

# Building & Construction Projects And Township & Area Development Projects

Environmental Clearance and other Statutory Permissions



*The Consultancy & Engineering Solutions for the Sustainable Environment*

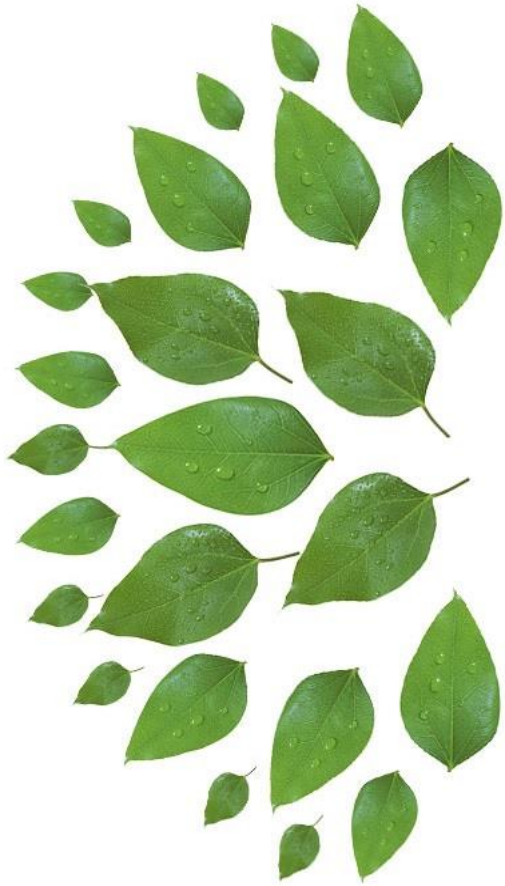
उद्योग- “बायोम”

*“Balance the Innovative Opportunities into Heave for the Management of environment to protect the earth”*

Biohm Office (705) Luxuria Business Hub, Near VR Mall, Dumas Road  
Surat-395007 (Gujarat) India



# THE FIVE MANTRAS OF BIOHM



- ❖ *Be Kind with Nature!*
- ❖ *Improve the Environmental conditions!*
- ❖ *Overcome the Pollution Potential!*
- ❖ *Hope for the Best. Do the things Right at very first.*
- ❖ *Manage the environment to protect the earth*



# ABOUT BIOHM

- ❖ Biohm Consultare Private Limited (*BIOHM-बायोम*<sup>TM</sup>) established in 2018 having its registered office at 705, Luxuria Business Hub, Near VR Mall, Dumas Road Surat.
- ❖ It comprises a team of highly talented professionals, who work in sync with clients ensuring that the defined assessment, survey or reporting is executed with high level of efficiency.
- ❖ Our proficient team consists of Environmentalists, Engineers, Chemists, Geologists, Industrial hygienists, Technicians, Research Associates, Sociologists, Policy makers, Economist, Legal Advisors and others with expertise in various key areas.
- ❖ The personnel with BCPL has a proven successful track record of working with industry and institutions and in executing multi-faceted projects funded by organizations like World Bank, Asian Bank, MoEFCC, SEAC/SEIAA, amongst others.



# BIOHM VALUES

## ❖ *Safety*

- We create a working environment that promotes safe performance.



## ❖ *Quality*

- We always strive for excellence in the services we provide and in the results we produce.



## ❖ *Integrity*

- We are committed to the highest ethical standards.



## ❖ *Creativity*

- We believe in looking at challenges and opportunities and in exercising our curiosity.



## ❖ *Accountability*

- We take responsibility for all of our decisions and actions.

ACCOUNTABILITY



## ❖ *Teamwork*

- We work together to succeed.





## BIOHM POLICY

- ❖ Biohm is dealing with Environmental Consultancy and Engineering Solutions which satisfies the statutory, regulatory, stakeholders' and others' requirement.
- ❖ BCPL has commitment towards quality services through systematic techniques confirming constant development through intermittent reviews of performance.



# BIOHM SERVICES AT GLANCE

- Environment Clearance (EIA)
- Forest Clearance
- Wildlife Clearance
- CRZ Clearance
- Carbon Credit Scheme
- Infrastructure Development
- CGWA Permission
- Water Audit / Budgeting
- Green Building Certification
- Consent to Establish/Consent to Operate under Air and Water Act
- Authorizations for Hazardous Substances/Bio medical waste
- No Objection Certificate - Forest Diversion / Non-Forest Land
- Wildlife Conservation Plan/Mangrove Management Plan
- No Objection Certificate - from Revenue Department /Authority
- No Objection Certificate - Storage of Diesel/Hazardous Chemical/PESO
- Half Yearly Environment Compliances
- Submission of Form V/Form IV- Environment Financial Statement
- Environmental Audits
- Safety Audit
- Risk assessment- HAZOP, Hazid, Tree Analysis etc.
- Modelling Studies
- Geospatial Studies/GIS Studies
- Geology and Hydrological Studies
- Social Studies (SIA), R&R, RAP
- Land Use /Land cover studies
- Marine Studies
- Environment Legal Advice
- Waste Water Treatment –Consultancy, Design & Management
- Design and Architect
- DPR and Feasibility Report
- Environmental Testing







# ENVIRONMENTAL CONSULTANCY SERVICES FOR BUILDING & CONSTRUCTION PROJECTS AND TOWNSHIP & AREA DEVELOPMENT PROJECTS

- ▶ Environment Clearance
- ▶ Land Use /Land cover studies
- ▶ Waste Water Treatment – Consultancy, Design & Management (STP)
- ▶ CTE from Gujarat Pollution Control Board (NOC), CTE Amendments
- ▶ NOC From Airport
- ▶ NOC From Fire-station
- ▶ NOC From Forest Department
- ▶ NOC From Water Supply Department
- ▶ NOC From Power Supply Department
- ▶ NOC Form Transportation Department
- ▶ NOC For DG set
- ▶ Fire Load Calculation
- ▶ Energy Audit
- ▶ Safety Audit
- ▶ Water Sprinkler system
- ▶ Green Building Development (As per MoEF&CC)
- ▶ Land space Management



# LIST OF PROJECTS OR ACTIVITY REQUIRED PRIOR EC

| Project or Activity |  | Threshold Limit  |   | Conditions if any  |
|---------------------|--|--|---|--|
| (1)                 | (2)                                      | (3)  | (4)   | (5)  |
| 8                   |  | <b>Building /Construction projects/Area Development projects and Townships (category B projects)</b> |   |  |
| 8(a)                | Building and Construction projects       |  | $\geq 20000$ sq.m and $< 1,50,000$ sq.m. of built-up area               | (Built up area for covered construction; in the case of facilities open to the sky, it will be the activity area ) |
| 8(b)                | Townships and Area Development projects. | -  | Covering an area $\geq 50$ ha and or built up area $\geq 1,50,000$ sq.m | All projects under Item 8(b) shall be appraised as Category B1   |





# SCREENING OF PROJECTS AREA DEVELOPMENT PROJECTS

## ❖ Category A (EIA Required)

If Project is located within 10 Km from:

- Protected areas notified under the wildlife.
- Critically polluted areas as identified by the central pollution control board from time to time.
- Eco sensitive area as notified under section 3 of the Environmental (Protection) Act, 1986.

## ❖ Category B

### ❖ Category B1 (EIA Required)

- Projects covering an area or with built up area more than 1,50,000 sq.m.

### ❖ Category B2 (EIA not required)

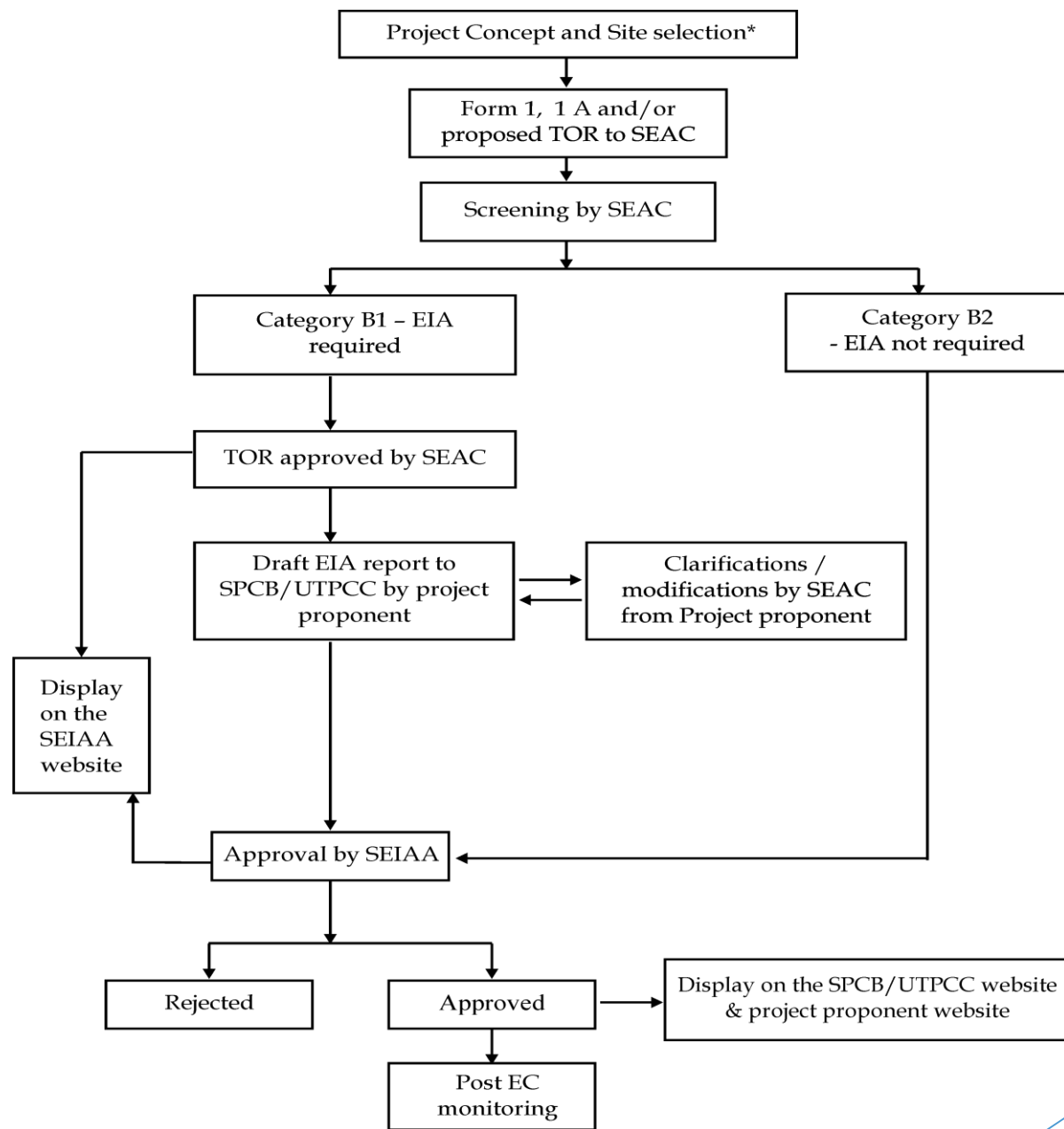
- Projects covering an area or with built up area less than 1,50,000



# SCOPING OF THE PROJECT:

Scoping is a process of interacting between government agencies and project proponents.

- ▶ Scoping identifies:
  - Spatial and temporal boundaries for the EIA.
  - Important issues and concerns.
  - Information necessary for decision making.
  - Significant and factors to be considered.
- ▶ Establishes TOR for EIA
- ▶ Meant For :
  - Category A
  - Category B1 Projects
- ▶ Importance of scoping:
  - Helps facilitate efficient EIA by identifying appropriate areas for consideration.
  - Prevents unnecessary expenditures and time delays from oversights or unnecessary area of study.
  - Ensure that important issues are not overlooked.



Flow Chart Environmental Clearance Process for Category B Projects



## ❖ EIA STRUCTURE

1. Introduction
2. Project Description
3. Description of environmental
4. Anticipated Environmental Impact & Mitigation Measures
5. Analysis of Alternatives ( Technology & Site )
6. Environmental monitoring Program
7. Additional Studies
8. Project Benefits
9. Environmental cost benefit analysis
10. Environmental management plans
11. Summary & conclusion
12. Disclosure of Consultants Engaged





# IMPACTS OF BUILDING & CONSTRUCTION PROJECTS AND TOWNSHIP AND AREA DEVELOPMENT PROJECTS



## ➤ Impact on Noise

- Noise Pollution
- Noise generated by Construction equipment
- Noise from Diesel generator operations
- Increase in transport noise from within the site from near by roads

## ➤ Air Pollution

- During Construction phase
- Increased Vehicular movement
- Emissions from waste created

## ➤ Impacts on land/Soil

- Compaction of soils by earth moving equipment
- Erosion and modification of surface
- Over exploitation of agricultural soils due to future development in a zone sensitive to erosion

## ➤ Impact on Water

- Use of large quantities of water in curing
- Use during the operational phase by residence for routine activities



# PROJECT DESCRIPTION

- ▶ The description of the project to be given to understand the likely overall impact of the project construction and operational phases on various facets of environment:

## Location

- General location
- Specific location
- Project boundary and project site layout

## Site Selection

- Conformation of proposed development to master plan/Development plan of the area.
- Identification of Natural Hazard prone area and land use zoning regulation according to that.
- Project implementation schedule.





# DESCRIPTION OF ENVIRONMENTAL

- As discussed earlier the impacts of the project, need to have the baseline data for the respective environmental facets. Thus baseline data need to be collected for the following area :
  - Site development area
  - Area with angular distance of 5 km/10 km surrounding the site
  
- For the following environmental facets :
  - Land Environment
  - Water Environment
  - Air Environment
  - Noise Environment
  - Biological Environment
  - Socio-Economic Environment
  - Solid Waste







# ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

## ❖ Impacts during construction phase

- Land environment
- Loss of agriculture land due to land acquisition for residential development
- Generation of solid waste in the form of construction spoils
- Water environment
- Impact on the local water source due to use of construction water.
- Water pollution due to sediment load in construction water and waste water from construction camps.
- Air environment
- Dust, noise and gaseous pollution from construction equipment and traffic.
- Social environment
- Sanitation and hazards due to inflow of construction labour
- Improved economic activities and trade opportunities in the region.





## ❖ Impact during the operation phase

- ▶ Land environment
- ▶ Disposal of domestic solid wastes
- ▶ Water environment
- ▶ Disposal of sewage
- ▶ Air environment
- ▶ Air pollution due to vehicular emission
- ▶ Noise pollution due to traffic noise
- ▶ Social environment
- ▶ Demand for additional resources like water and electricity.





# MITIGATION MEASURES

## Land Environment

- 1.The quantity of earth generation from cutting shall be used as filling material during site development.
- 2.Dumping areas will be biologically reclaimed.

## Water environment

- 1.Implementation of suitable disposal methods of sedimentation/construction debris in tune with the local condition to avoid water logging at construction.
- 2.Proper drainage and sanitation facilities shall be provided at the construction site.
- 3.Formation of stagnant water pools will be eliminated to avoid soil erosion and breeding of mosquitoes.



## Air environment

- construction materials would be stored in covered stores or enclosed spaces.
- Low emission construction vehicles and generation sets should be used.
- It would be ensured that all the vehicles plying during construction are properly tuned and maintained to keep emission within the permissible limits.
- Regular inspection of haul roads and construction site should be carried out to ensure regular and timely removal of construction debris to the dumping sites.
- Construction machinery should be in good working condition and engines turned off when not in use.

## Noise generation

- Low construction equipment should be used as far as possible.
- It would be ensured that the equipment used during construction is properly maintained to keep noise emissions within the permissible limits.
- Construction machinery should be in good working condition and engines turned off when not in use.



## ► Biological environment

- Avenue plantation is proposed to be implemented.
- Provision of cooking fuel construction workers to avoid cutting/felling of trees for fuel wood. Wherever possible, site cooking will be avoided.

## ► Social environment

- Significant number of semi-skilled and unskilled labourers would be recruited from the nearby area to create some employment opportunities and sense of well being among local people. This will also reduce social tension of migration.
- Some of the construction materials like stone chips and sand will be procured locally. Thus, there is a possibility of generation of local trading opportunities.
- Provision of construction camps facilities at designated and demarcated sites for all construction workers with the following amenities:
  - a) Adequate potable water supply
  - b) Washing facilities for worker.
  - c) Solid waste collection and disposal system
  - d) Primary health facilities at construction site



# ENVIRONMENTAL MONITORING PROGRAM

Environmental monitoring will be required to manage the effectiveness of the mitigation measures and to report to the regulatory authorities.

## Project Construction Phase

The construction environmental management plan will contain on-site guidelines for contractors specifying appropriate construction practices pertaining to the following:

- Occupational health and safety hazards
- Generation of dust from excavated soil and air borne cement particles
- Generation of noise by lorries, excavator, mechanical loader among others
- Carrying off of materials (excavated soil, construction wastes and materials) by surface water run off
- Generation and disposal of solid waste

## Project Operational Phase

The operation of the proposed developments will be guided by environmental management systems. The main focus in developing these plans will be on:

- Energy conservation
- Water conservation
- Minimising waste generation
- Waste disposal
- Sewage treatment
- Occupational health and safety hazards that workers may be exposed to
- Preventive maintenance
- Emergency response planning
- Sustainable Resource Management
- Environmental awareness



# ADDITIONAL STUDIOS

- ▶ Public Consultation
- ▶ Risk Assessment
- ▶ Social Impact Assessment
- ▶ R&R Action Plans





## PROJECT BENEFITS

- ▶ Improvement in the physical infrastructure of project, ancillary industry that may come up on account of the project
- ▶ Improvement in the social infrastructure like roads, railway, townships, housing, water supply, electrical power, drainage, educational institutions and hospitals etc.
- ▶ Employ potential skilled; semi-skilled and unskilled labour both during construction and operation phases of the project with specific attention to employment potential of local population as well as necessity for imparting any specialized skills to them to be eligible for such employment in the project on a long term basis i.e., during operational and maintenance stages of the project.



# ENVIRONMENTAL COST BENEFITS ANALYSIS

- ▶ Cost–benefit analysis (CBA) is a systematic approach to estimate the short and long term consequences
- ▶ measuring all costs and all possible profits and benefits from an investment project proposal
- ▶ taking into account both quantitative and qualitative factors
- ▶ ECBA: Environmental impacts of projects/policies are often externalities, both negative and sometimes positive
- ▶ CBA seeks to attach monetary values to external effects so that they can be taken account of, along with the effects on ordinary inputs and outputs



# ENVIRONMENTAL MANAGEMENT PLAN

- ▶ The Environment Management Plan is needed to ensure that the mitigation measures specified in the EIA will actually be complied with when the project is approved for implementations.
- ▶ The EIA report should include a description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of EIA. The facilities to be included are:
  - ▶ Water supply and management
  - ▶ Electricity supply and management
  - ▶ Infrastructure maintenance
  - ▶ Effective controls and building management systems
  - ▶ Solar water heating system and other energy conservation methods.
  - ▶ Green belt to mitigate dust, noise and odour near source of air pollution
  - ▶ Maintenance for rainwater harvesting structures
  - ▶ Sewage treatment plant
  - ▶ Grey water treatment
  - ▶ Spent oil from DG set.



# SUMMARY & CONCLUSION

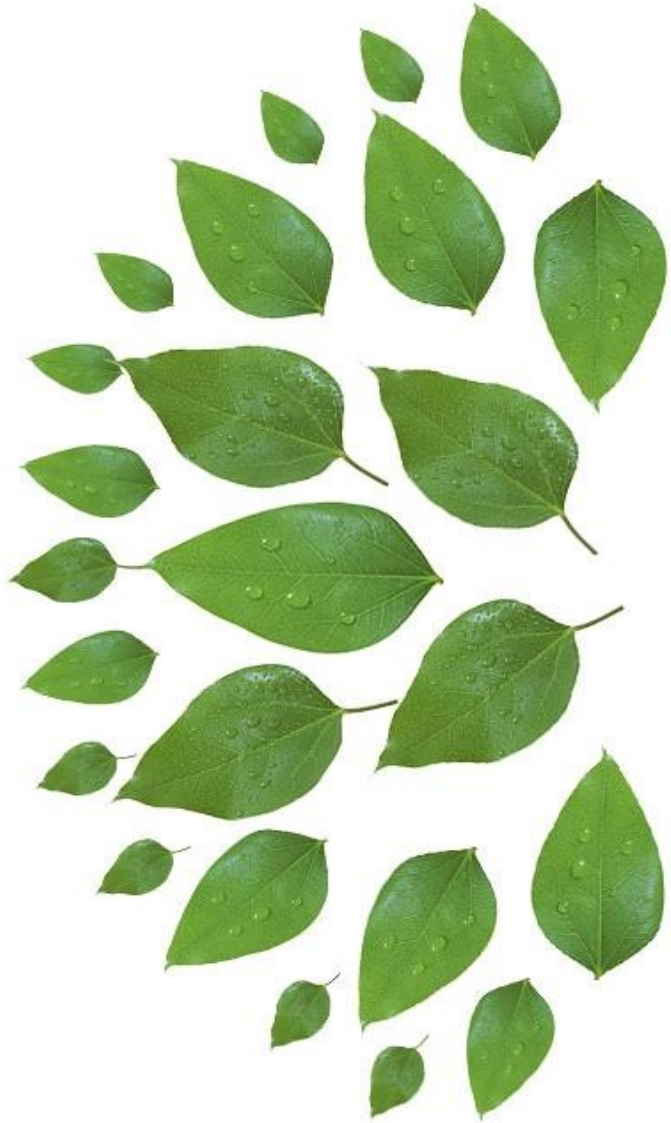
- ▶ Overall justification for implementation of the project
- ▶ It is contain:
  - Project description
  - Description of Environment
  - Anticipated Environmental Impact & Mitigation Measures
  - Environmental monitoring Program
  - Additional Studies
  - Project Benefits
  - Environment management plan



# TEAM

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- Ms. Shivangi Chandra (Env. Expert)



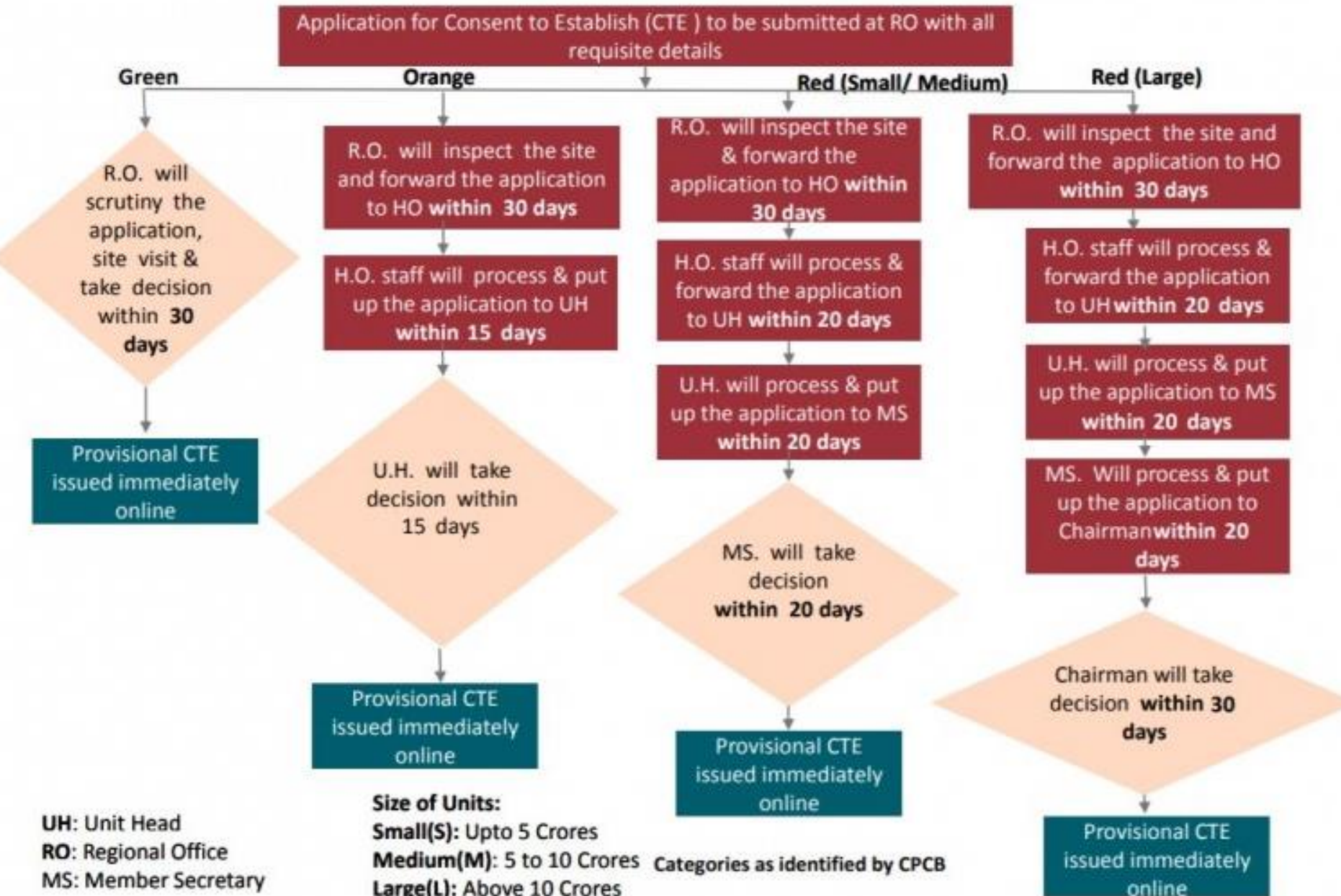
**THANKING  
YOU....!**







# CTE from SPCB/GPCB







## GPCB - Procedure for obtaining Consent to Operate(CC&A)

Maximum Number of Days for entire Process: 120 Days

