



— La cuenca del *Río de la Plata*,
el *delta del Parana* y los bosques fragmentados
de *América del Sur* —

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instituto nacional del suelo

+ gunkspace

Bienvenidxs al archivo del instituto nacional del suelo

Welcome to the archive of the national soil institute of argentina

La hidrología argentina no se detiene en nuestras fronteras nacionales. Los ríos de Brasil, Bolivia, Uruguay y Paraguay aportan nutrientes a nuestros cursos de agua y suelos. Argentina está enredada en esta red de cuencas y la salud futura de nuestras aguas depende también de la salud del agua de nuestro vecino.

Argentine hydrology does not stop at our national borders. The rivers of Brazil, Bolivia, Uruguay and Paraguay provide nutrients to our watercourses and soils. Argentina is entangled within this network of basins and the future health of our waters depends on the health of our neighbor's water, too.

El trabajo del Instituto Nacional del Agua y ACUMAR proporciona información útil sobre cómo restaurar vías fluviales contaminadas. En el INS nos enfocamos en la salud de nuestros suelos, que son fuentes frecuentes de contaminación que luego ingresan a nuestros cursos de agua. De esta forma, contamos con un plan de regeneración integral que limpia el terreno y el agua simultáneamente.

The work of the National Water Institute and ACUMAR provide helpful insight into how to restore polluted waterways. At the INS, we focus on the health of our soils which are frequent sources of pollution that later enter our waterways. In this way, we have a comprehensive regeneration plan that cleans the land and the water simultaneously.

Hemos establecido nodos de producción de suelos en toda la cuenca Matanza-Riachuelo, en un esfuerzo por demostrar el carácter cooperativo imprescindible de la restauración y gestión de residuos ante los grandes desafíos sociales y ecológicos.

We have established soil production nodes throughout the Matanza-Riachuelo basin, in an effort to demonstrate the essential cooperative nature of the restoration and waste management in the face of great social and ecological challenges.

Este archivo es una colección de documentos de trabajo que se agregarán y sustraerán periódicamente. todos los contenidos están disponibles para su descarga, para ser difundidos a través de diversas plataformas, tanto digitales como físicas. visítenos en nuestro nuevo protonodo, el baldío en avellaneda.

This archive is a collection of working documents developed during the collaboration between the institute and gunkspace. it will periodically be added to and subtracted from. all of the contents within are available for download, to be disseminated across diverse platforms, both digital and physical.

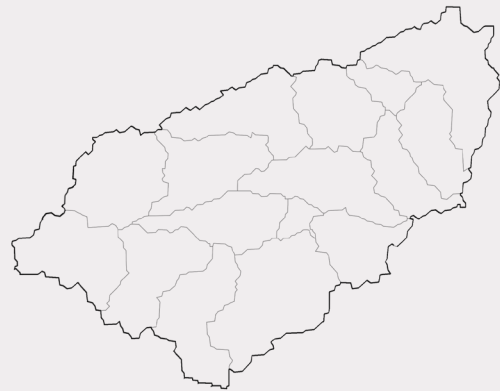
Para conocer los últimos eventos o aprender más sobre la salud del suelo, consulte nuestro sitio web ins-ar.org

For the latest events or to learn more about soil health check our website ins-ar.org. our new protonode, el baldío, in the avellaneda district of buenos aires. Visit us today!

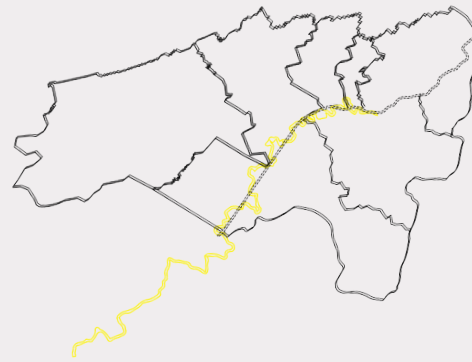
¡Visite el nodo más cercano a usted hoy!



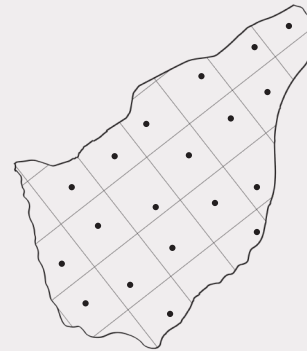
A SERIES of NESTED SCALES



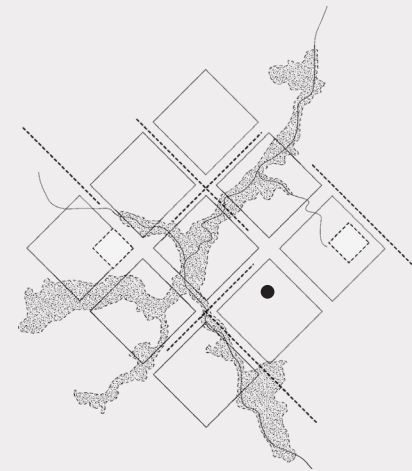
1
MAIN BASIN



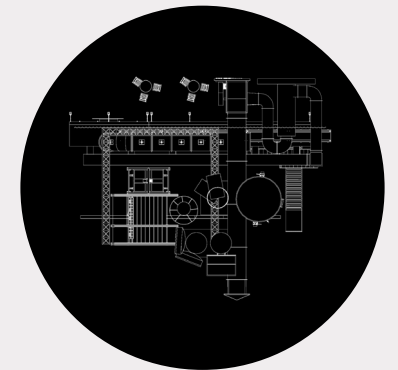
1-1
SUBBASIN



1-2
MICROBASIN



1-3
SUPERBLOCK
and the
THREE ECOLOGIES



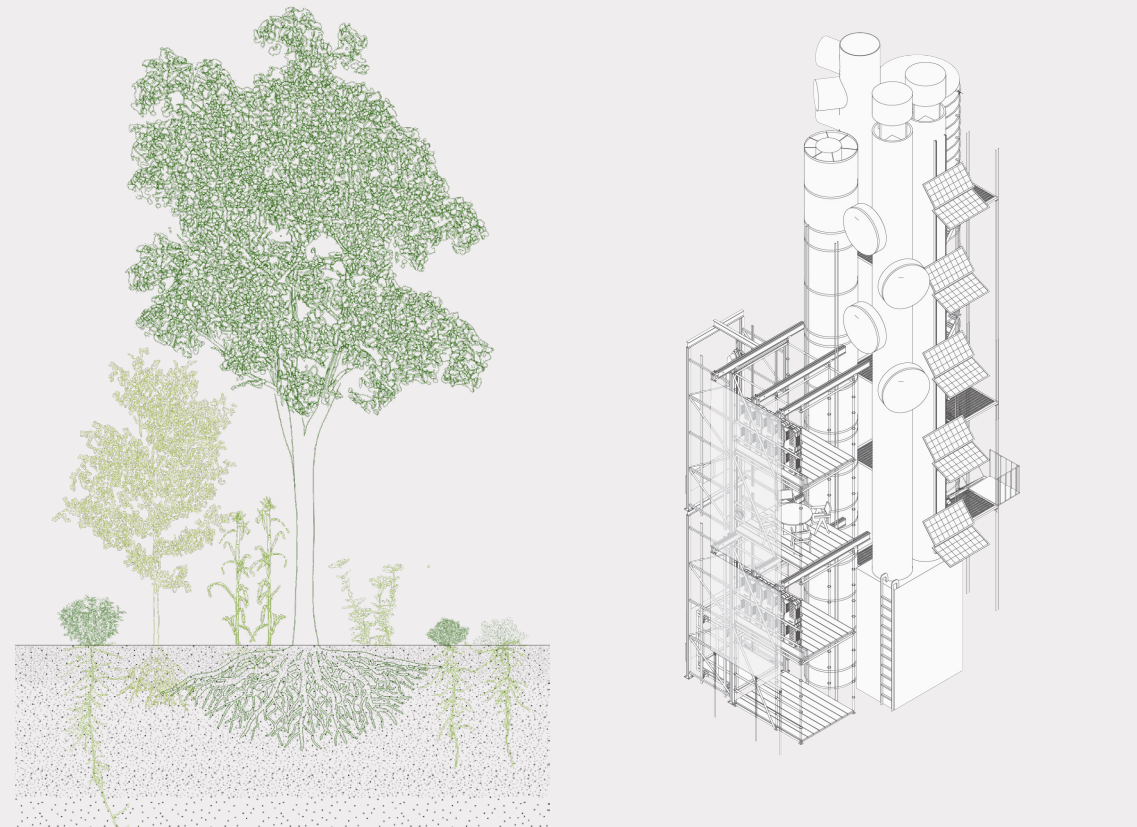
1-4
NODE

Centralized infrastructure that is composed of monofunctional and sprawling complexes gives way to decentralized infrastructure, a network of multifunctional, distributed and compact nodes that mimic agroforestry principles: stratification, diversity, synergism, compactness, holistic, low-input, and closed-loop.



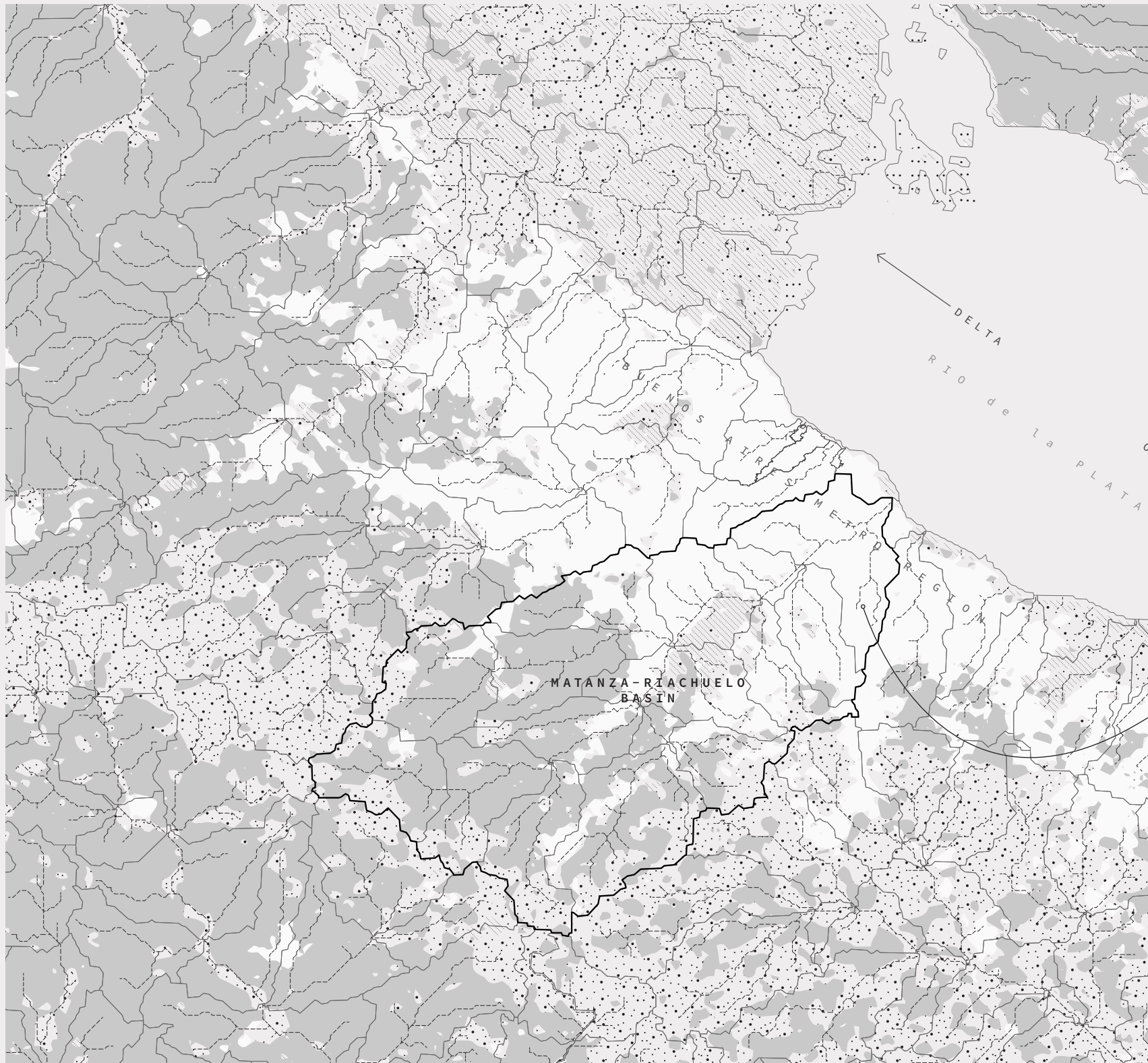
Centralized infrastructure following a sprawl-based model

>5km²



Decentralized infrastructure following a syntropic agroforestry model

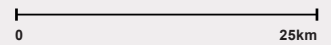
<0.00005 km²





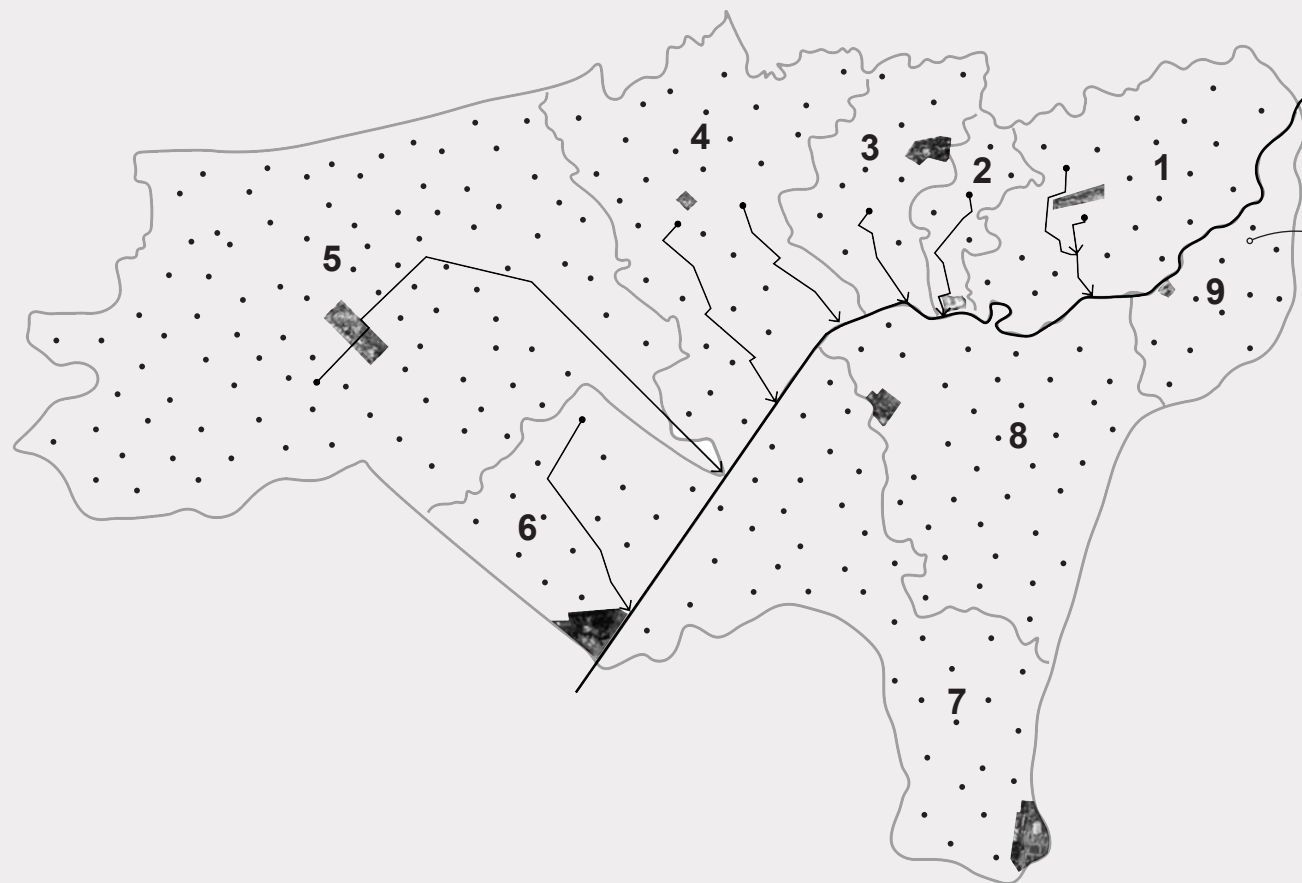
We begin in the lower urban subbasin, where the majority of the human inhabitants resides.

LAND USE

Two predominant land uses can be seen in the basin: urban + agricultural.



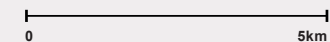
-  URBAN
-  AGRICULTURAL
-  RANGELAND
-  FOREST
-  MARSH
-  WATERCOURSE
-  BASIN LIMIT



Then we zoom in to the microbasins of the lower urban basin. First, the Avellaneda microbasin!

LOWER URBAN SUBBASIN

The protonode network of the lower urban basin. There are nine microbasins, each with their own protonode. As often as possible, protonodes reuse existing infrastructure. The urban lower basin was selected for the first subbasin given its proximity to the urban population, increasing its visibility to the public.



- PROTONODE
- MICRONODE
- WATERCOURSE
- BASIN LIMIT



1
MR.01.BB.001
BOCA BARRACAS
Components storage



3
MR.01.OC.001
OCHOA



5
MR.01.CD.001
CILDANEZ
Agroecology market



7
MR.01.LN.001
LANUS



9
MR.01.AV.001
AVELLANEDA
Soil lab



2
MR.01.EL.001
ELIA



4
MR.01.ER.001
EREZCANO



6
MR.01.LR.001
LARRAZABAL

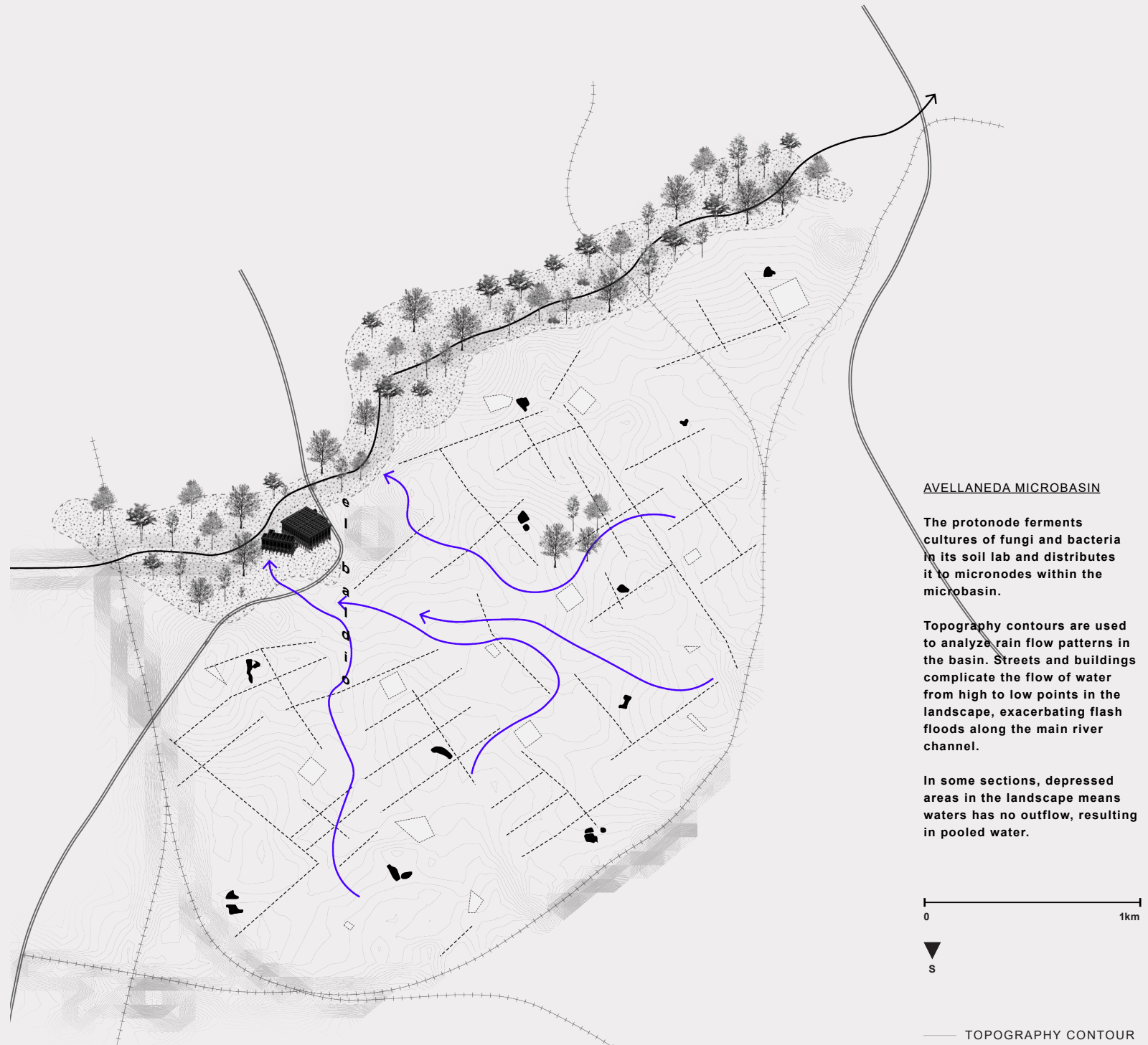


8
MR.01.VA.001
VALENTIN ALSINA
Greenhouse + nursery

AVELLANEDA MICROBASIN NODE NETWORK*

B	SB	MB	NODE	MONIKER	LOCATION
MR	01	A	001	EL BALDIO	CARLOS PELLEGRINI 180
MR	01	A	002		LAMADRID y GUTIÉRREZ
MR	01	A	003		ZEBALLOS y MONTES DE OCA
MR	01	A	004		ESTEVEZ y LOPEZ
MR	01	A	005		MITRE y GRAL. PAZ
MR	01	A	006		BRANDSEN y CROATTO
MR	01	A	007		LOPEZ y FRENCH
MR	01	A	008		BERUTTI y PALAÁ
MR	01	A	009		25 de MAYO y ESTRADA
MR	01	A	010		LAPRIDA y ZEBALLOS
MR	01	A	011		VELEZ y ALSINA
MR	01	A	012		ESPAÑA y ANDREA

*The Avellaneda microbasin has 108 urban blocks. This means there will be 12 superblocks, and thus 12 nodes

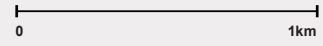


AVELLANEDA MICROBASIN

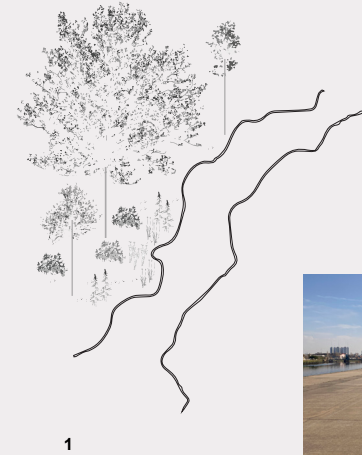
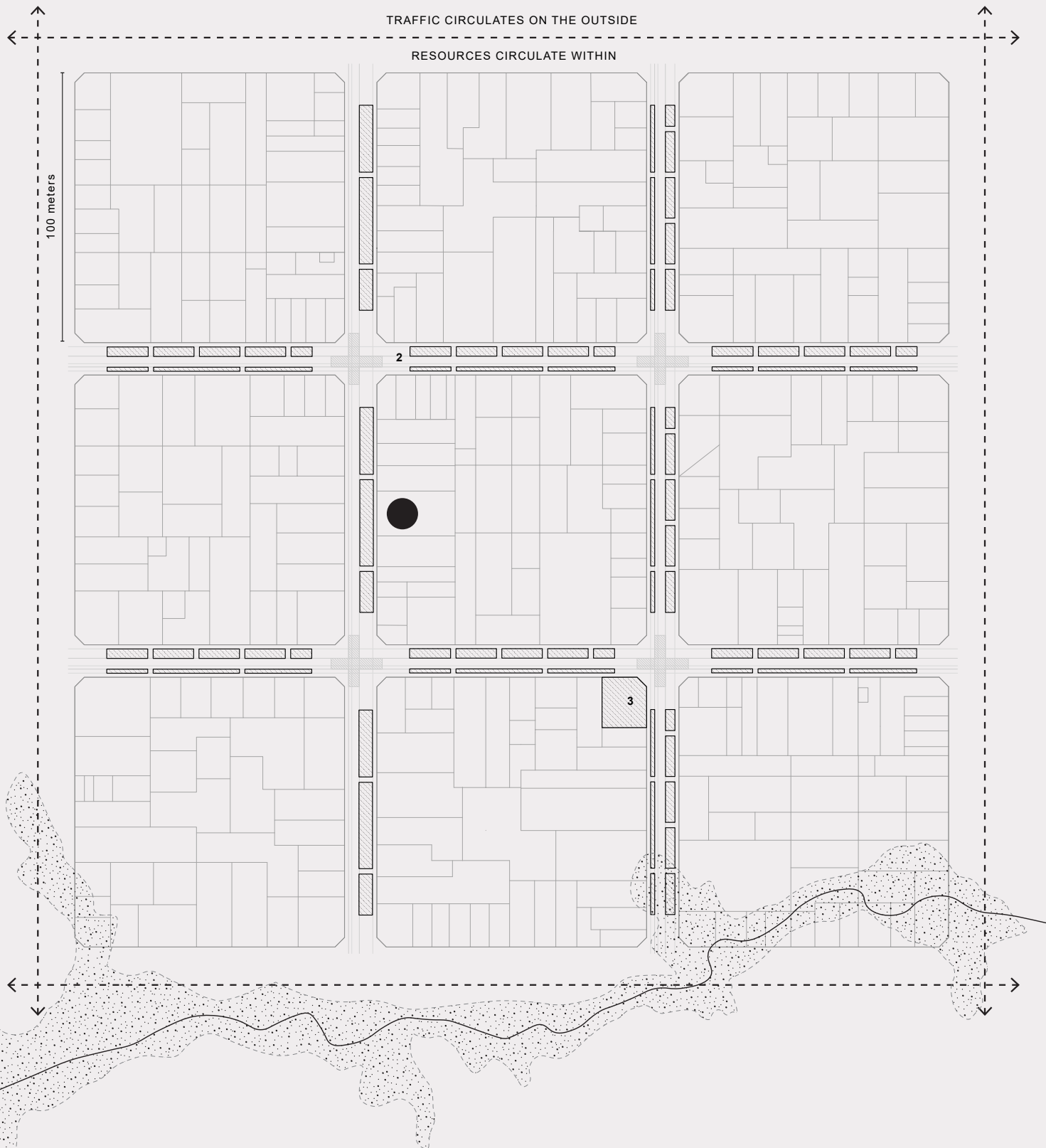
The protonode ferments cultures of fungi and bacteria in its soil lab and distributes it to micronodes within the microbasin.

Topography contours are used to analyze rain flow patterns in the basin. Streets and buildings complicate the flow of water from high to low points in the landscape, exacerbating flash floods along the main river channel.

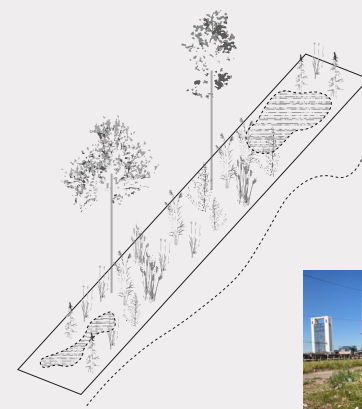
In some sections, depressed areas in the landscape means waters has no outflow, resulting in pooled water.



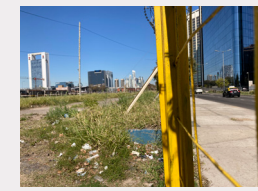
- TOPOGRAPHY CONTOUR
- URBAN GRID
- RAINFLOW
- BASIN LIMIT



1



2



3



URBAN SUPERBLOCK

Microbasins are composed of superblocks. This is the working scale where urban interventions can be detailed. Like the Superilles in Barcelona, Buenos Aires can arrange itself within a 3x3 block grid. Outside of this grid, circulates traffic and transit. Within this grid circulate resources. There are 3 (interstitial) ecologies that can be identified in a superblock: the riparian buffer, the prairie corridor and the community patch.

It has been revealed that the three ecologies within the average superblock can accommodate up to 5,000m³ of compost annually.

1 (riparian) buffer

"Riparian zones provide many ecological functions and services as biological corridors and buffer zones to retain pollutants that may enter from urban runoff while mitigating flooding" (Gomez et al., 2020).

2 (prairie) corridor

"Prairie strips help reduce nitrous oxide emissions by soaking up nitrogen fertilizer that runs off of adjacent cropland. They also can store carbon in soil... and reduce erosion and nutrient loss from soil and support birds and insects. Prairie strips are among the least expensive conservation practices available to farmers" (Moore, 2021).

3 (community) patch

provide open space in city centers which serve as opportunities for education, recreation and local food sovereignty



instituto nacional del suelo

carlos pellegrini 180, avellaneda

www.ins-ar.org

INSTITUTO

martes - sábado, 10.00 - 20.00h.
admisión gratis.

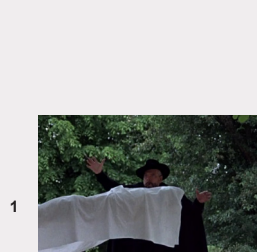
eventos

- 1 **F FOR FAKE / ORSON WELLES**
¡Proyectamos películas todos los viernes por la noche!
- 2 **CAFE RIZOMAS**
Durante tu visita elige entre una selección de platos vegetarianos elaborados por nuestra cocina con productos de UTT.
- 3 **ALMACEN UTT**
Nuestro mercado está completamente abastecido con productos frescos y locales de granjas miembros de la UTT de propiedad familiar y producción sostenible.

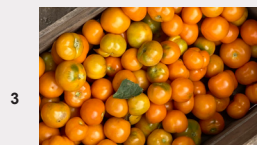
- 4 **TALLER de COMPOST**
Pasate por el baldío para aprender los metodos de compostaje y cuidado del suelo.

- 5 **BIBLIOTECA**
Nuestra biblioteca está llena de información para el cuidado del suelo y la agroecología. Solo por cita.

- 6 **LAB**
Envíe sus muestras de suelo a nuestro laboratorio. Los probaremos y devolveremos un análisis completo que enumera los pasos de remediación apropiados.



CINE



ALMACEN



BIBLIOTECA



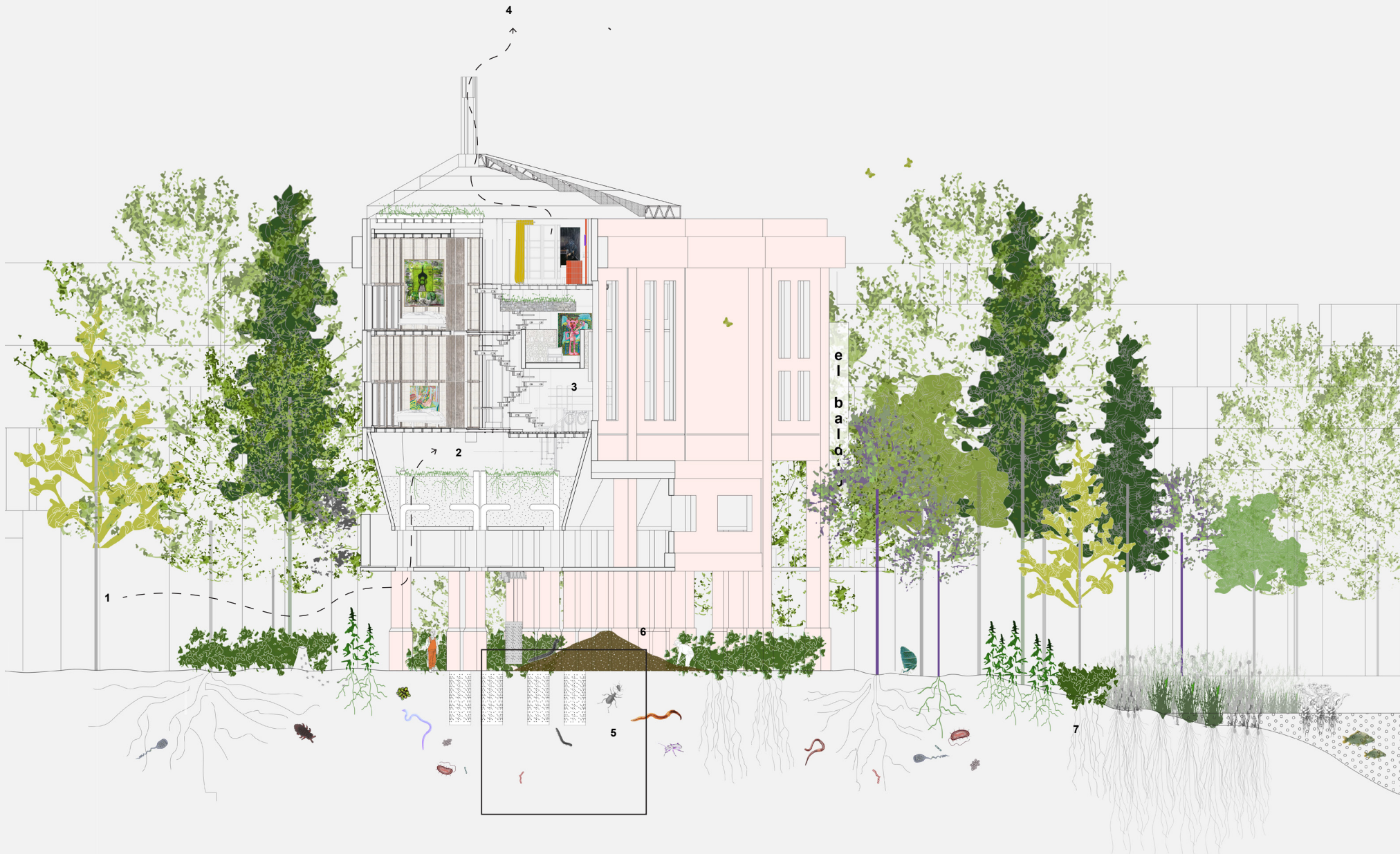
CAFE RIZOMAS



TALLER



LAB



NODE MR.01.AV.001

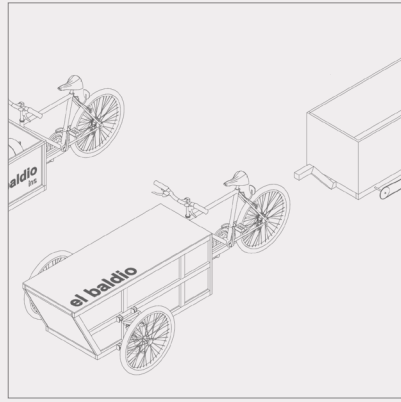
Nodes inhabit the 3 interstitial ecologies. Each superblock has at least one node. They are primarily responsible for composting the organic waste of residents within the superblock. However, they also serve as community centers and green space. A node can be a library, a playground, a theatre, a cafe... they are infinite.

This depicts the first protonode of the Avellaneda microbasin, El Baldío, or "the wasteland," embedded within a restored riparian buffer along the main channel of the Matanza-Riachuelo.

- 1 Evapotranspiration from vegetation cools surrounds
- 2 Interior vegetation moderates air quality and moisture
- 3 Double facade
- 4 Warm air extracted thru solar chimney
- 5 Soil critters transform organic waste into compost
- 6 Compost applied to vegetation
- 7 Variety of plant roots increase soil porosity and stabilize riverbank, reducing erosion

SOIL CRITTERS BELOW; PLEASE DO NOT DISTURB.

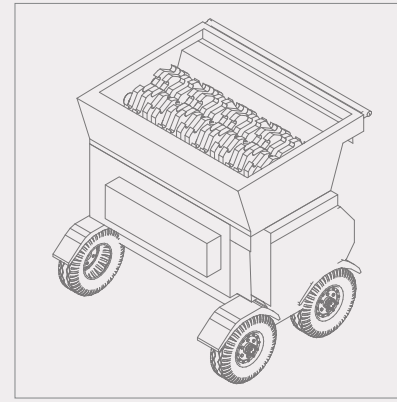




3 Fermented mixture delivered to micronodes



4 And distributed to residents of each superblock



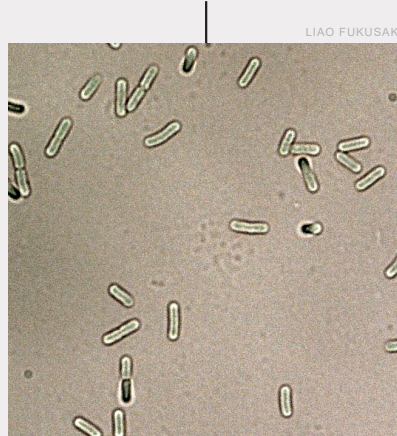
7 After 10 days, waste is macerated, reducing particle size, increasing surface area



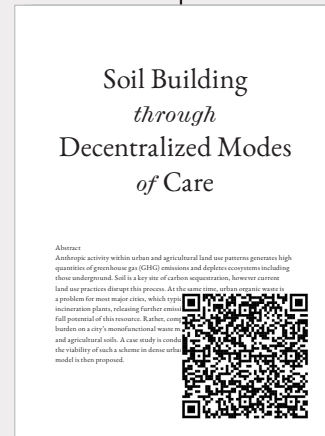
8 Macerated fermented waste is placed into an underground vermicompost chamber



2 It is processed at the protonode into a fermentation mixture



5 Organic waste is collected at home, fermented mix applied, decomposition begins



Follow the link to see the full report with detailed analysis and figures



9 10-14 days later, waste has been transformed into compost

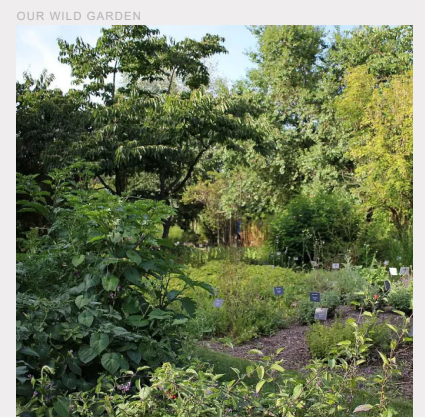


1 Fungal matter (mycelium) is harvested from the three ecologies

compost,
or,
how
junk
becomes
gunk



6 Fermented waste is deposited at node



10 Compost is applied locally to vegetation within the three ecologies

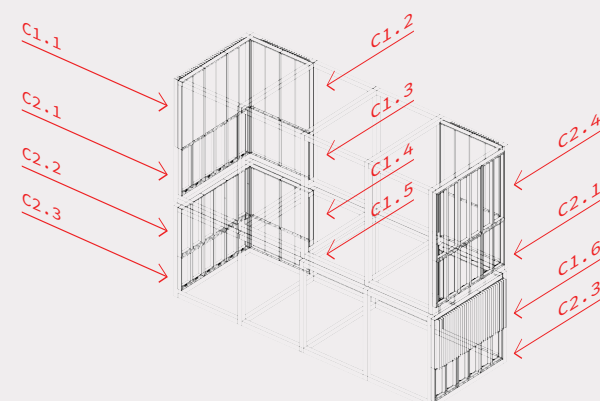
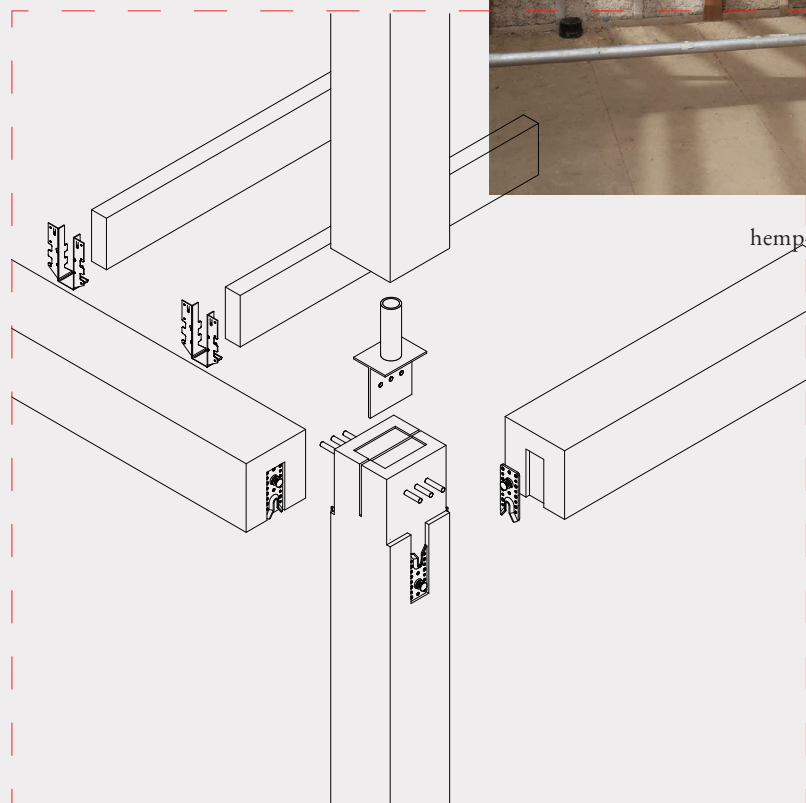
found and grown components



hemp-lime

sand-mud

strawbale



Grown components are wood framed cassettes filled in with bio-based insulation grown in the three ecologies. For El Baldio, these cassettes are dimensioned to slot between the existing concrete structure for ease of assembly and demounting.



The INS begins an ad campaign that communicates the new waste management system to urban residents



NODE MR.01.AV.005

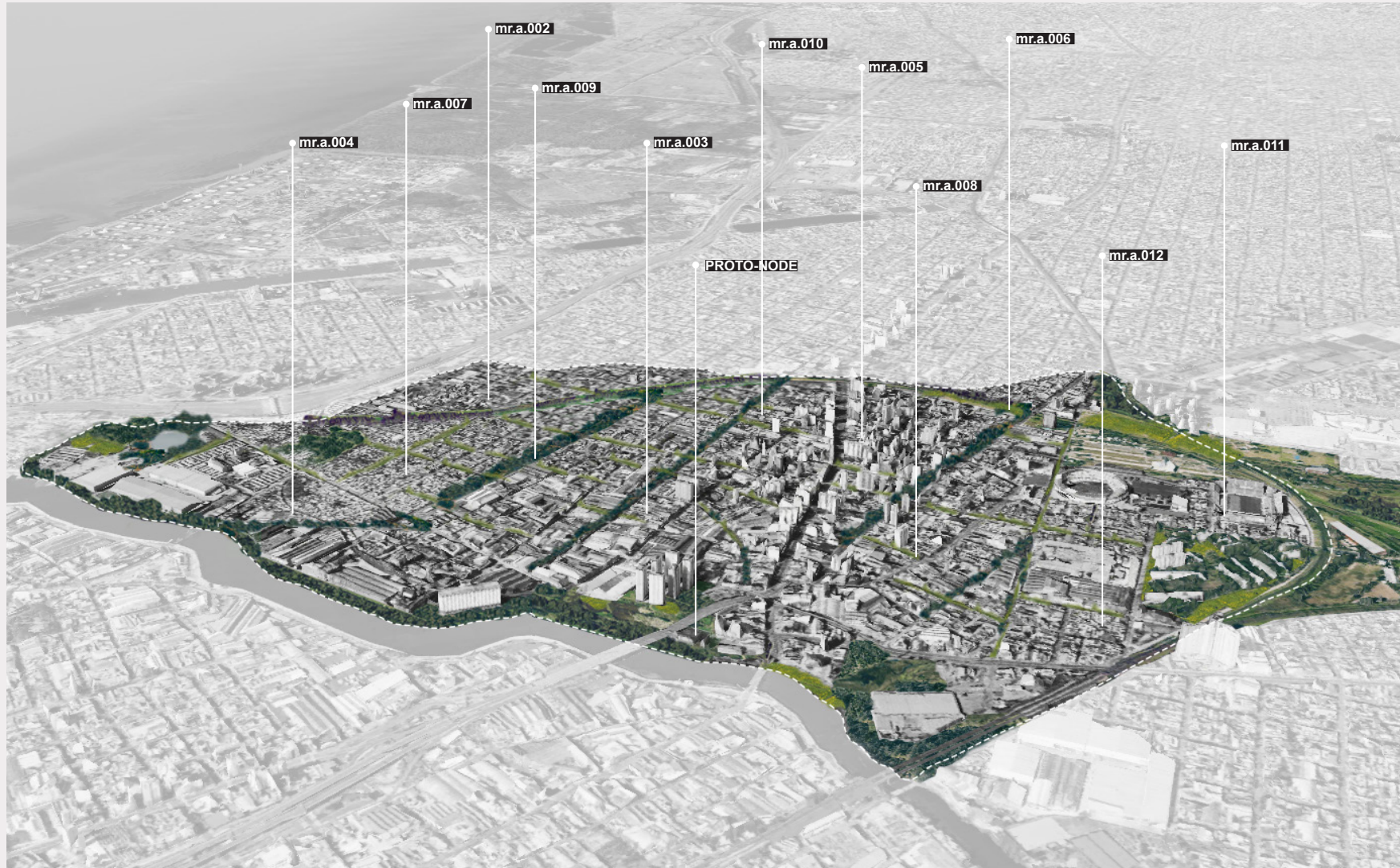


NODE MR.01.AV.006

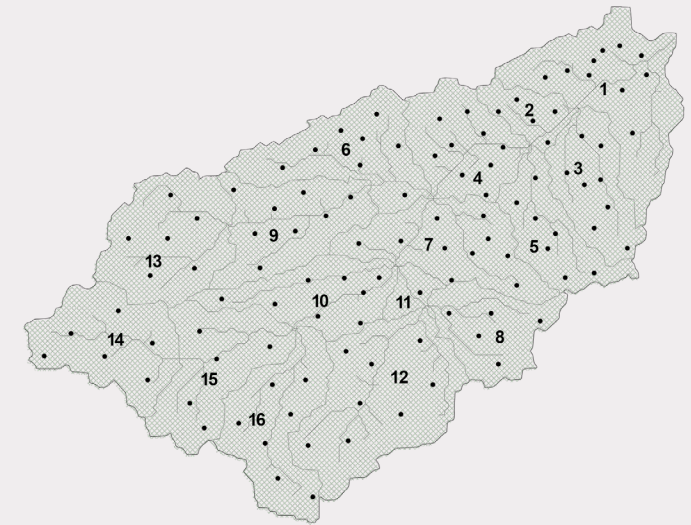


NODE MR.01.AV.011





The eco-hydrological network progresses with more connections throughout the Avellaneda microbasin



NETWORK!

The network of protonodes throughout the 16 subbasins of the Matanza-Riachuelo basin. Each protonode corresponds to its locale: whether it is located in agricultural or urban areas. Urban nodes are meant to attract residents to the composting program and to aestheticize regeneration in an age of collapse. Agricultural nodes are responsible for communicating the method of agroforestry practices to farmers and food producers so that farms in the region can adopt such methods.