits Course (online/2020)
- Primavera P6 Course (online/2020)
- Certificate of Autodesk ((AutoCAD - Revit Structure - BIM Advance))
- Certification of Saudi council of Engineering

❖ Works using Dynamo ((2) Activity | karim aboali | LinkedIn)

- **Dynamo for Civil 3D:**
 - Create (Element IDs+STYLE+NAME) SCRIPT.
 - Import Shred Parameter From Excel.
 - Rename (Pipe +Strcture) in Civil 3d.
 - Import Shred Parameter from Excel.
 - Select element in civil by (Element IDs).
- **Convert Cad To Revit :**
 - CAD to Revit (Column+Beam+Slab + Opening-slab + Walls + Footing + Girds).
- **Create reinforcement Structural :**
 - Beams_(RFT+Stirrups+sections)with-column.
 - Neck_Columns (RFT+stirrups) with foundation.
 - Footing-RFT-shape(U)+sections.
 - Columns_(RFT+stirrups)--with—beam.
 - Footing-RFT-shape(L+U)+sections.
- **Create Dimension Element :**
 - Dim_ (Columns axis) & Dim_ (Foundations axis).
 - Dim_ (Grids axis + Fix-Rename-(GRIDS)).
 - Dim elements.
 - Dim_ (Walls with Girds).
 - Dim_Slab.
- **Cal_Area_Insulation_Foundtion.**
- **Clash_from_Navisworks_Elements_id_color by Excel.**
- **Create_ (Level + Plan _Structure & Floor &ceiling) View + Create sheet + Set (viewport in sheet identity date sheet) from Excel.**
- **Create Family (Column+Beam+Foundation) from Excel.**
- **Create Section:**
 - Section View.
 - Column_Section_views.
 - Beam_Create_SectionView-(Elevation Cut)
- **Remove_duplicated_elements ((Structure +Arch+Mep + Elec)) + Split-Element ((Columns +Walls)) with Levels.**

