

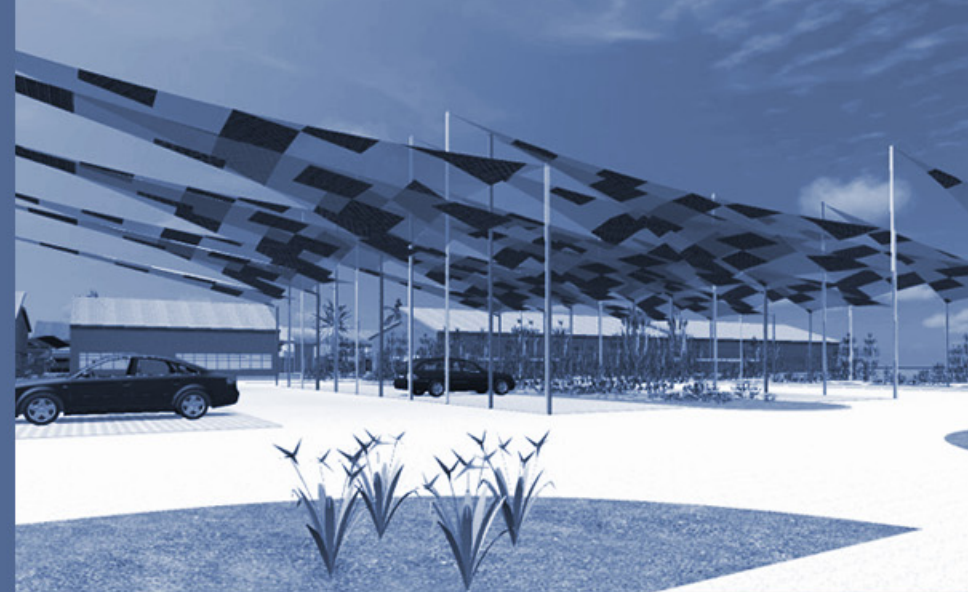
# SITE



EMERGENCY ENTRANCE



SITE ENTRANCE



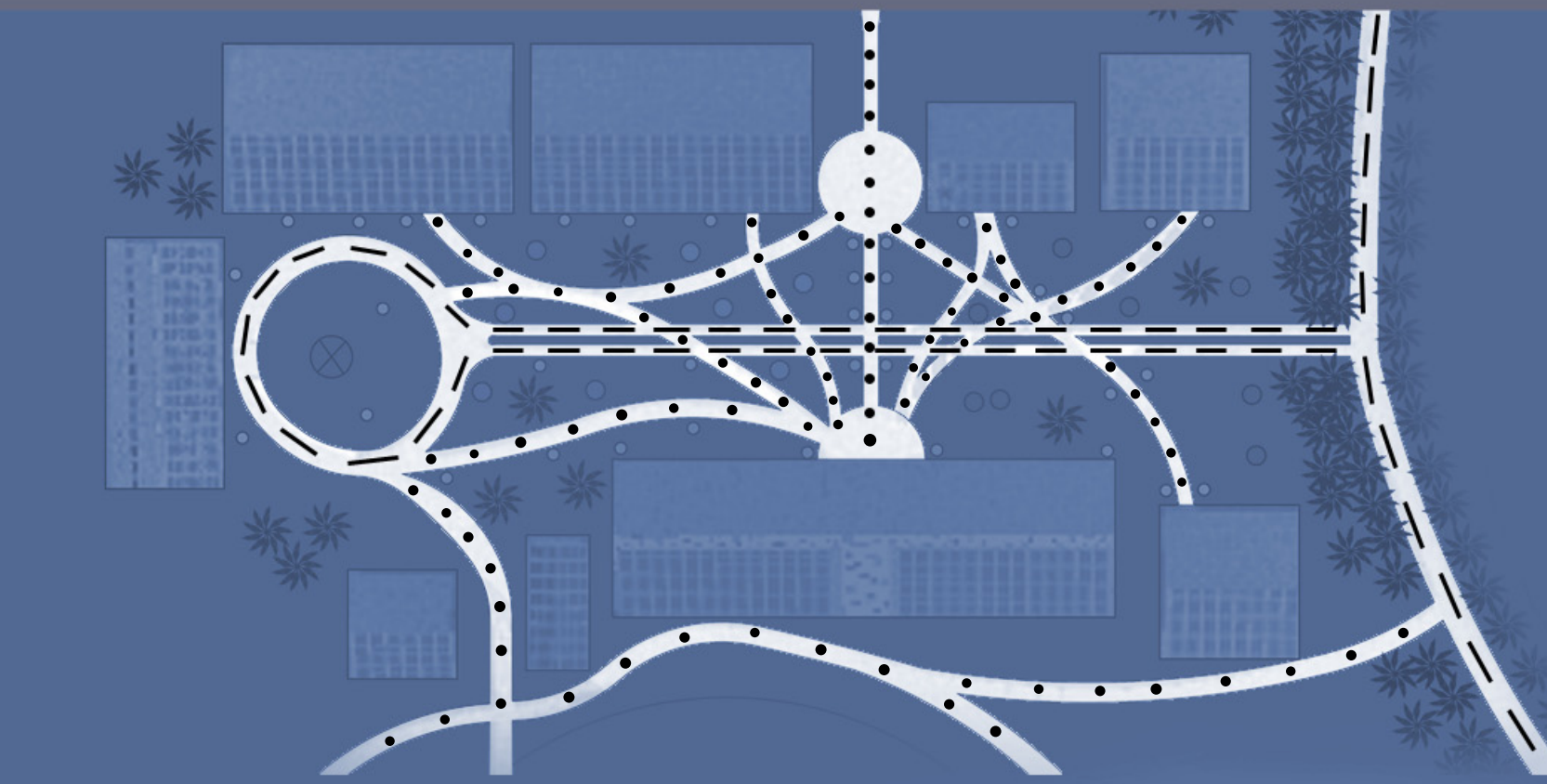
PARKING LOT



ENTRANCE TO QUAD



PATHS IN QUAD



●●●● PEDESTRIAN TRAFFIC  
 - - - - VEHICULAR (& EMERGENCY) TRAFFIC



## 4 OZONE WATER TREATMENT

RAINWATER CAUGHT ON THE ROOF OF THE LAB AND SURROUNDING BUILDINGS IS KEPT IN CISTERNS, WHERE IT AWAITS PURIFICATION VIA OZONE TREATMENT. THIS PROCESS REMOVES IMPURITIES VIA OXIDATION AND UV STERILIZATION. THE RESULTING WATER IS CLEAN ENOUGH TO DRINK, ESTABLISHING A SOURCE OF POTABLE WATER.

## 5 BIODIESEL GENERATION

DIESEL FUEL PRODUCED FROM REFINED COCONUT OIL BURNS CLEAN AND ACTUALLY REMOVES CARBON FROM THE AIR, AND IT GENERATES WASTE PRODUCTS THAT ARE COMPLETELY BIODEGRADABLE AND USABLE IN INDUSTRY-RELATED PRODUCTS. ENERGY GENERATED BY COCONUTS IS SMALL, BUT IT HAS OTHER BENEFITS TO THE ISLAND'S ECONOMY (CREATING JOBS, AWARENESS, AND COMMERCE). ELECTRICITY GENERATED BY BURNING THE FUEL WILL GO TOWARDS POWERING HIGH-ORDER ENERGY DEMANDS IN THE LAB (LIGHTING & ELECTRONICS), WHILE WASTE HEAT FROM THE GENERATOR WILL DRIVE HALF OF THE TWO-STAGE ABSORPTION CHILLER FOR THE AC.

## 6 SCULPTURES AND SHADES

SCULPTURAL ELEMENTS THROUGHOUT THE CAMPUS ARE INTENDED TO REINFORCE CONNECTIONS TO BOTH WATER AND MICRO-ORGANISMA. THE SHADES ARE BOTH SCULPTURAL AND FUNCTIONAL, AS THEY INTEGRATE PV CELLS WHICH POWER THE FOLLIES THROUGHOUT THE SITE.

## 7 WIND TURBINES

WIND TURBINES LOCATED ALONG BIKE PATHS TO THE SOUTH OF THE LAB BUILDING PROVIDE A RELIABLE SOURCE OF SECONDARY ENERGY, STORING UP SURPLUS POWER IN BATTERIES FOR TIMES WHEN SOLAR POWER IS UNAVAILABLE.

## 8 LIVING MACHINE

LIVING MACHINES LOCATED AROUND THE SITE PROVIDE BLACKWATER TREATMENT FOR THE LAB BUILDING. ORGANIC WASTE IS SEPARATED FROM THE WATER AND BROKEN DOWN BY A VARIETY OF MICROORGANISMS AND PLANTS, AND THE RESULTING WATER IS CLEAN ENOUGH TO REUSE FOR GRAYWATER USES (FLUSHING TOILETS, WASHWATER, IRRIGATION). THE OPEN-FACED NATURE OF THE EQUIPMENT MEANS THAT VISITORS MAY APPROACH THE APPARATUS AND STUDY IT FIRSTHAND.

## 9 SOLAR ENERGY

THE CHIEF SOURCE OF SITE-GENERATED ENERGY IS SOLAR POWER DERIVED FROM PV CELLS INTEGRATED INTO THE ROOFS OF THE LAB AND THE SURROUNDING BUILDINGS, AS WELL AS PV CELLS INCORPORATED INTO TENSILE FABRIC SHADERS LOCATED ACROSS THE SITE. ENOUGH ENERGY IS GATHERED FROM SOLAR ALONE TO COMPLETELY POWER BOTH THE MARINE BIOLOGY LAB AND VARIOUS PIECES OF ON-SITE EQUIPMENT (OZONE WATER TREATMENT PLANTS, LIVING MACHINE WASTE MANAGEMENT, LIGHTING, ETC.)

## 3 FOLLIES

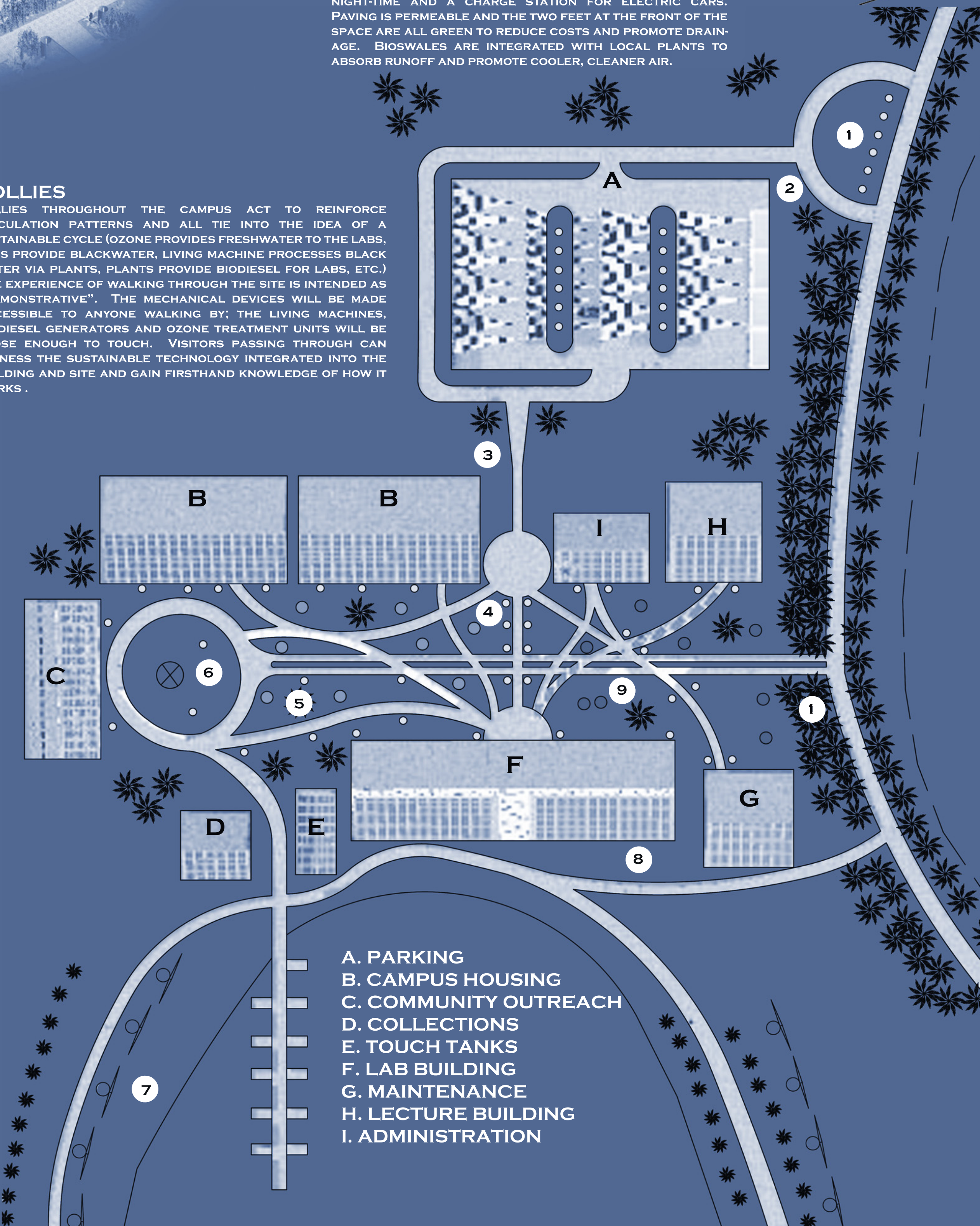
FOLLIES THROUGHOUT THE CAMPUS ACT TO REINFORCE CIRCULATION PATTERNS AND ALL TIE INTO THE IDEA OF A SUSTAINABLE CYCLE (OZONE PROVIDES FRESHWATER TO THE LABS, LABS PROVIDE BLACKWATER, LIVING MACHINE PROCESSES BLACKWATER VIA PLANTS, PLANTS PROVIDE BIODIESEL FOR LABS, ETC.) THE EXPERIENCE OF WALKING THROUGH THE SITE IS INTENDED AS "DEMONSTRATIVE". THE MECHANICAL DEVICES WILL BE MADE ACCESSIBLE TO ANYONE WALKING BY; THE LIVING MACHINES, BIODIESEL GENERATORS AND OZONE TREATMENT UNITS WILL BE CLOSE ENOUGH TO TOUCH. VISITORS PASSING THROUGH CAN WITNESS THE SUSTAINABLE TECHNOLOGY INTEGRATED INTO THE BUILDING AND SITE AND GAIN FIRSTHAND KNOWLEDGE OF HOW IT WORKS.

## 1 PLANT SPECIES

SEVERAL SPECIES OF NATIVE PLANTS WILL BE INTEGRATED INTO THE CENTER QUAD TO ENHANCE THE LEARNING EXPERIENCE BY PROVIDING INFORMATION ON LOCAL FLORA. SOME SPECIES USED INCLUDE WATER LILY, DUCKWEED, FERNS, SEA GRAPE, COCONUT PALMS AND CYPRUS GRASSES.

## 2 SUSTAINABLE PARKING

THE ON-SITE PARKING INCLUDES SHADING DEVICES THAT HAVE INTEGRATED PV CELLS WHICH CAPTURE ENERGY FOR THE LAB BUILDING. ENOUGH ENERGY IS PRODUCED TO POWER THE LAB AND FEATURES OF THE PARKING-INCLUDING LIGHTING FOR NIGHT-TIME AND A CHARGE STATION FOR ELECTRIC CARS. PAVING IS PERMEABLE AND THE TWO FEET AT THE FRONT OF THE SPACE ARE ALL GREEN TO REDUCE COSTS AND PROMOTE DRAINAGE. BIOSWALES ARE INTEGRATED WITH LOCAL PLANTS TO ABSORB RUNOFF AND PROMOTE COOLER, CLEANER AIR.



- A. PARKING
- B. CAMPUS HOUSING
- C. COMMUNITY OUTREACH
- D. COLLECTIONS
- E. TOUCH TANKS
- F. LAB BUILDING
- G. MAINTENANCE
- H. LECTURE BUILDING
- I. ADMINISTRATION