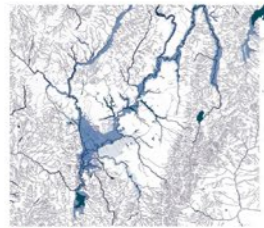


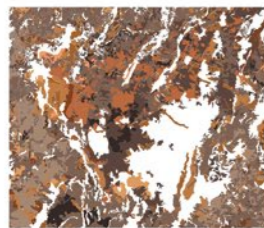
ANALYSIS



- SECONDARY VEGETATION
- DENSE FOREST
- PARKS
- SHRUBS AND GRASSLANDS
- FRAGMENTED FOREST
- NATURAL RESERVES
- WASTELANDS



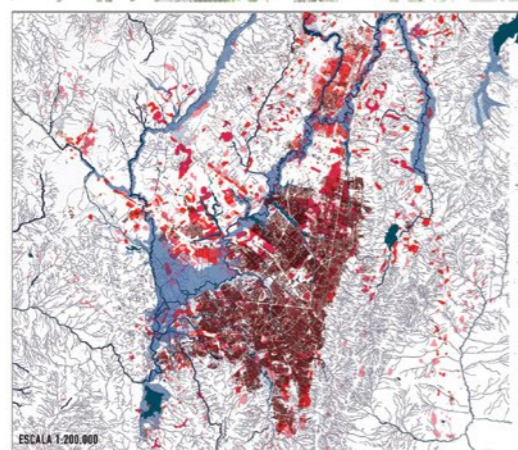
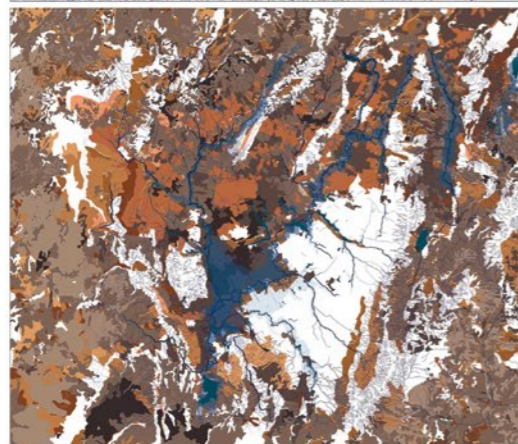
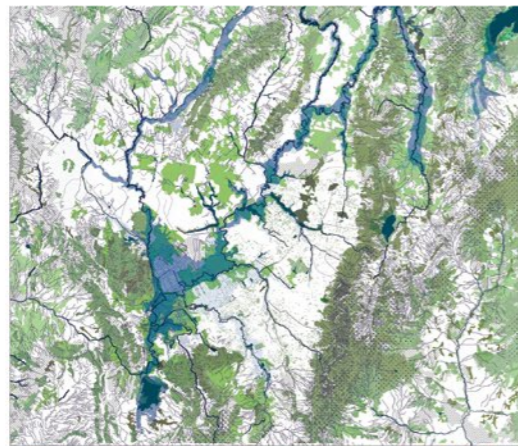
- RIVERS AND CREEKS
- LAKES AND RESERVOIRS
- ALLUVIAL VALLEY
- HIGH RISK FLOODING AREA
- CANALS
- WATER BODIES



- TRANSITIONAL CROPS
- MILK CATTLE AND TRANSITIONAL CROPS
- SEMI INTENSIVE LIVESTOCK
- MEAT CATTLE
- SPONTANEOUS VEGETATION REGENERATION
- INTENSIVE AGRICULTURE
- SEMI PERMANENT CROPS
- GRASS MOSAIC
- PERMANENT CROPS
- PERMANENT HERBACEOUS CROPS
- CONFINED CROPS



- 1990
- 2000
- 2030
- 2050



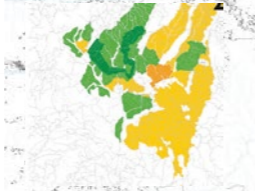
ESCALA 1:200,000

GREEN STROKES
ENVIRONMENTAL ARTERIAL PLAN
FOR BOGOTÁ REGION

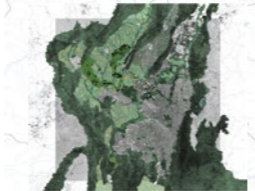
PROJECT STRATEGIES



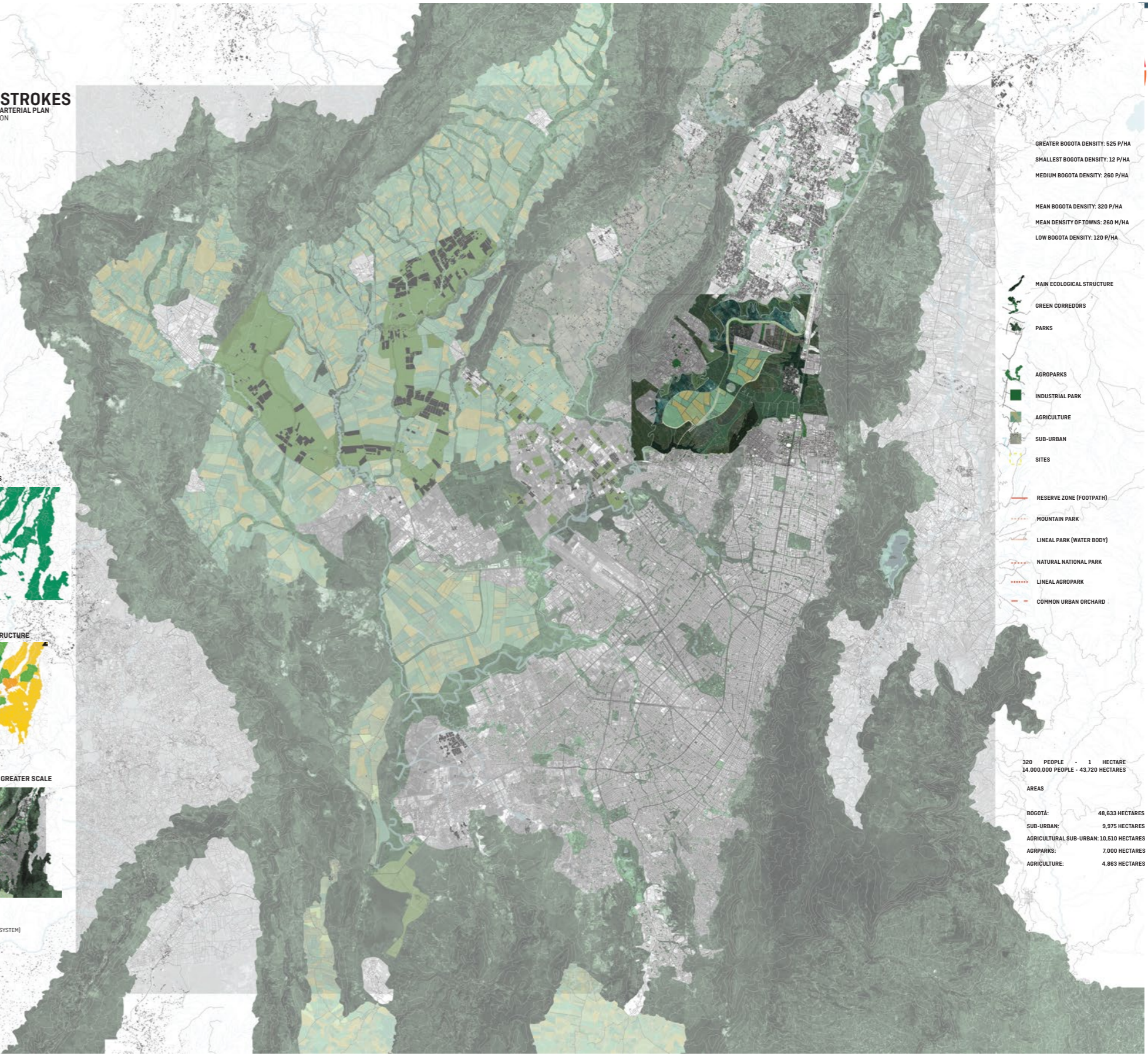
MAIN ECOLOGICAL STRUCTURE



ZONING OF USES AT A GREATER SCALE



MAIN ROUTES
(PUBLIC TRANSPORTATION SYSTEM)



GREATER BOGOTÁ DENSITY: 525 P/HA
SMALLEST BOGOTÁ DENSITY: 12 P/HA
MEDIUM BOGOTÁ DENSITY: 260 P/HA

MEAN BOGOTÁ DENSITY: 320 P/HA
MEAN DENSITY OF TOWNS: 260 P/HA
LOW BOGOTÁ DENSITY: 120 P/HA

- MAIN ECOLOGICAL STRUCTURE
- GREEN CORRIDORS
- PARKS
- AGROPARKS
- INDUSTRIAL PARK
- AGRICULTURE
- SUB-URBAN
- SITES
- RESERVE ZONE (FOOTPATH)
- MOUNTAIN PARK
- LINEAL PARK (WATER BODY)
- NATURAL NATIONAL PARK
- LINEAL AGROPARK
- COMMON URBAN ORCHARD

320 PEOPLE = 1 HECTARE
14,000,000 PEOPLE = 43,720 HECTARES

AREAS
BOGOTÁ: 48,633 HECTARES
SUB-URBAN: 9,975 HECTARES
AGRICULTURAL SUB-URBAN: 10,510 HECTARES
AGROPARKS: 7,000 HECTARES
AGRICULTURE: 4,863 HECTARES

Country / City COLOMBIA / BOGOTÁ

University / School UNIVERSIDAD DE LOS ANDES

Academic year 2019

Title of the project GREEN STROKES - ENVIRONMENTAL ARTERIAL PLAN FOR BOGOTÁ REGION

Authors SANTIAGO MURCIA BELTRÁN + MARIA GABRIELA PEÑA SALAZAR + ALEJANDRO GARCÍA MONTOYA + MARIA VERNAZA MONTAÑA + ISABELLA GONZALEZ CADAVID + SOFIA ORIZ POLONIA



TECHNICAL DOSSIER

Title of the project	RESILIENT AQUIFERS
Authors	SANTIAGO MURCIA BELTRÁN + MARIA GABRIELA PEÑA SALAZAR
Title of the course	INTERMEDIATE UNIT OF LANDSCAPE ARCHITECTURE
Academic year	2019
Teaching Staff	DIEGO BERMUDEZ + MANUELA GUZMÁN
Department/Section/Program of belonging	DEPARTMENT OF DESIGN AND ARCHITECTURE / INTERMEDIATE UNITS / UNDERGRAD ARCHITECTURE PROGRAM
University/School	UNIVERSIDAD DE LOS ANDES



Written statement, short description of the project in English, no more than 250 words

CURRENT SITUATION:

THE LARGEST DRINKING WATER RESERVES ARE FOUND IN AQUIFERS, AN UNDERGROUND VOLUME OF ROCK AND SAND THAT CONTAINS WATER. THE TILATÁ AND SABANA FORMATIONS MAKE UP THE FLUVIAL-LACUSTRINE LANDFILL OF THE BOGOTA RIVER BASIN AND, FOR THE MOST PART, LIE BELOW THE THOMAS VAN DER HAMMEN RESERVE, IN THE NORTH OF THE CITY. BUT, THE AQUIFERS RELOAD IS WEARING DOWN AND THE RESERVE GROUNDS ARE RUNNING OUT.

PROJECT SOLUTION:

THE VAN DER HAMMEN RESERVE IS ESSENTIAL FOR THE PROTECTION OF GROUNDWATER, SO THAT ITS LEVELS DO NOT DEplete. THE PROPOSAL IS BASED ON THE EXTENSION OF THREE FINGERS, WHICH AIM TO EXPAND THE COVERAGE OF THE RESERVE, THROUGH GREEN SPACES, ECOLOGICAL CONNECTIONS, SECTORS FOR HUMAN ACTIVITIES, PROTECTION ZONES, AGRICULTURAL AREAS, AGRICULTURAL AND INDUSTRIAL FLOWER PRODUCING EQUIPMENT, AS WELL AS A CONSIDERATION OF URBAN APPROACH. IN ADDITION, THE PROJECT SEEKS TO PROPOSE A ROAD INFRASTRUCTURE THAT PROTECTS THE AQUIFERS, AND THEN THEIR BIODIVERSITY, SO THAT, ULTIMATELY, A LANDSCAPE MODEL IS PROPOSED BASED ON THESE THREE ELEMENTS.

For further information

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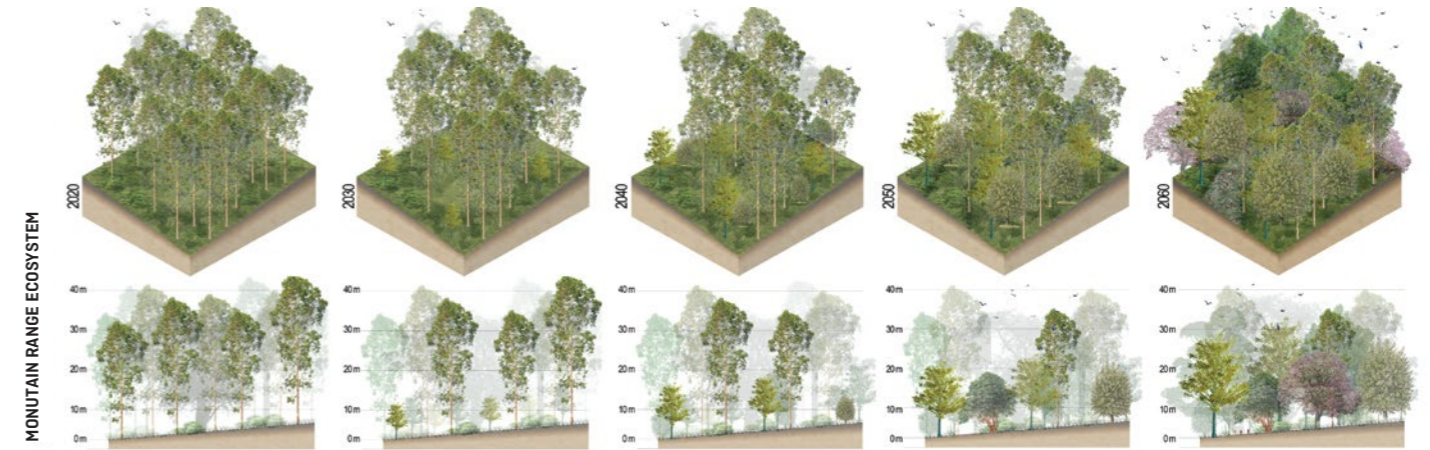


CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

Barcelona September 2020

SCHOOL PRIZE

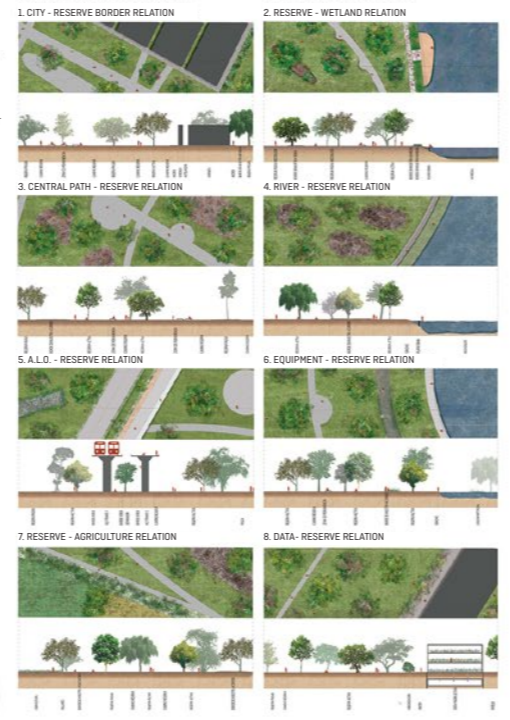


ECOLOGICAL INFRASTRUCTURE PLAN

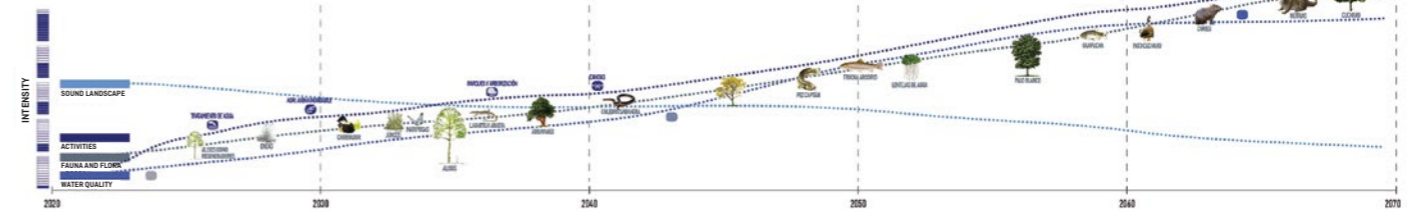
- ### AQUIFER RELOAD POINTS
- RA1. STAGNATION IN MOUNTAIN RANGE
 - RA2. COVERAGE AGRICULTURE
 - RA3. ARTIFICIAL WATER STAGNATION
 - A4. WETLANDS RELOAD
 - AS. RIVER DECELERATION
 - AS. COVERAGE AGRICULTURE
 - RA7. RAINWATER COLLECTION IN WATERPROOF SURFACES
 - * THE PERMEABILITY OF THE LANDSCAPE INFRASTRUCTURE (RESILIENT AQUIFERS), ENABLES THE FILTRATION OF WATER TOWARDS THE AQUIFERS.
- ### EQUIPMENTS AS "STEWARTS"
- STEWART: ACTIVE CENTER THAT ATTRACTS PEOPLE, AND WHICH THEN CONVERTS IN A PROTECTION PLACE FOR THE PROJECT, AND FINALLY ALLOWS THE PLAN TO WORK AS IT IS SET.
- A. FISHING ZONE
 - B. SKATING RINK
 - C. BASKETBALL COURT
 - D. CAMPING
 - E. AQUIFER RELOAD
 - F. BOTANICAL GARDEN
 - G. FOOTBALL COURT
 - H. CANDLEING LAKE
 - I. SQUARE
 - J. MEDITATION SQUARE
 - K. STUDY CENTER
 - L. KINDER GARDEN
 - M. ART GALLERY
 - N. EVENT SQUARE
 - O. MARKETPLACE
 - P. RESTAURANT SQUARE
 - Q. MUSEUM
 - R. BIRD WATCHING
 - S. WATER MIRROR
 - T. BIODIVERSITY STUDY CENTER
 - U. WATER TREATMENT
 - V. AGRICULTURAL MARKET



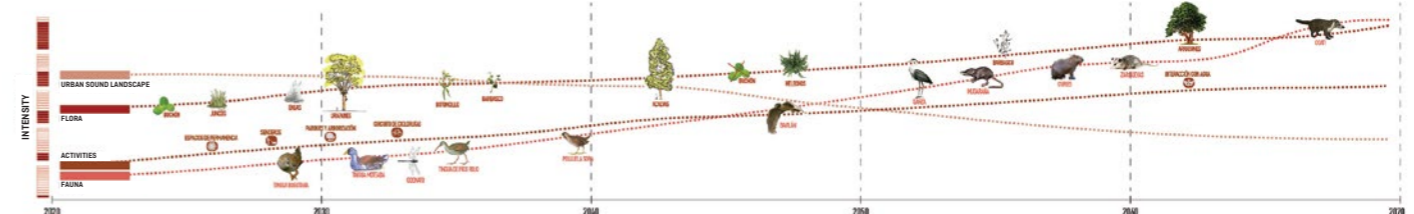
BORDER TYPOLOGIES



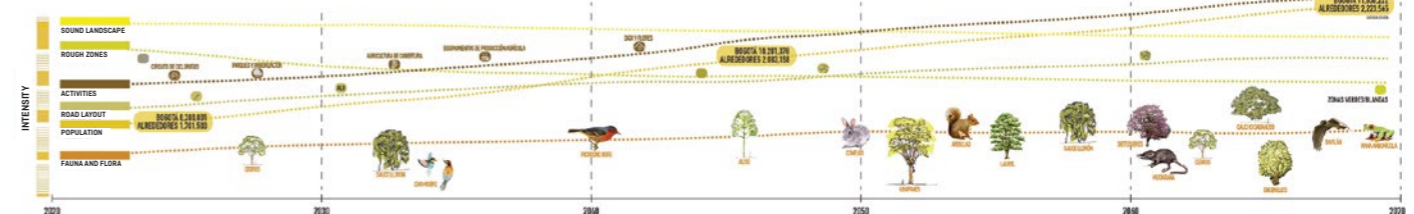
BOGOTA RIVER PROGRESSION OVER TIME



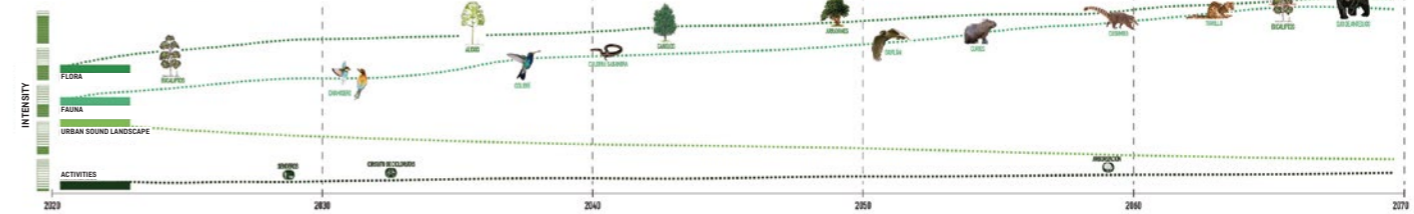
WETLANDS PROGRESSION OVER TIME



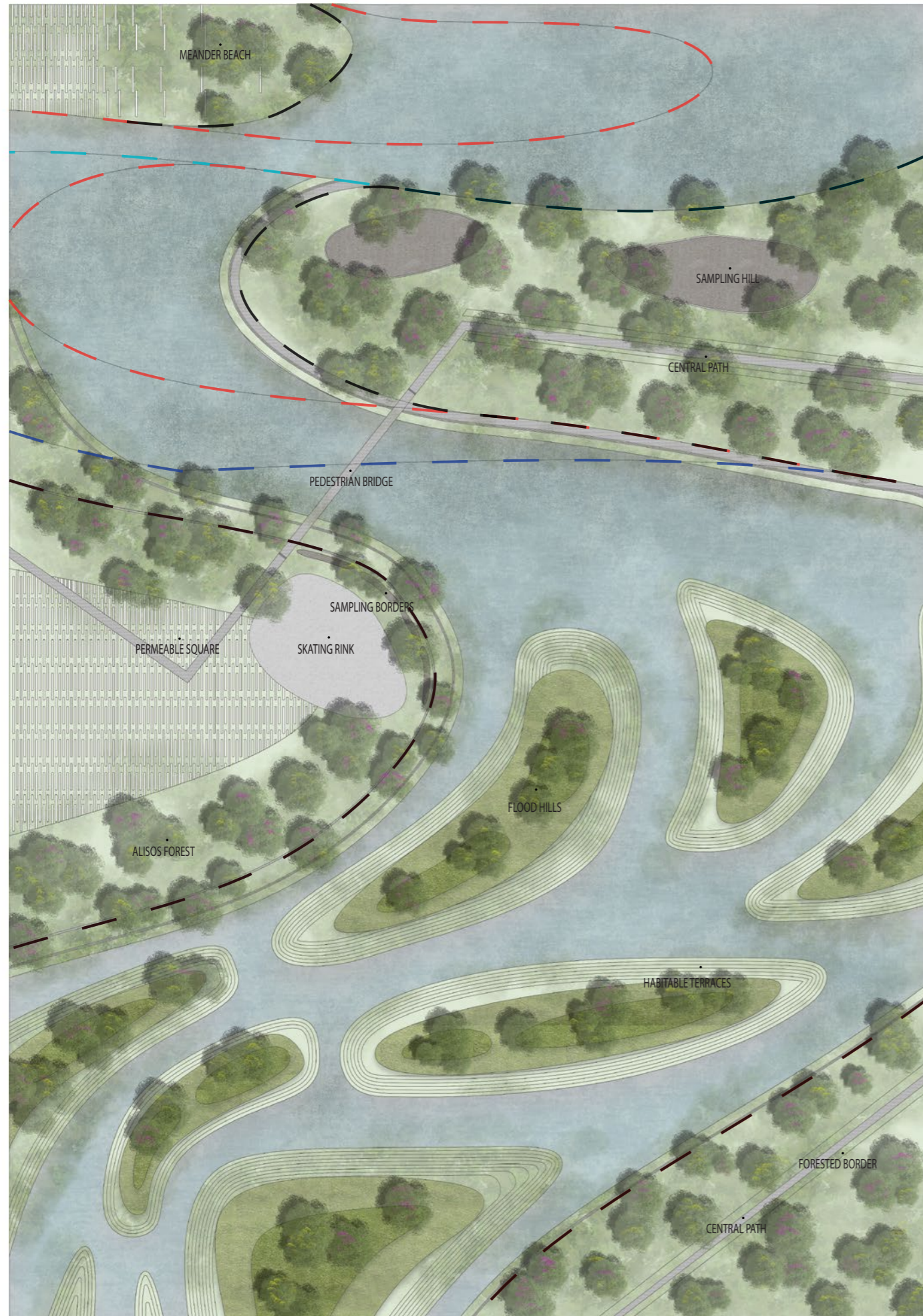
URBANSCAPE PROGRESSION OVER TIME



MOUNTAIN RANGE PROGRESSION OVER TIME



DETONANT 1 PLAN: BOGOTA RIVER



— — DROUGHT — — NORMAL FLOW — — FLOODING

DETONANT 1 DETAILS

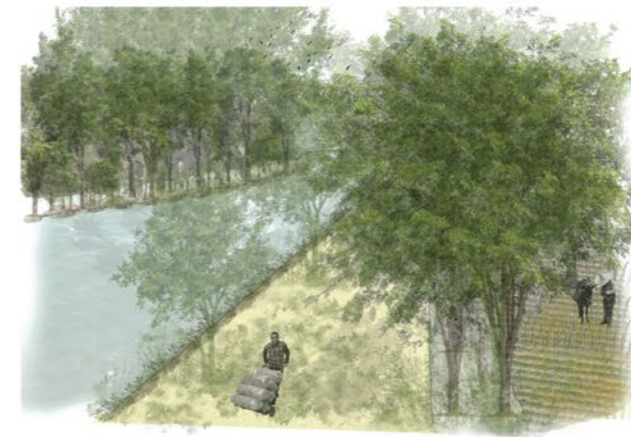
BORDER AND FLOOD ISLANDS



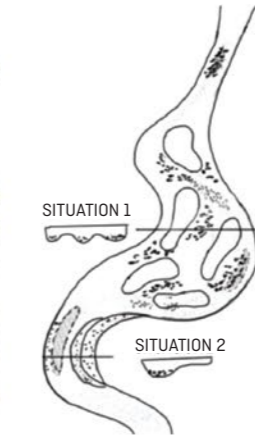
PEDESTRIAN BRIDGE OVER RIVER



FLOOD AGRICULTURE OF OATS



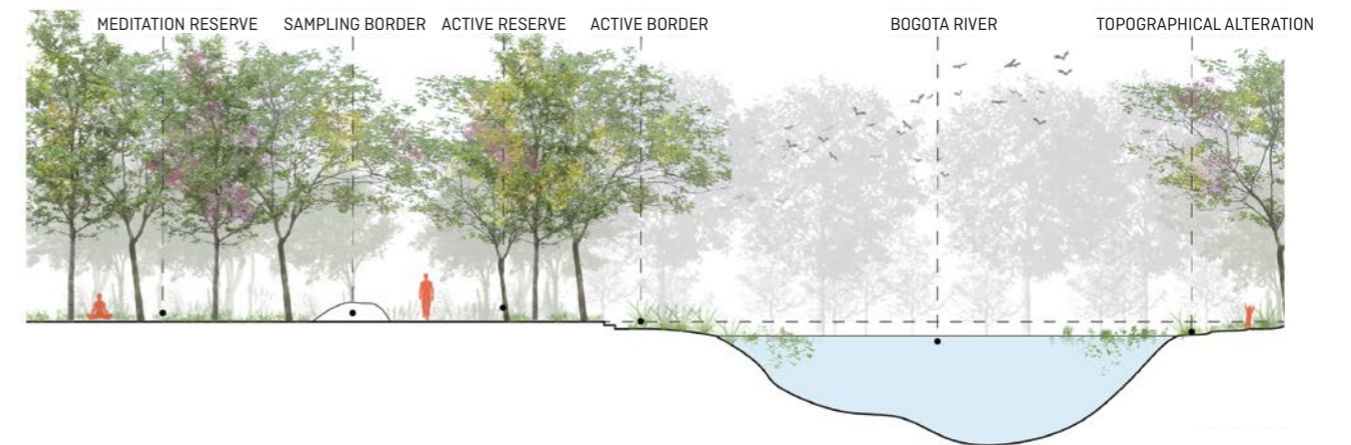
SEDIMENT COLLECTION



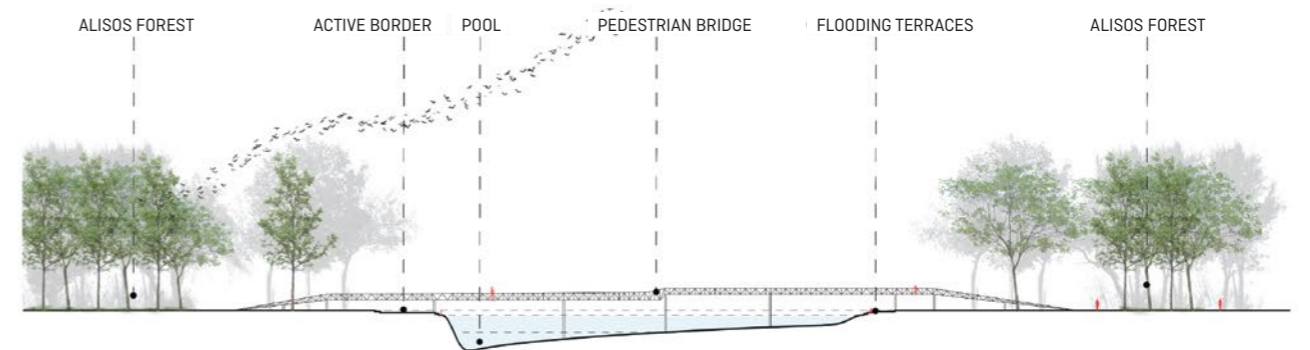
SITUATION 1:
WATER IS ACCELERATED, IT STOPS AT CURVES AND DEPOSITS ITS SEDIMENTS. THE PROCESS STARTS EROSIONING THE GROUND AND CREATING A MORE MEANDER RIVER.

SITUATION 2:
WATER SLOWS IN THE POOL AND LOWERS ITS ACCELERATION, DEPOSITING ITS SEDIMENTS. MOUNTAINS GENERATE WATER TRAILS AND OPERATE IN DIFFERENT FLOOD SEASONS.

RIVER BORDER



FLOODING



DETONANT 3 PLAN: A.L.O. (AVENIDA LONGITUDINAL DE OCCIDENTE)



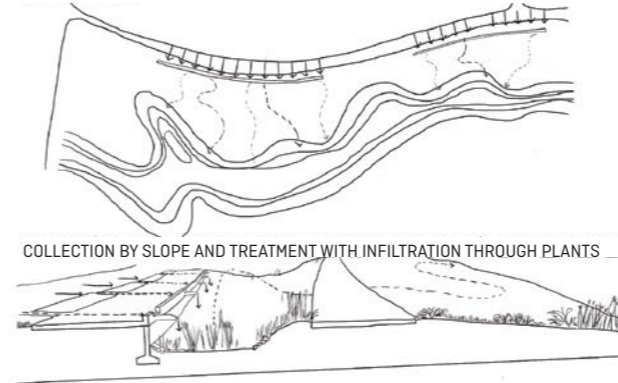
DETONANT 3 DETAILS

ACTIVITIES UNDER THE A.L.O.



RAINWATER COLLECTION SYSTEM

DIAGRAM: RAINWATER COLLECTION IN SMALLER ROADS LOCATED CLOSE TO A WATER BODY.

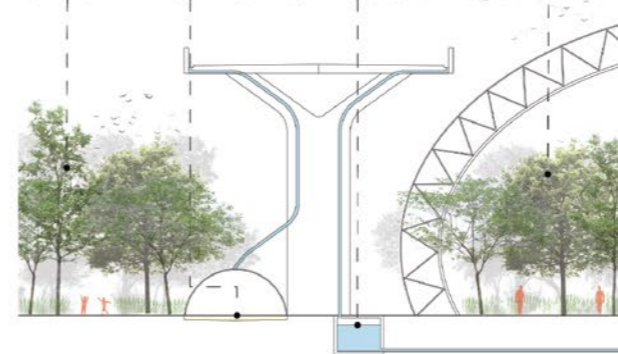


BOTANICAL GARDEN ON THE INSIDE



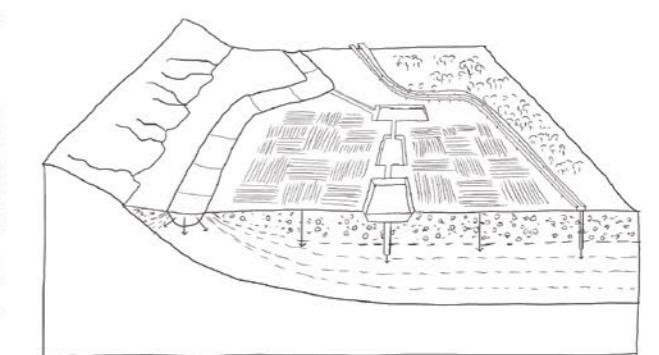
A.L.O. DETAIL SECTION

ACTIVE RESERVE WATER FILTRATION AGRICULTURE TANK STUDY OF BIODIVERSITY



AQUIFERS RELOAD

AQUIFERS RELOAD IS DONE NATURALLY DUE TO THE INFILTRATION OF WATER BODIES WHICH HAVE A LOW SPEED. IT IS ALSO POSSIBLE TO RELOAD THEM ARTIFICIALLY WITH INJECTION TUBES.



BOTANICAL GARDEN AND SQUARES

RAINWATER COLLECTION BIODIVERSITY STUDY CENTER CENTER ENTRANCE SQUARE REUNION SQUARE ACTIVE RESERVE

