

Environmental Clearance and other statutory permissions for Building/construction projects & Township/Area development projects



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

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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™**) 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

- Environment Clearance (EIA)
- Forest/Wildlife Clearance
- CRZ Clearance
- Modelling Studies
- Marine Studies (MIA)
- Land Use /Land cover studies
- Geospatial Studies/ GIS Studies
- Geology and Hydrological Studies
- Water Audit/Budgeting
- Safety audit
- Environmental Audits
- Green Building Certification
- Wildlife/Mangrove Mgmt. Plan
- Half Yearly Compliances
- Submission of Form IV/V
- Wastewater Treatment
- Design & Architect
- Infrastructure Development
- Environmental testing
- Carbon Credit
- NOC – Forest Diversion
- NOC – PESO permission
- NOC – from Revenue Department
- Auth. for Hazardous waste
- Consent to Establish/Operate
- DPR and Feasibility Report
- Env. Legal advise
- Social Impact Assessment (SIA)
- R&R and RAP
- Risk Assessment-HAZOP, Hazid, Tree analysis, etc.





ENVIRONMENTAL CONSULTANCY SERVICES FOR CONSTRUCTION PROJECTS

- Environment Clearance (EIA)
- CRZ clearance
- Land Use /Land cover studies
- Wastewater 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/ACTIVITY FOR CONSTRUCTION REQUIRED PRIOR EC

| Project or Activity | | Threshold Limit | | Conditions if any |
|---------------------|--|--|--|---|
| (1) | (2) | (3) | (4) | (5) |
| 8 | - | Building /Construction projects/Area Development projects and Townships (category B projects) | | |
| 8(a) | Building and Construction projects | - | ≥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 ≥ 50 ha and or built up area ≥1,50,000 sq.m | All projects under Item 8(b) shall be appraised as Category B1 |

- ❑ All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) will be appraised on the basis of **Form 1/ Form 1A** and Pre-feasibility report(PFA-conceptual plan).

8(A) BUILDING AND CONSTRUCTION PROJECTS

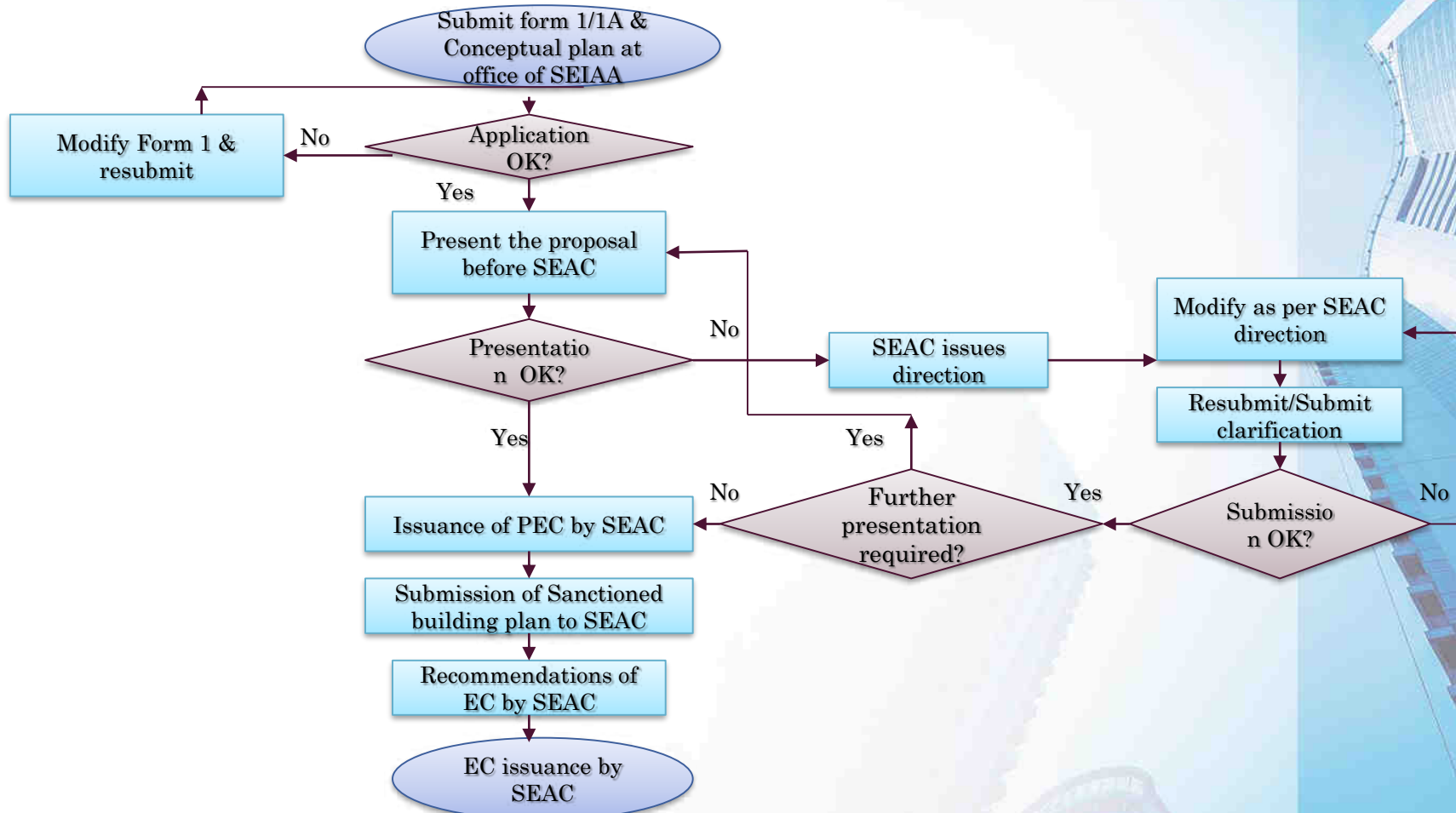
□ Key terms:-

| S.NO. | NAME | DEFINATION |
|-------|------------------------|--|
| 1. | Construction | The creation of building something, typically a large structure. |
| 2. | PFR | Pre-feasibility report include accessibility of the project site, availability of resources, probable impact on environment and inhabitants near the site, historical data of natural disaster, fund required for the project and its possible source etc. with conceptual plan of building/construction. |
| 3. | Land use/Land cover | <ul style="list-style-type: none">• Land cover refers to the surface cover on the ground, whether vegetation, urban infrastructure, water, bare soil or other.• Land use refers to the purpose the land serves, for example, recreation, wildlife habitat, or agriculture. Land use applications involve both baseline mapping and subsequent monitoring, |
| 4. | Green belt Development | A green belt development is development of an area of land with fields or parks or tree plantation around a building/construction. |
| 5. | Water management | Water management is the activity of planning, developing, distributing and optimum use of water resources under defined water polices and regulations. |
| 6. | STP | Sewage treatment is the process of removing contaminants from municipal wastewater, containing mainly household sewage plus some industrial wastewater. |
| 7. | NOC | NOC is a type of legal certificate issued by any agency, organization, institute or, in certain cases, an individual. It does not object to the covenants of the certificate. |

| S.No. | NAME | DEFINATION |
|-------|------------------------|---|
| 8. | CTE | As per provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 all new intending projects (Developmental & Industrial) are required to obtain "Consent to Establish"(popularly termed as NOC) from State Pollution Control Board. |
| 9. | EC | Environmental clearance is the procedure to get clearance from the government for the 'installation' and 'modification' of certain projects. |
| 10. | EIA | Environmental Impact Assessment (EIA) is an important management tool for ensuring the optimal use of natural resources for sustainable development. |
| 11. | Fire loading | <ul style="list-style-type: none"> • The fire loading of a building or compartment is a way of establishing the potential severity of a hypothetical future fire. • It is the heat output per unit floor area, often in kJ/m², calculated from the calorific value of the materials present. • Fire loading is used for evaluating industrial safety risks. |
| 12. | Safety audit | A safety audit is a general term used to describe an activity where a facility gathers information about one or more aspects of the workplace in order to evaluate the risk levels for health or safety issues. |
| 13. | Energy audit | An assessment of the energy needs and efficiency of a building or buildings. |
| 14. | Water sprinkler system | Sprinkler system employing automatic sprinkler heads attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers. |
| 15. | Land space management | It is sustainable and efficient use of land. |



PRIOR EC PROCESS FOR CATEGORY (8) PROJECTS





- ❑ **Form 1:-** An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1.

- ❑ **Form 1A :-** It is only for construction projects listed under item 8 of the Schedule.
 - It is Check list of environmental impacts.
 - (Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)

- ❑ **Conceptual plan of building/construction projects:-** A conceptual site plan is essentially a forecast of the development potential of the property.
 - It provides a road map to accomplish visions from concept to reality.

- ❑ **Prefeasibility report:-**
 - The pre-feasibility report should invariably provide a broad outline of the following aspects; however, should details of some of the aspects listed hereunder are not available, project proponent should clearly indicate so and provide an indicative/representative information on such aspects.
 - While the pre-feasibility report should be brief, the minimum information required for scoping and prescribing TORs should be made available therein.





8(B) TOWNSHIPS AND AREA DEVELOPMENT PROJECTS

- Township in general, is self contained and integrated in the social infrastructure needs, services, shopping, entertainment and waste management.
- Infrastructure and services include road network, water supply and management, electricity supply and management and proper communication services.
- Social infrastructure includes Schools, Medicare, Air ports, Bridges, Railway stations, Recreation and Community centre.
- Shopping centre with adequate facilities should be housed in the township itself.
- Proper waste management including garbage collection, segregation, treatment and disposal with the township should be provided.
- Maintenance of infrastructure and proper security and safety of the residents is to be ensured.





IMPACTS OF TOWNSHIP AND AREA DEVELOPMENT PROJECTS

❑ The environmental impacts of Township And Area Development Projects Include:-

➤ **Impacts on Land;**

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

➤ **Impacts on Water;**

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

➤ **Air Pollution;**

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





IMPACTS OF TOWNSHIP AND AREA DEVELOPMENT PROJECTS

➤ **Noise Pollution;**

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

➤ **Biological Environment;**

- Loss of Biology because of site clearance

➤ **Socio-economic Impacts;**

- Has both positive and negative impacts
- Cultural Impacts and well being
- Demographic changes

➤ **Waste generated;**

- Construction or demolition waste
- Municipal waste





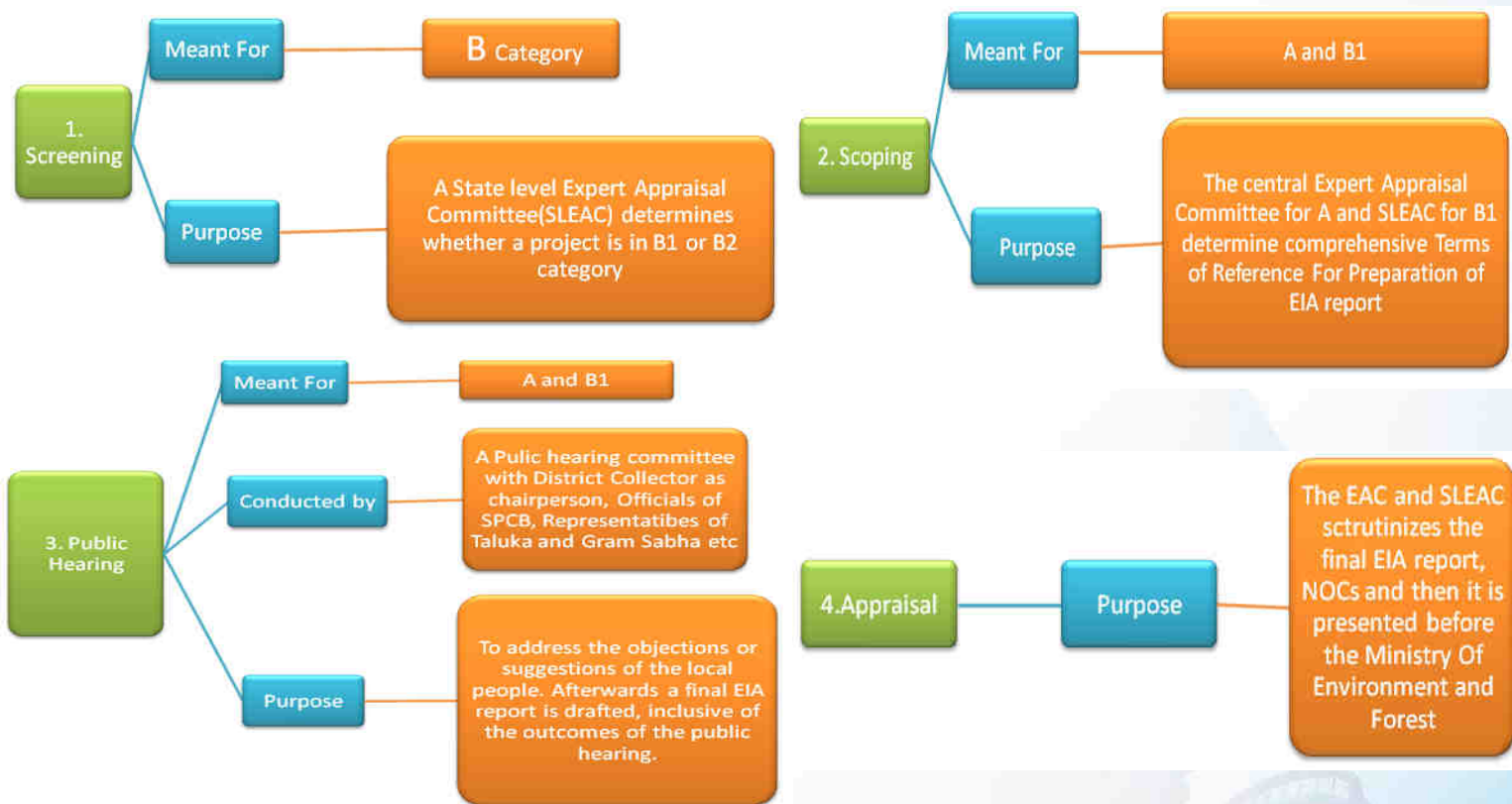
EXPANSION OF PROJECT

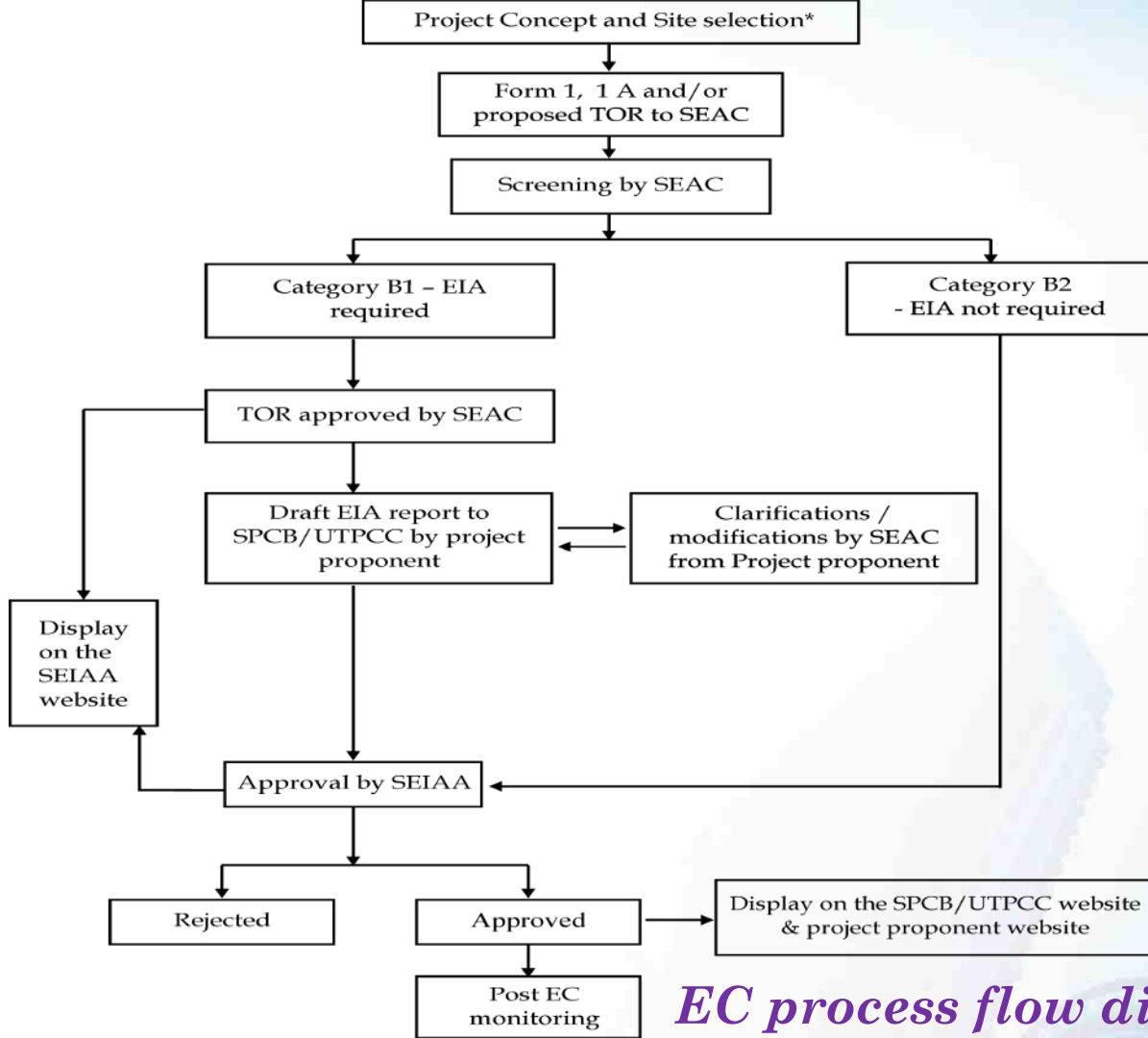
- ❑ In case of expansion/ modernization of the project:-
 - The environmental compliance status for the existing project should be furnished for the following:
 - Status of Environmental Clearance and compliance for the terms & conditions for the existing project.
 - Validity of the Air & Water Consent orders, and Hazardous Waste Authorization (HWA) from SPCB/ PCC for existing project.
 - Notices/directions issued by the regulatory agencies under:
 - Section 33(A) of the Water Act,1974 as amended
 - Under section 31(A) of the Air Act 1981 as amended
 - Any directions issued under the provisions of the E(P)Act, 1986 during the last one year.





EC PROCESS FOR TOWNSHIPS AND AREA DEVELOPMENT PROJECTS





EC process flow diagram



EIA REPORT STRUCTURE

❑ Structure of Environmental Impact Assessment Document In terms of the EIA notification of the MoEF dated 14th September 2006, the generic structure of the EIA document should be as under:

1. Introduction,
2. Project Description,
3. Description of the Environment,
4. Anticipated Environmental Impacts & Mitigation Measures,
5. Analysis of Alternatives (Technology and site),
6. Environmental Monitoring Programme,
7. Additional Studies,
8. Project Benefits,
9. Environmental cost benefit analysis,
10. Environmental Management Plan,
11. Summary & Conclusion,
12. Disclosure of Consultants engaged.



1. Introduction;

- Purpose of the report
- Identification of project & project proponent
- Brief description of nature, size, location of the project and its importance to the country, region
- Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)

2. 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.
 - If area is outside municipal limits then Justification of the proposed development should be provided.
 - Identification of Natural Hazard Prone Area and Land use zoning regulations according to that.
- Manpower requirement according to the various categories of skilled unskilled and technical during the construction face and details of compliance of Acts related to employee service and welfare.
- Project implementation schedule.





EIA REPORT STRUCTURE

3. Environment description: baseline data needs to be collected for the following Area:

- Site development area
- Area with angular distance of 2kms surrounding the site For the following environmental facets: □
 - Land Environment
 - Water Environment
 - Air Environment
 - Noise Environment
 - Biological Environment
 - Socio-economic Environment
 - Solid Waste

4. Anticipated impact and mitigation measures: baseline data for environmental facets should be used to:

- Classy Impacts in the presentation as :
 - Direct and Indirect
 - Cumulative impacts
 - Prediction of Impact during Construction Phases and Operational Phases
- Predict Impact (have already been listed in previous slides) during construction phase and operating phase of the project and Mitigation measures For the following environmental facets:
 - Land Environment
 - Water Environment
 - Air Environment
 - Noise Environment
 - Biological Environment
 - Socio-economic Environment
 - Solid Waste





EIA REPORT STRUCTURE

5. Analysis of alternatives (Site and Technology)

- In case, the scoping exercise results in need for alternatives this chapter shall include:
 - Description of various alternatives like site or technologies studied
 - Positive and Negative impacts of each alternative to be listed for comparison
 - Suitable avoidance/mitigable methods can be given for each of the alternative provided
 - Summary of adverse impact of each alternative
 - Selection of alternative.
- ☐ Alternative technologies Use of alternative technology to conserve energy and ensure wellbeing of society should stress on :
 - Building Materials;
 - Wall
 - Roof
 - Superstructure
 - Roads and open spaces
 - Green Buildings
 - Indoor Environmental Quality
 - Community issues.
 - Energy Conservation Adopt energy efficient technologies for conservation of energy. Should discuss some important recommendations of the energy conservation building code and the National building code 2005 on energy conservation.
 - Transportation A well-planned road network both within the township and connecting to the nearest highway or main road need to be established so that proper communication links are established.





6. Environmental monitoring program:-This includes the technical aspects of monitoring the effectiveness of mitigation measures.

- The description of the monitoring programme should include:
 - A technical plan which spells out in detail the methodologies for measurement, the required frequencies of measurement, the planned location of measurement, data storage and analysis, reporting schedules and emergency procedures
 - Detailed budgets and procurement schedules for, necessary equipment and supplies, technical and administrative manpower.
 - The environmental monitoring includes
 - Air pollution
 - Noise level monitoring
 - Water quality monitoring and ground water level monitoring
 - Maintenance of rainwater harvesting pits and other water conservation methods used are to be done regularly. The entire data is to be furnished to the regulatory agencies.





7. Additional studies

- Natural Resource Conservation
- R&R Action Plan : Detailed R&R Plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment for the displaced people, civil and housing amenities being offered, etc.
- Risk Assessment and Disaster Management Plan (DMP) The overall objective of the Emergency Response Plan ERP is to make use of the combined resources at the site and outside services to achieve the following:-
 - Localize the emergency
 - Minimize effects on property and people
 - Effective rescue and medical treatment
 - Evacuation Major hazards identified include:-
 - Hazards pertaining to fires in buildings
 - Fire in diesel storage areas, garbage storage and disposal area
 - Earthquakes
 - LPG gas leak
 - Flooding from natural and man-made causes
 - Electrical accidents



8. Project benefits :An Explanation on benefits of project Should include benefits accruing to the locality, neighbourhood, region and nation as a whole.

➤ It should bring out details of benefits by way of :

- Improvements in the physical infrastructure of project, ancillary industries that may come up on account of the project.
- Improvements in the social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions and hospitals etc.
- Employment potential skilled; semi-skilled and unskilled labour both during construction and operational 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.

9. Environmental Cost Benefit Analysis:

- If recommended at the Scoping stage.





EIA REPORT STRUCTURE

10. Environmental management plan: The Environmental Management Plan (EMP) 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 sources of air pollution
 - Maintenance for rainwater harvesting structures
 - Sewage treatment plant
 - Grey water treatment
 - Treated wastewater reused for landscaping, car washing etc.
 - Spent oil from DG Sets.





EIA REPORT STRUCTURE

11. Summary report: It should necessarily cover and brief the following chapters of the full EIA report and address the following:-

- Introduction
 - Project description & Project benefits
 - Environmental Examination
 - Additional Studies
 - Environmental Management Plan and Post Project Monitoring Program
 - Environmental Risk Assessment (ERA) and Disaster Management Plan (DMP)
- The following should be highlighted in the EIA report;
- Public health and safety issues related to the project
 - The socio-economic impacts of the project;
 - New building technologies to be implemented,
 - Energy conservation measures to be implemented,
 - Statement of overall impact of the construction activity on the environment.

12. Disclosure of Consultants engaged:

- The names of the Consultants engaged with their brief resume and nature of Consultancy rendered.





CTE-CONSENT TO ESTABLISH

- As per the Water Act, 1974 and Air Act, 1981, it is mandatory to obtain Consent to Establish (NOC) from respective State Pollution Control Board before start of establishment of such industrial project.
- The process for obtaining Consent to Establish involves making an application in a prescribed format to respective State Pollution Control Board along with required documents and scrutiny fees.
- It is followed by physical inspection of the site and assessment of the environmental management system proposed so as to meet with the mandatory requirement prescribed by State Pollution Control Board.

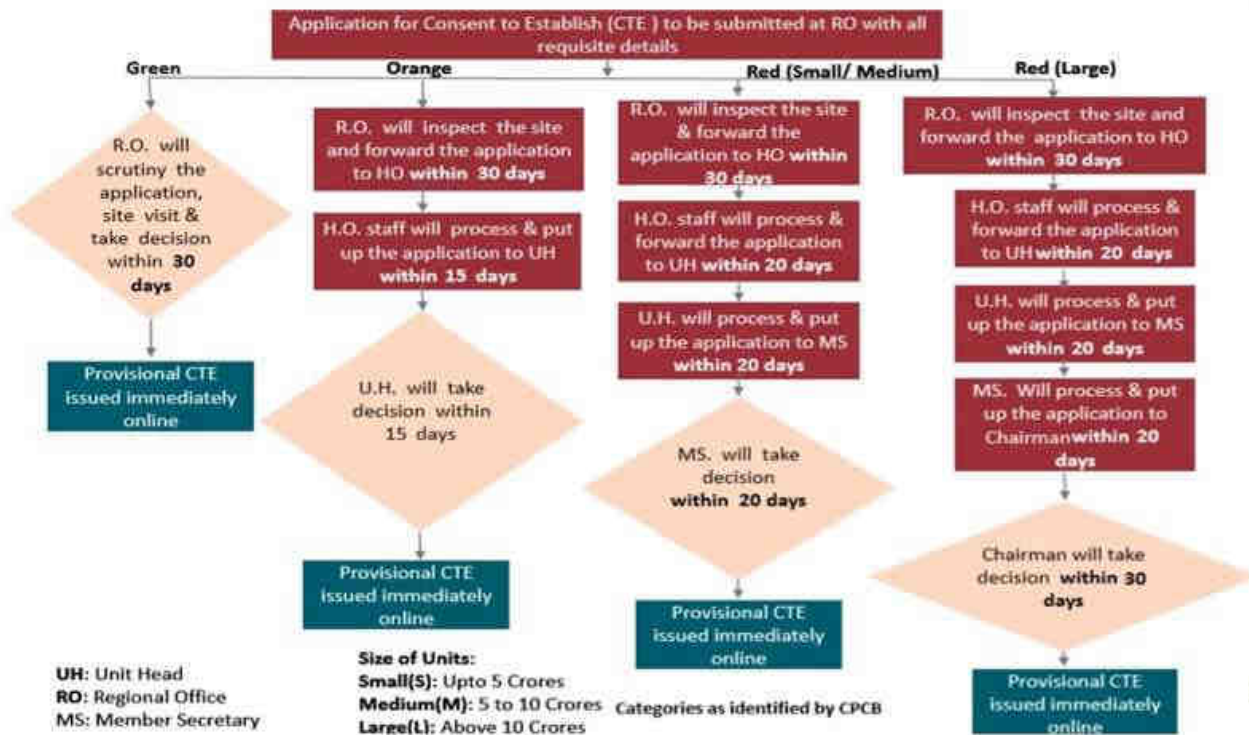




PROCEDURE OF CTE

GPCB - Procedure for obtaining Consent To Establish (CTE)

Maximum Number of Days for entire Process: 120 Days





CATEGORIES OF CONSTRUCTION/DEVELOPMENT PROJECTS FOR CTE

| Category | S. No. | Type code | Industry sector-Types |
|-----------------|---------------|------------------|--|
| Red | 63. | 1063 | Building and construction projects more than 20,000 sq. m built up area and having waste water generation 100 KLD and above. |
| | 87. | 1087 | Area/Infrastructure development projects covered under EIA notification. |
| Orange | 21. | 2021 | Building and construction project more than 20,000 sq. m built up area and having waste water generation less than 100 KLD. |
| | 52. | 2052 | New highway construction projects. |
| | 91. | 2091 | Area/Infrastructure Development Project including educational institutions, community hall, IT Park, Theme park (Not covered under EIA notification 2006). |
| | 97. | 2097 | Infrastructure development projects not covered under EIA notification. |
| | 99. | 2099 | Building and construction project \leq 20,000 sq. m built up area. |





OTHER CLEARANCES/NOC/SERVICES REQUIRED FOR CONSTRUCTION/DEVELOPMENT PROJECT

- ❑ **CRZ clearance:** The projects involving clearance under Coastal Regulation Zone Notification, 1991;
 - shall submit with the application a CRZ map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC).
 - Action shall also be take to obtain the requisite clearance under the provisions of the CRZ notification, 1991 for the activities to be located in the CRZ.
- ❑ **NOCs:** We help clients to provide; No objection certificates from different departments like;
 - Air ports,
 - Fire station,
 - Forest department,
 - Water and power supply department,
 - Transportation department and
 - For D.G. set.



❑ **Sewage treatment plant design and management:**

- The treatment of municipal waste water using STP involve the process of removing contaminants from municipal wastewater, containing mainly household sewage plus some industrial wastewater.
- Physical, chemical and biological processes are used to remove contaminants and produce treated wastewater (or treated effluent) that is safe enough for release into the environment.
- At BCPL, our environment engineers, are efficient to take care of design, civil structure, erection, commissioning, etc.
- The treated water can be recycled/reused to irrigation /dust suppression and many more as per applicability of discharge norms.

❑ **Infrastructure development:**

- Construction of STP, WTP, Road, Bridge, Building, Industrial Sheds, etc.
- At BCPL we design, construct and maintain roads, bridges, airports, tunnels, buildings, dams, water supply systems ,sewerage systems, hydro-electric projects and pretty much everything that constitutes infrastructure. Innovative ideas in the field of infrastructure can be brought by BCPL.
- There are two main types of infrastructure investments, these include: Social infrastructure, which includes schools, affordable housing and hospitals. & Economic infrastructure, which includes roads, communication, sewage, water, airports.



❑ **Safety audit:**

- Safety auditing is a core safety management activity, providing a means of identifying potential problems before they have an impact on safety.

❑ **Energy audit:**

- A energy survey is a practical step to identify, quantify and prioritize tangible opportunities to reduce energy use, costs and carbon emissions in a building or on a site.

❑ **Ground water permission from CGWA:**

- As per the recent NGT direction, all existing industrial/infrastructure/mining projects which are drawing ground water and have not obtained NOC for ground water withdrawal from CGWA, either due to its coming into existence prior to formation of CGWA or due to exemption from obtaining NOC as per earlier guidelines shall apply to CGWA for NOC.
- Procedure for granting renewal of NOC for ground water:
 - Renewal of NOC for ground water withdrawal in Notified Area is accorded after checking and verification of compliance of conditions of NOC by the concerned Authorized Officer (District Magistrate / District Collector, Deputy Commissioner etc.).
 - The Authorized officer will forward the application to the concerned Regional Director of CGWB with his recommendation.
 - The Regional Director will process the application and forward it to CGWA for issuance of NOC.



❑ **Land Use/Land Cover Studies based on remote Sensing:**

- Land Use and Land Cover mapping is of great significance in scientific, scholarly research, planning and management.
- Regional land use pattern reflects the character of interaction between man and environment and the influence of distance and resources based on mankind's basic economic activities.
- Remotely sensed satellite images provide a synoptic overview of the whole area in a very short time span.





Thank you

