

Client: Gold and Minerals Company Ltd

Value: R 246mil

Services: Structural Design, Civil Design, Mechanical Design

Appointed Date: 24 February 2023

JQ Gravel Road, Saudi Arabia

Geometric and Drainage Preliminary Design



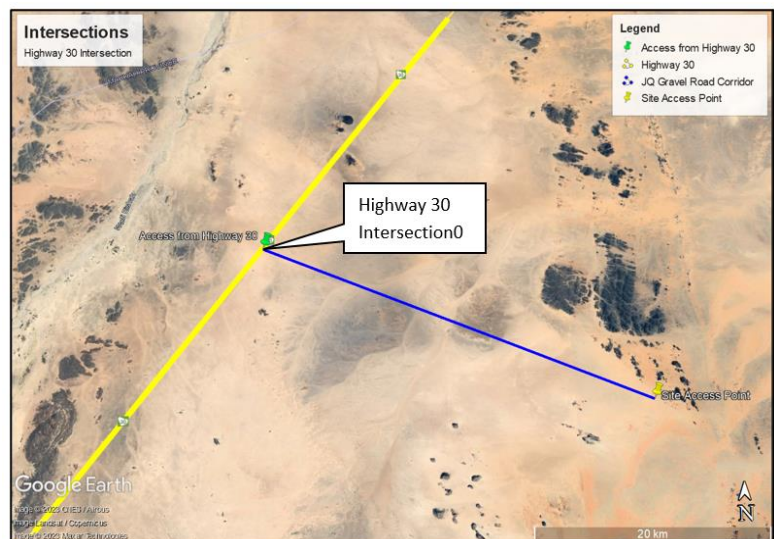
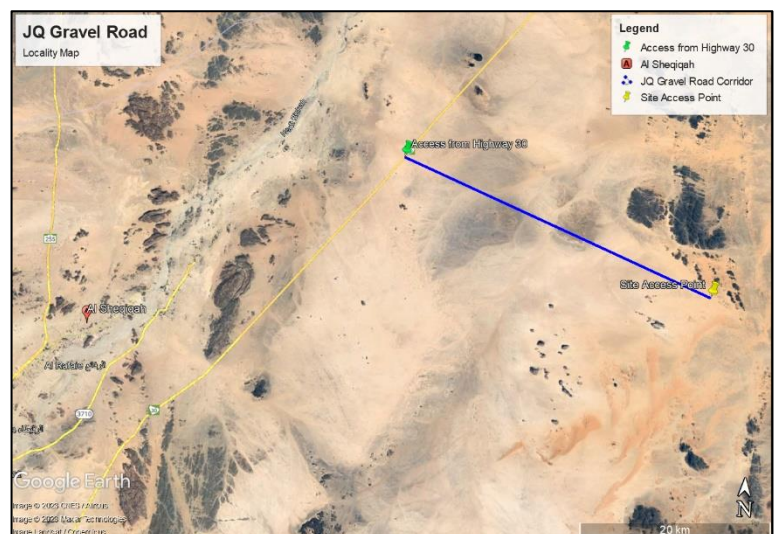
The Task

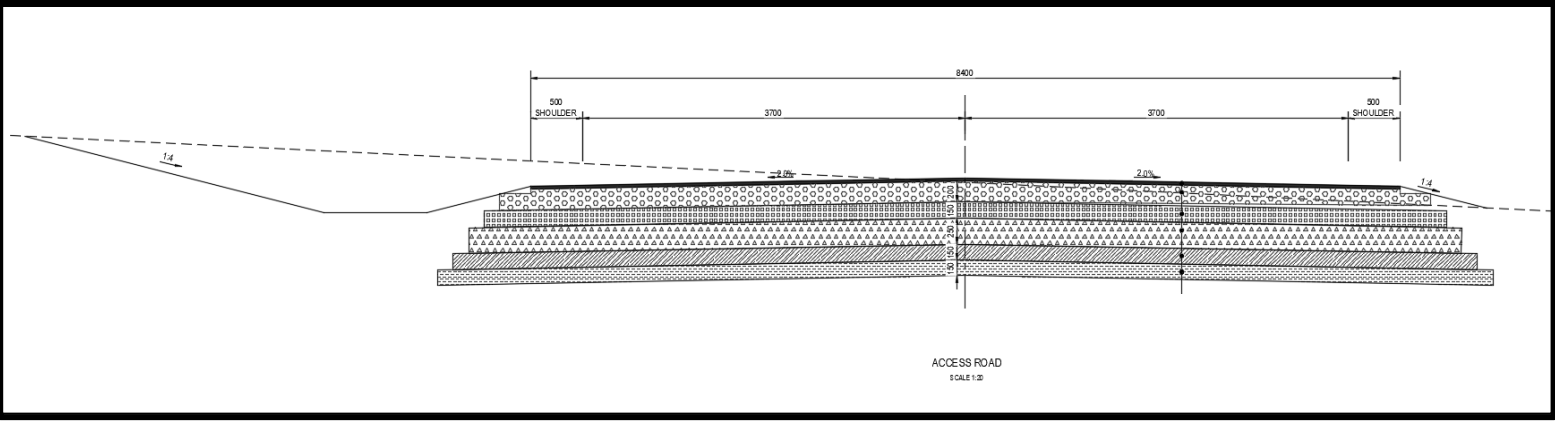
Zutari (Pty) Ltd appointed Nurizon Consulting Engineers as sub-consultants to render the preliminary geometric and drainage design.

Design Services

Nurizon's scope of services included the following:

- *Road Design*
 - Horizontal design
 - Vertical Geometry
 - 3D modelling of the design based on cross-section.
- *Stormwater Design*
 - Rainfall calculation
 - Run-off calculations
 - Hydraulic design
- *Preliminary design report and bulk cut and fill quantities*
- *Electrical Design*





**41km Gravel Road
Northeast of
Al Sheqiqah.**

The Result

The design informs the determination of the design speed and the appropriate geometric design parameters that are adopted for the design process.

The design parameters included in the preliminary design:

Design vehicle	LDVs (Side tipper truck and trailer)
Design speed	80km/h
Lane width	3.7m
Shoulder width	0.5m
Road width	8.4m
Cross-fall	2%
Minimum vertical gradient	0.5% (1V:200H)
Favoured maximum gradient	7% (1V:14.3H)

