Datum and Map Projection System

Based on the national standard adopted by EMA, coordinates shall be calculated in reference to the grid on UTM projection and zones 36, 37, or 38 depending on the geographic location.

1) Projection – Universal Transverse Mercator

2) Spheroid/Reference Ellipsoid – Clarke1880 modified

3) Local Geodetic Datum – Adindan

4) Unit – Meter

Projection Parameters

1) UTM Grid Zone – 36, 37, 38 depending up on the geographic location

2) Central Meridian – 33°E for zone 36; 39° E for zone 37; and 45° E for zone 38

3) False Easting – 500,000 m E

4) False Northing – 0 m N

5) Scale Factor - 0.9996

Coordinate Transformation Parameters and Coordinate System

The datum transformation parameters provided by the Ethiopian Mapping Institute shall be used for transforming the geodetic coordinates from WGS84 to Adindan geodetic datum. In cadastral surveying and mapping activities the transformed coordinates shall be stated in Cartesian coordinate system.

The parameters to be used are: -

1) Semi-major axis (a): 6378249.145metre

2) Semi-minor axis (b): 6356514.9667metre

3) Ellipsoidal flattening (f):1/293.466307656

Translational transformation parameters are: -

1) $\Delta x = -162$

2) $\Delta y = -12$

3) $\Delta z = 206$