



GREEN HIGHWAYS

ABOUT 100 KM OF BAMBOO GREEN ROAD PROJECT

GREEN HIGHWAYS

- FIR TREES, PALMS, AND BAMBOO
- NEW SUSTAINABLE FLORA AND FAUNA ECOSYSTEM
- TWO MILLION BAMBOO PLANTS
- ABOUT 100 KM OF BAMBOO GREEN ROAD PROJECT
- GREEN LIGHT



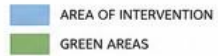
GREEN HIGHWAY PROJECT

SUSTAINABLE INFRASTRUCTURE
FOR A DESERT LANDSCAPE

1. PROJECT CONTEXT

The project area is located in a desert environment, along a strategic road corridor that connects urban centers and industrial zones.

The intervention aims to improve road infrastructure and integrate a continuous green system to enhance environmental quality, provide shade and create ecological corridors.



2. SITE PLAN



3. GREEN CORRIDOR CONCEPT



SHADE

REDUCTION OF
SURFACE TEMPERATURE



AIR QUALITY

CO₂ ABSORPTION AND
POLLUTION REDUCTION



BIODIVERSITY

CREATION OF ECOLOGICAL
CORRIDORS



LANDSCAPE

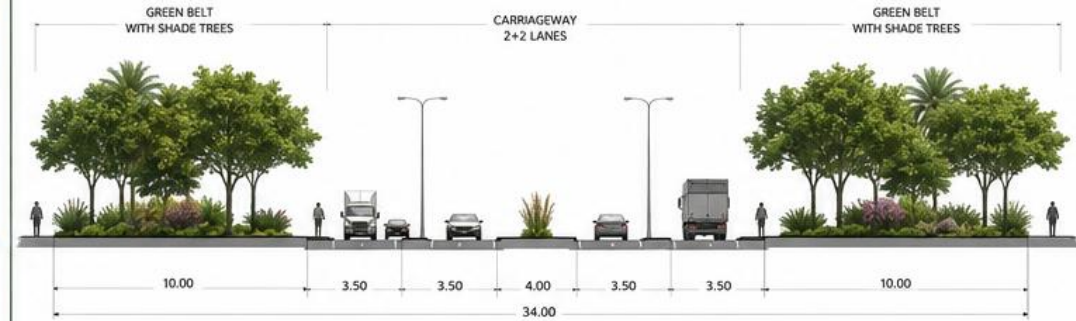
VISUAL INTEGRATION
AND AESTHETIC VALUE



WELL-BEING

IMPROVED COMFORT
FOR ROAD USERS

4. TYPICAL CROSS SECTION



5. PLAN VIEW



6. VEGETATION LAYOUT OPTIONS

TYPE A
CONTINUOUS DOUBLE
ROW OF TREES



TYPE B
TREES + SHRUBS +
MEDIAN GREEN BELT



TYPE C
PALMS + NATIVE SPECIES
FOR DESERT CLIMATE



7. DESIGN OBJECTIVES



CREATE SHADED CORRIDORS
TO IMPROVE THERMAL COMFORT



REDUCE CO₂ EMISSIONS
AND IMPROVE AIR QUALITY



USE DROUGHT-TOLERANT
NATIVE PLANTS



ENHANCE LANDSCAPE QUALITY
AND VISUAL IMPACT



INCREASE SAFETY AND
WELL-BEING FOR ROAD USERS



ABOUT 100 KM OF BAMBOO GREEN ROAD PROJECT

- The "bamboo highway" refers to an innovative engineering method used on the future area in road project in rural area. Workers used roughly different millions of bamboo poles, woven into 16 layered rafts and sunk under sand, to stabilize soft ocean silt and create a firm foundation for the road.





TWO MILLION BAMBOO PLANTS

GREEN HIGHWAY

DESERT ROAD INFRASTRUCTURE & LANDSCAPE REDEVELOPMENT

INTERVENTION AREA — SATELLITE VIEW

PROPOSED VEGETATION CORRIDORS

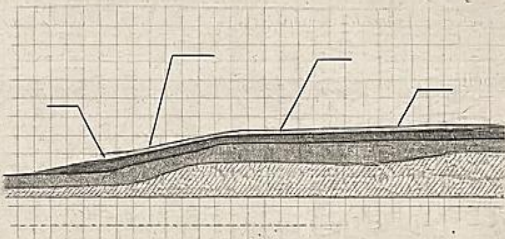
EXISTING INFRASTRUCTURE



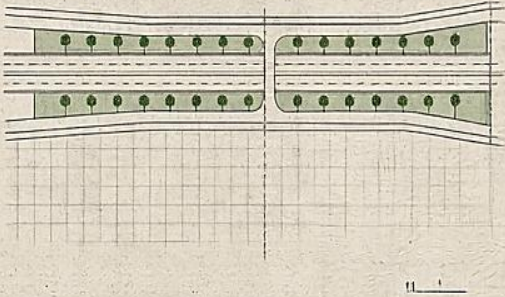
LINEAR TREE-LINED STRIP

TECHNICAL DRAWING

CARRIAGEWAY CROSS-SECTION



PLAN VIEW — GREEN HIGHWAY LAYOUT



- TRAFFIC LANES
- PARKING / REST AREAS
- GREEN STRIPS
- IRRIGATION LINE
- TREE SPECIES — DATE PALM · ACACIA · OLIVE

SCALE 1:500



GREEN INFRASTRUCTURE

Investing in green infrastructure means building a resilient future. Bamboo is a fast-growing, natural resource that absorbs CO₂, restores ecosystems, and creates long-term environmental and economic value.



NATURAL CARBON SINK

Bamboo absorbs up to five times more CO₂ than equivalent tree species. Its rapid growth and deep root system make it one of the most effective solutions for climate change mitigation and soil regeneration.



RENEWABLE BY NATURE

Bamboo regenerates quickly without the need for replanting. It supports local communities, creates green jobs, and strengthens sustainable land use for future generations.



CO₂ ABSORPTION
High carbon capture capacity for a healthier planet.



**ENVIRONMENTAL
RESTORATION**
Improves soil, protects water resources, and enhances biodiversity.



**SOCIO-ECONOMIC
BENEFITS**
Creates employment, supports communities, and drives green growth.



NATURAL SOUND BARRIER, BETTER ENVIRONMENT

Dense bamboo vegetation acts as an effective natural acoustic barrier, reducing noise pollution from roads and highways. Its thick foliage and vertical structure absorb and deflect sound waves, creating quieter, healthier, and more livable environments. Ideal for green corridors, urban edges, and infrastructure projects seeking sustainable and beautiful solutions.



HIGHWAY NOISE REDUCTION
Protects communities from traffic noise and improves quality of life.



GREEN CORRIDORS
Connects landscapes, supports biodiversity, and enhances ecological networks.



SUSTAINABLE SOLUTION
A natural, durable, and low-maintenance barrier for a greener tomorrow.

GREEN INFRASTRUCTURE

Sustainable infrastructure is essential for a resilient future. Bamboo is one of the fastest-growing plants on Earth, playing a vital role in restoring ecosystems, enhancing biodiversity, and capturing carbon dioxide. Its natural strength, renewability, and adaptability make it an ideal material for building a greener, more sustainable world.



Building a greener tomorrow 



Natural Acoustic Barriers

Bamboo vegetation forms an effective natural sound-absorbing barrier that can significantly reduce road noise from nearby highways and other traffic sources.

Dense bamboo groves can reduce noise levels by up to 10–15 decibels, creating a quieter, healthier environment for communities and wildlife.

Beyond noise reduction, bamboo enhances the landscape, improves air quality, supports biodiversity, and contributes to carbon sequestration—absorbing up to 12 tons of CO₂ per hectare each year.

Bamboo corridors can also serve as green infrastructure, linking natural habitats, supporting sustainable transport networks, and creating resilient ecosystems.

In regions facing desertification and extreme climates, bamboo plantations can help stabilize soil, reduce erosion, and restore vegetation cover, supporting long-term environmental health.



CO₂ Absorption



Noise Reduction



Habitat Support



Sustainable Future

GREEN INFRASTRUCTURE



Bamboo stands at the intersection of ecological restoration and sustainable development. Its rapid growth cycle, exceptional carbon sequestration capacity, and structural versatility make it a cornerstone species for modern environmental investment. Across continents, bamboo plantations are redefining how we approach land rehabilitation, acoustic mitigation, and climate resilience.



NATURAL ACOUSTIC BARRIERS

Dense bamboo vegetation functions as an effective natural sound-absorbing barrier along transportation corridors. The layered canopy and dense culm structure dissipate road noise while simultaneously improving landscape quality, stabilizing soil, and creating continuous green corridors that connect fragmented habitats. In arid regions, these living barriers also moderate microclimates and reduce dust.



Project – First Phase Not Implemented

The first phase of the project was planned as an initial development and implementation stage, intended to establish the necessary technical, organizational, and operational foundations for the subsequent phases.

However, **the first phase was not implemented**. The activities originally envisaged for this stage were therefore not initiated, and no operational results were achieved during this phase.

The project remains at the **pre-implementation stage**, with the initial objectives, technical requirements, resources, and implementation procedures still available for future development. Any subsequent phase will depend on the formal activation and completion of the first phase, including the necessary feasibility assessments, planning activities, financing arrangements, and technical preparation.

This status does not represent the cancellation of the project, but rather indicates that the **initial phase has not yet been carried out** and will need to be formally launched before the project can proceed to the next stages.

