PARIVESH – SOP for KML Creation for Proponent

Ministry of Environment, Forest, and Climate Change (MoEFCC), Govt. of India

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1. Background and Introduction

In India, environment comprises some of the world's most biodiverse eco-zones. The Deccan Traps, Gangetic Plains and the Himalayas are the major geographical features. The Ministry of Environment, Forest, and Climate Change (MoEFCC) is the nodal agency in the administrative structure of the Central Government for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programs. Primary focus of the Ministry is implementation of policies and programs relating to conservation of the country's natural resources including its lakes and rivers, its biodiversity, forests, and wildlife, ensuring the welfare of animals, and the prevention and abatement of pollution. While implementing these policies and programs, the Ministry is guided by the principle of sustainable development and enhancement of human well-being.
To ensure safeguarding of the country's environment, flora & fauna and the natural resources, the Ministry provides Environment, Forest, Wildlife and CRZ Clearances after conducting due diligence of all the proposals which are likely to impact these.
The Ministry also serves as the nodal agency in the country for the United Nations Environment Program (UNEP), South Asia Co-operative Environment Program (SACEP), and International Centre for Integrated Mountain Development (ICIMOD) and for the follow-up of the United Nations Conference on Environment and Development (UNCED). The Ministry is also entrusted with issues relating to multilateral bodies such as the Commission on Sustainable Development (CSD), Global Environment Facility (GEF) and of regional bodies like Economic and Social Council for Asia and Pacific (ESCAP) and South Asian Association for Regional Co-operation (SAARC) on matters pertaining to the environment. The broad objectives of the Ministry are:

- Conservation and survey of flora, fauna, forests, and wildlife
- Prevention and control of pollution
- Afforestation and regeneration of degraded areas
- Protection of the environment and
- Ensuring the welfare of animals

These objectives are well supported by a set of legislative and regulatory measures, aimed at the preservation, conservation, and protection of the environment.

1.1 About PARIVESH

PARIVESH is a web based, role-based workflow application which has been developed for online submission and monitoring of proposals submitted by the proponents for seeking Environment, Forest, Wildlife and CRZ Clearances from Central, State and district level authorities. It automates the entire tracking of proposals which includes online submission of a new proposal, editing/updating the details of proposals and displays status of the proposals at each stage of the workflow. The portal is being further enriched and enhanced in project PARIVESH 2.0.

2. Create KML using DGPS survey for (KYA) module in PARIVESH

2.1 Reconnaissance Survey

Reconnaissance survey of the project area includes identification of tentative locations for establishment of Ground control network locations. For establishment of GCN which will be used as Base Station, FSI, SOI benchmarks or known points (whose co-ordinates are known) are taken as reference. SOI Toposheets and reference images available in public domain will be used to envisage the proposed approach and methodology.

2.2 Base Station Establishment

To carry out DGPS survey, different Base Station will be established at safe and secure location. Count of Base station will be based on actual distance between Base and Rover DGPS unit. High configuration dual frequency DGPS machines will be used in Base station establishment activity. DGPS survey will be carried out in WGS 84 Datum. Base station will be established by taking continuous reading of 12 hrs.

Base Station Site Requirements

- Clear view to satellites
- Clear of transmitters (TV, radar)
- Line of site to rover is not necessary

2.3 Establishment of Ground Control Network (GCN)

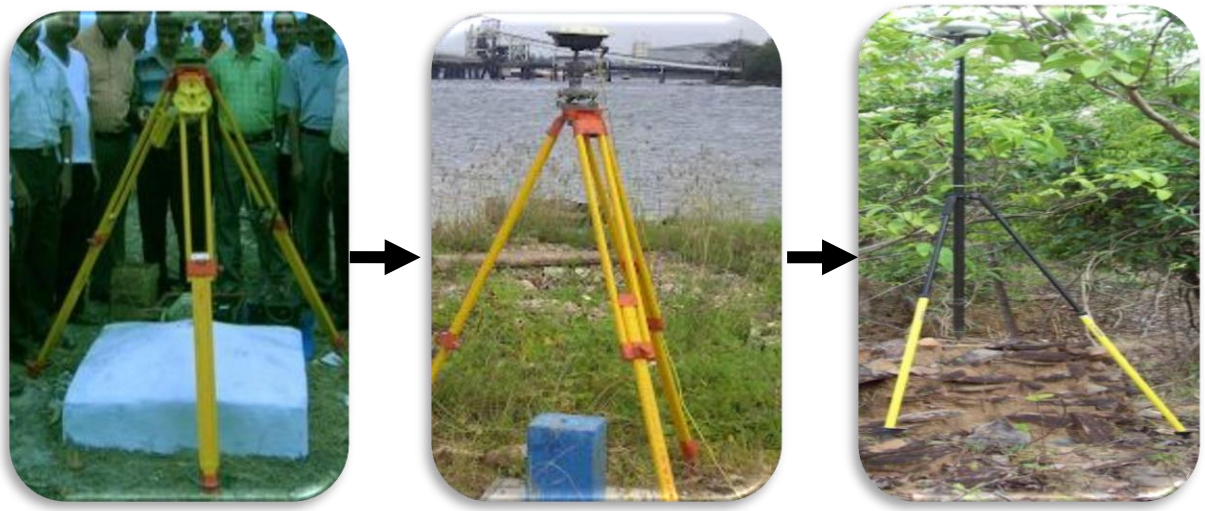
Ground control network will be established for the project area. GCN will be established by Dual frequency DGPS equipment taking SOI Control Point / known locations / base station as reference. The minimum observation time for base station will be 12 hours from nearest SOI control point. Required number of Control Points will be established in such a way that the distance between the DGPS base station and rover will be less than 10 km (for single frequency DGPS Rovers) and less than 50 km (for

Figure. DGPS

dual frequency DGPS Rovers). The panoramic view surrounding the Base Station as well as antenna location showing the terrain in near proximity will be digitally photographed.

The DGPS survey for GCN establishment will be carried out for well distributed and identified points on Cadastral Map. DGPS survey team will then identify those points on ground and take DGPS reading of that particular point in the presence of forest official. Revenue Stone will be ensured during the DGPS reading.

Post processing will be done and accurate coordinates will be determined for these points. The coordinates of GCN points will be in WGS 84. The height above MSL will also be recorded for each control station.



Benchmark Identification | **Establishment of Base Station** | **Establishment of Proposed location**

Figure. DGPS Survey process

2.4 DGPS Survey of Proponent (PP) AOI

These reading will be taken only on proposed ground location AOI with fixed interval as way points; Base antenna will be upon any nearest Ground control point (established earlier in reference of GTS Benchmark). 2 DGPS units (Base and Rover) will always be used for DGPS observation of each points. One antenna will be established as a base station and other unit as a rover at the each observation location with >10 minutes observation from base station. All the GCP's will be collected on existing forest boundary pillars or cairns marked with boundary pillar-IDs. DGPS data will be processed on regular basis in order to avoid any

unwanted issues during final data processing stage. All DGPS points will be collect in GCS – WGS84 Datum uniformly.

2.5 Export of DGPS Survey output in KML

The Survey will be carried along the AOI, DGPS necessary post processing process is done to obtain high(sub centimeter) accuracy at position in the area with consideration static and kinematic data processing modes. All coordinate export formats in .kml. Please ensure while exporting kml should not be using large image photograph attached in the way points captured.

Note: **Max Size of KML to be limited 2mb**

3. Create KML using Google Earth Pro for (KYA) module in PARIVESH

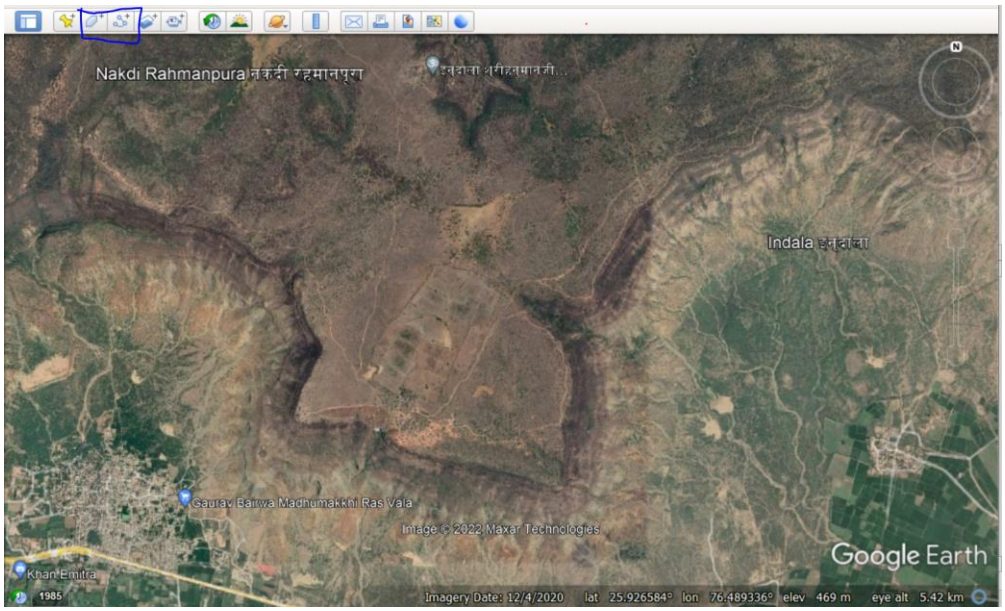
3.1 Installation of Google Earth Pro for KML Creation

Download Google Earth Pro for OS used for the generation of KML e.g, https://google-earth-pro.en.softonic.com/download

Open the Google Earth Pro from the icons 

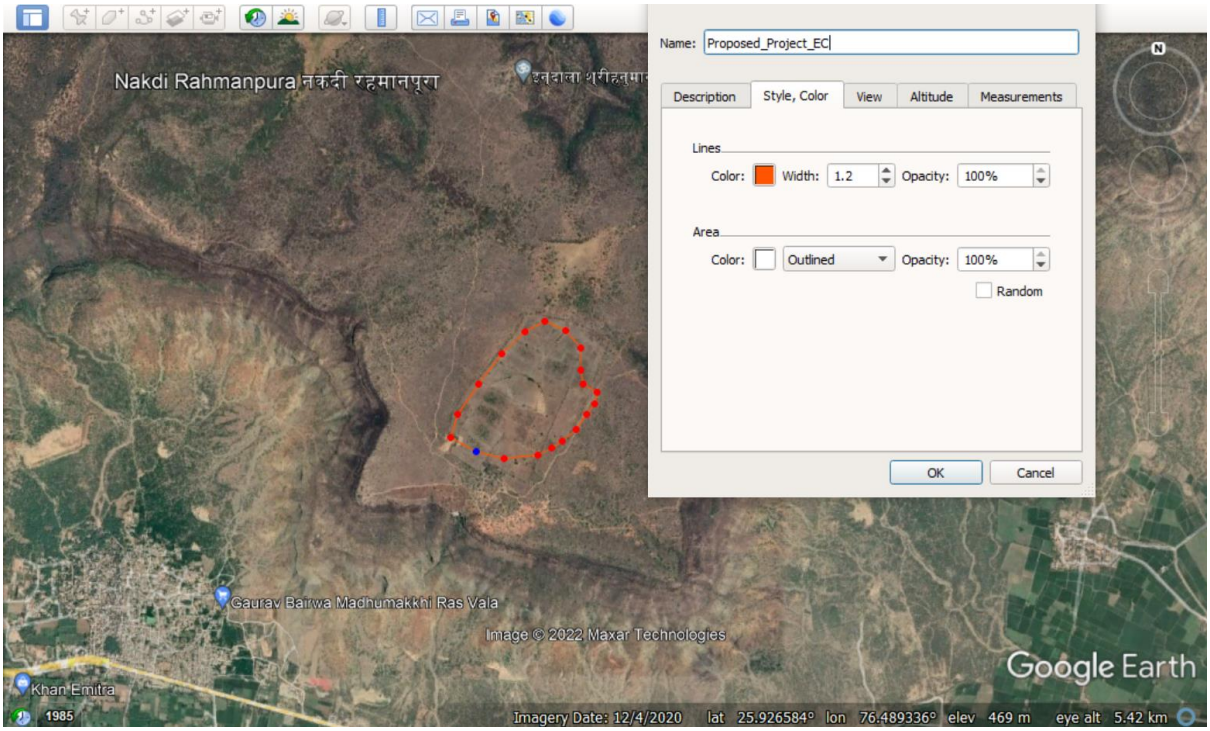
3.2 Zoom to the AOI

Open Google Earth Pro app and based on search & zoom locate your Area where proposed plan of Infrastructure project. Select draw polygon tool as per below icons.

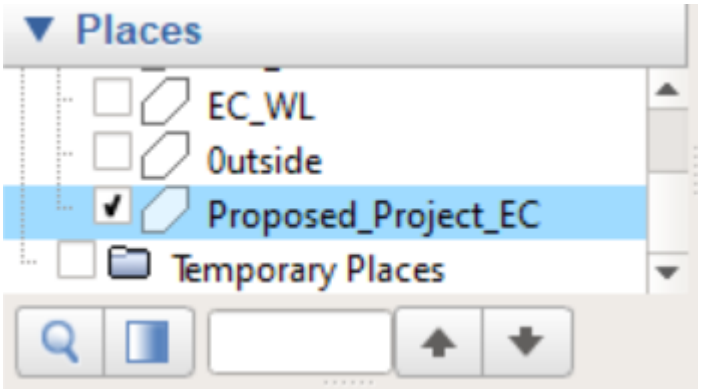


3.3 Draw boundaries

Using click on draw polygon tool with small interval to get the correct & accurate boundaries. Pls. use the style & color setting

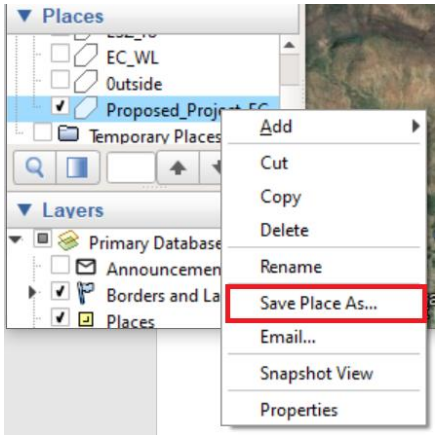


Press ok to continue, the file will be available in the place holder

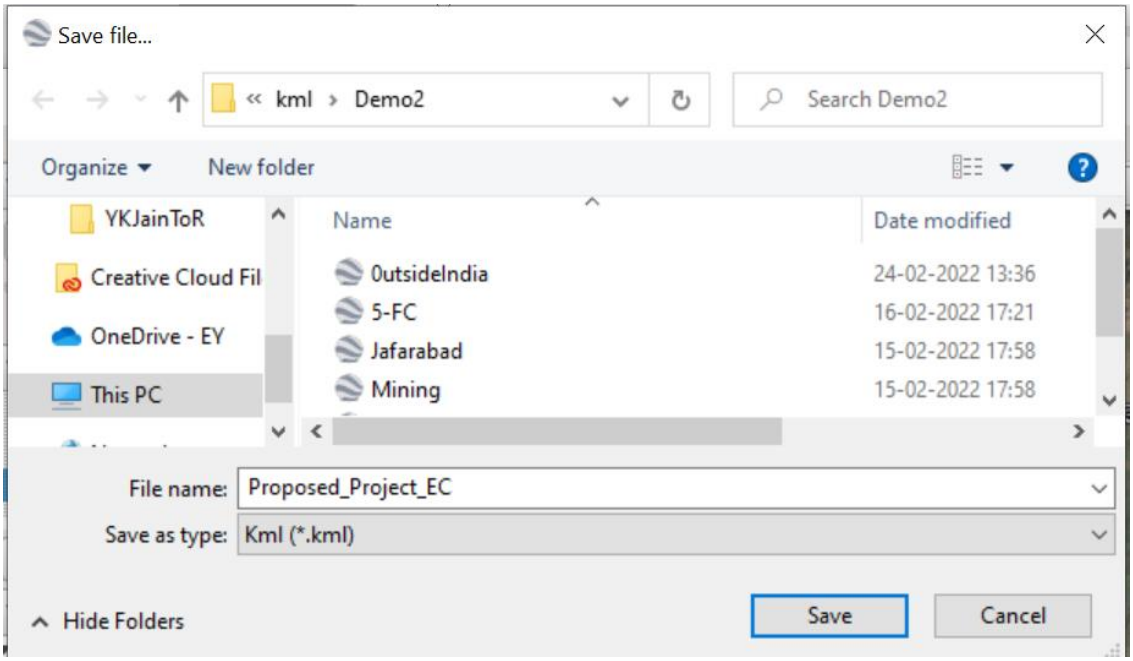


3.4 Save file as .kml

Right click on highlighted kml generated, from the places as depicted in the below screenshots.



In the file save option select .kml option as per below screenshot



4. Unsupported Scenario

Kml file size more than 200 mb

KMZ file

TBM image in the way point should not be exported in KML

Multi geometry KML segment should be less than 200