

Design Guidelines Recommendations

Recommendations for Design Guidelines

Design guidelines ought to be enforced whenever any action will modify the built or the natural environment. Guidelines should be put in place regarding architectural character, the disposal and management of waste, storm water management, lighting, water usage, and control over the regulations applying to building limits, among many others. Local architecture and preservation of landmarks enhance the experience of tourists and residents alike, and maintain the character of the village. The village has the opportunity to maintain its character, not by limiting growth, but by ensuring it takes place in a sustainable way that will provide a future for Agonda. The natural environment should not be compromised for the sake of new developments, as it is the source of Agonda's wealth, character and livelihood for its residents.



Short Term Goals

Create a Design Guidelines Document



Participants recommended creating Design Guidelines for developments in Agonda. With the priorities already set, the next step would be to gather information about the best practices for each of the areas for which suggestions were made. The Goa College of Architecture is willing to help in this process and it was proposed that the students, guided by professors and professionals in the field, would partner with the Panchayat of Agonda to create the guidelines. Once this is done, the document can be taken to the Gram Sabha for consideration for how it can be implemented. The entire community would need to be familiarized with best practices and start implementing them as they are able to.

* Lighting in the streets was an important factor raised in the workshop, as part of the road network as well. We recommend that the Panchayat hire technical advisers to run a study to design a comfortably well-lit environment for the community simultaneously avoiding impacts to the natural ecosystems, using the minimum amount of light. We recommend that the beach area be conserved as it is, without lighting. In the case of the streets, LEED, a green-building rating standard, recommends a value not greater than 0.01 horizontal and vertical foot-candles; it also recommends that no light should be emitted at an angle of 90 degrees or higher from nadir (1). It is important that the recommendations take into consideration the right level and type of lighting to avoid impacts to the natural environment and wildlife habitat in Agonda.

Parties Involved

GCA, technical advisers and core planning committee.

Scope of work

- Roads
- Lighting *
- Sidewalks
- Signage
- Native Landscaping
- Green Infrastructure
- Storm Water Management and Drainage
- Soil Erosion Control
- Coastal Zone Regulations
- Natural habitat Protection and Buffers
- Beach Access
- Sustainable Site Development
- Streetscape and Architectural Character
- Building Materials and Technology
- Parking and Traffic Circulation

Short Term Goals (continued)

Traffic Circulation Pattern Study



It is recommended that special attention be given to the road network in Agonda, as it is not specifically tackled in the RPG 2021, where the main focus is on primary roads and highways. Minor changes as lighting, permeable pavement and space for pedestrians in secondary roads can be developed easily and will make a substantial improvement in the life of the community.

In order to achieve this, it is recommended to study the circulation pattern of Agonda and where possible explore one-way streets for vehicles in order to give space for sidewalks, turning them to pedestrian oriented roads.

Parties Involved

Technical advisers and core planning committee

Scope of Work

- Traffic Volumes During Peak Hours
- Modal Split (including vehicular classification)
- Traffic Generators
- Parking Needs Assessment
- Public Transportation Access
- Pedestrian- Vehicular Conflicts and Accident Data
- Current Traffic Regulations
- Hierarchy of Road Networks
- Demarcation of Public Right-of-Way (ROW), which may include carriageway, sidewalks and street infrastructure

Preserve Agonda's Beach and Mangroves



Agonda's natural environment is of great value. This is emphasized by the fact that the beach provides a turtle nesting habitat. Noise, light pollution and garbage can affect the turtles, and their preservation should always be taken into consideration regarding roads, infrastructure, beach usage, lighting and noise. The same applies to mangroves: pollution from light industrial activities or storm water runoff should be avoided.

Parties Involved

Core planning committee and Panchayat

Scope of Work

- Inform people of the value of their environment
- Avoid pollution and promote effective solid waste management
- Integrate preservation into design guidelines and regulations

Short Term Goals (continued)

Regulate Signage



Main road in Agonda



Commercial road in Palolem; to the south of Agonda, is experiencing heavy tourism pressure, notice the signage difference between the two.

Regulation of signage is also critical to preserve character and avoid unorganized and unpleasant roads filled with publicity. Regulations of signage design should be enforced to avoid streets from being cluttered with lights and signs that are unattractive. Originality can be encouraged, yet limited by restrictions that maintain uniformity in terms of character to maintain a harmonious streetscape.

Parties Involved

GCA, core planning committee and the Panchayat

Scope of Work

- Regulate signage by integrating rules into design guidelines

Appropriate village signage could also provide clear direction and guidance for citizens in way-finding. It can assist in easily locating necessary facilities such as medical centers and community support resources. Clear signage can play an important role in preparing for emergencies.

Signage can also be used for environmental awareness and education. In Agonda interpretative signage could inform visitors and residents about the sensitive ecology and encourage environmental stewardship.

Long Term Goals

Develop a Road Network Plan and Street Typology



This recommendation is made as a continuation of the first two recommendations of this section. Once the Design Guidelines Document and the Traffic Circulation Pattern Study are made, the road network can be implemented.

Parties Involved

Core planning committee and Panchayat

Scope of Work

- Prioritize Infrastructure Development Projects for Implementation
- Assign the teams that should work in each project
- Design the projects that were chosen as a priority
- Start with implementing a pilot project

Implement a Drainage and Watershed Management Plan



Storm water management projects require that explorations be made before new developments, such as hydrology, topography, historic floods, and drainage patterns, among others. Sites should be accordingly selected in order to avoid pollutants from reaching water bodies. Stagnant water should be avoided, so as to prevent mosquito breeding.

In Agonda, special consideration should be made to storm water management because of the wealth of water bodies, such as the Arabian Sea, creeks, estuaries and paddy fields. As far as farmland is concerned, pesticides and fertilizers should be carefully used/selected in order to avoid pollution in storm water runoff. An interest was shown to preserve and enhance farmland, yet expert advice should be sought to avoid pollution from chemicals used to grow faster, bigger crops. A Drainage and Watershed Plan could help in managing infrastructure and regulating new developments.

As part of a waste management plan, and in relation to the drainage and watershed plan, sewage and solid waste being dispersed by storm water runoff could be addressed. One important observation is that garbage management is an issue affecting many parts of Goa. This is of serious concern because of the threats posed to the environment. Further, whenever a garbage management site is proposed (as in the case in southeast Agonda Panchayat), it is essential to select the site carefully because when solid waste becomes exposed to the elements, toxins and contaminants are released, and can gradually make their way to water bodies, including groundwater. It was mentioned during the workshops that most of Agonda's drinking water comes from wells, so preventing groundwater pollution is critical.

Parties Involved

GCA, technical advisers, core planning committee and the Panchayat

Scope of Work

- Inform people of the value of their environment
- Integrate storm water management practices into a design guidelines document and building codes
- Integrate storm water management practices into a waste management plan
- Regulate new developments and consider the impact they may have on the environment
- Preserve existing creeks and other forms of natural storm water infrastructure
- Consider the impact of storm water runoff in industrial and agricultural uses

Long Term Goals (continued)

Parking and Beach Access Considerations



According to participants attending the workshops, parking is a serious issue affecting the citizens of Agonda. Before designating a site for this use, an environmental impact assessment should be performed, along with studies concerning traffic volumes, patterns and circulation. Designing a parking along a beach access needs careful attention. Appropriate landscaped buffers with native vegetation and other measures need to be created between the sensitive environments and such intensive uses to avoid impacts. It is not recommendable to place a parking lot very close to the beach because of the impact on the turtle habitats, the cleanliness of the beach, erosion, noise, informal commerce and the overall quality of life. Perhaps a site east of the main commercial road of Agonda could serve as parking, and within walking distance to the beach and commercial activities in Agonda. The site should also be selected where road infrastructure exists and once the necessary studies have been done.

Permeable surfaces can be used to prevent flooding, but special attention should be made to avoid groundwater sources from being polluted by chemicals or oils from automobiles. In any case, a parking site would require a buffer or barrier to avoid circulation issues with pedestrians and cars. It should be noted that storm water flow might be affected by building impervious surfaces such as roads and parking lots.

Access to the beach should be available to all, not just hoteliers and tourists staying in beach-front properties. A visible, properly sized beach access could be located within walking distance from the parking site. Yet it could itself be a landmark that adequately connects the beach with the main tourist thoroughfare, not just a passageway. The only beach access appeared to be a few hundred meters north of St. Anne's in a narrow dark alley filled with trash.

Parties Involved

GCA, technical advisers, core planning committee and the Panchayat

Scope of Work

- Regulate new developments and consider the impact they may have on the environment
- Consider traffic circulation patterns, road networks and street typologies
- Consider environmental, social and cultural impact of new infrastructure

Plan for Emergencies



Planning for emergencies is an efficient way to respond in case of an urgent situation, such as storm surge, flooding, and even rising sea levels due to climate change. An evacuation plan to higher ground, for instance, could address this issue, as well as a clear route to hospitals/possible shelters or medical facilities.

Parties Involved

GCA, core planning committee and the Panchayat

Scope of Work

- Consider traffic and circulation patterns, storm water management infrastructure and plan for ways to address emergencies
- Consider village map and signage with directions to an evacuation center or emergency facility