World Forum on Urban Forests

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Layering- an open way to new forest design

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The concept of layering is quite familiar in the contemporary landscape project.
Its interpretation is aimed at understanding the different layers, historically identifiable, of a territory's evolution from different points of view, showing the role of the environmental resources in the different ages. It also implies a project related to the present.
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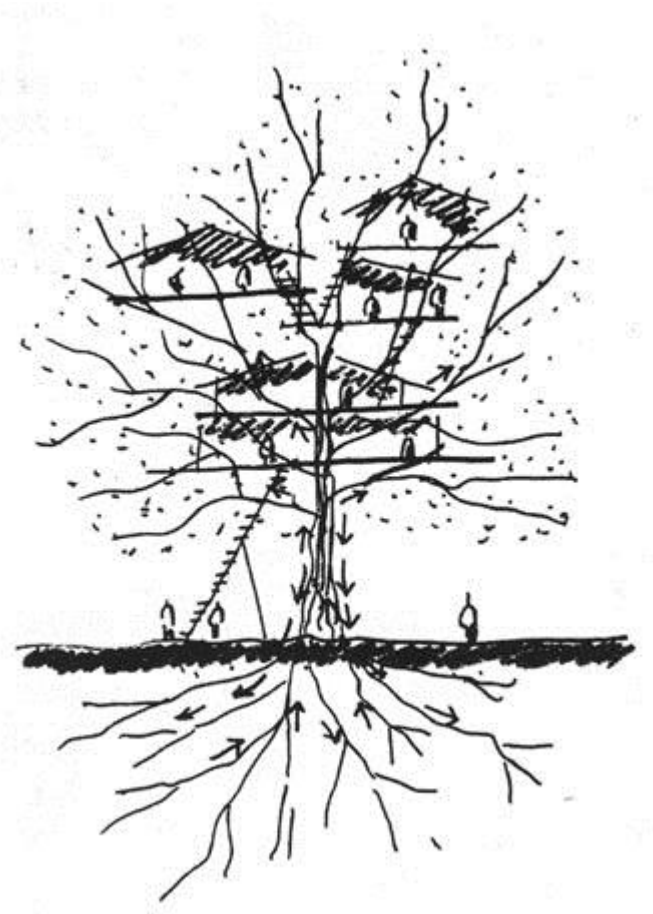
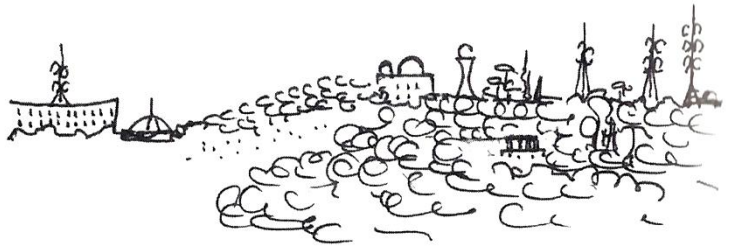


Giancarlo De Carlo. Schizzi Inediti, Triennale di Milano, 2014

We believe that the whole Italian territory, as well as the European, has to be considered as a stratified landscape (isn't it like that everywhere?)

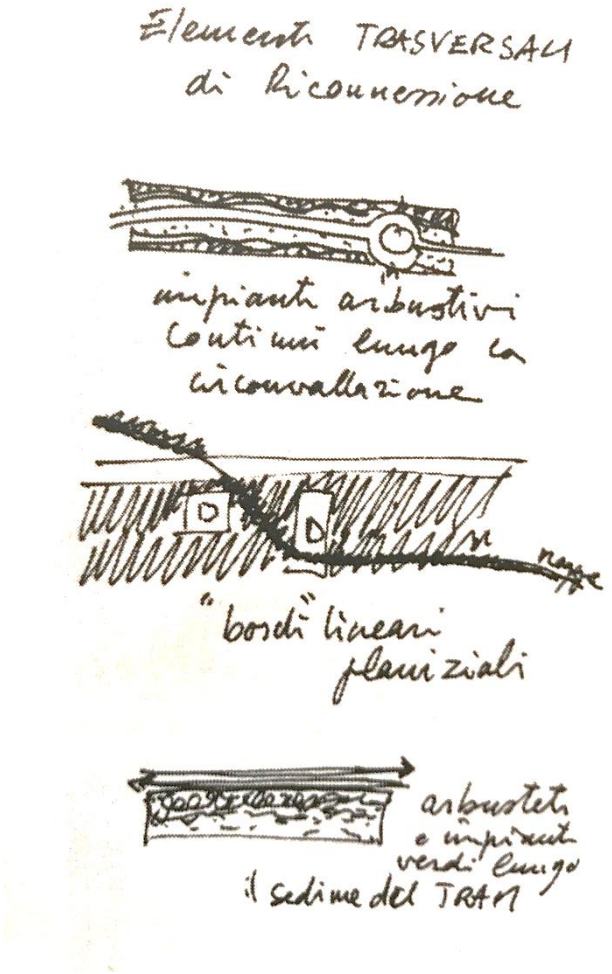
Layering is not a limit, rather it can create a lot of advantages as far as sustainable transformation, closer to the environmental dynamics.

Stratification defines a way of knowing, exploring and designing that crosses time and space observation.



Vittoria Calzolari, Storia e natura come sistema, 1999

Forests have always had a structural role in our stratified territories and in our research activity, as you will see in the following examples.



Beranrdo Secchi, progetto preliminare del PRG di Bergamo,1995

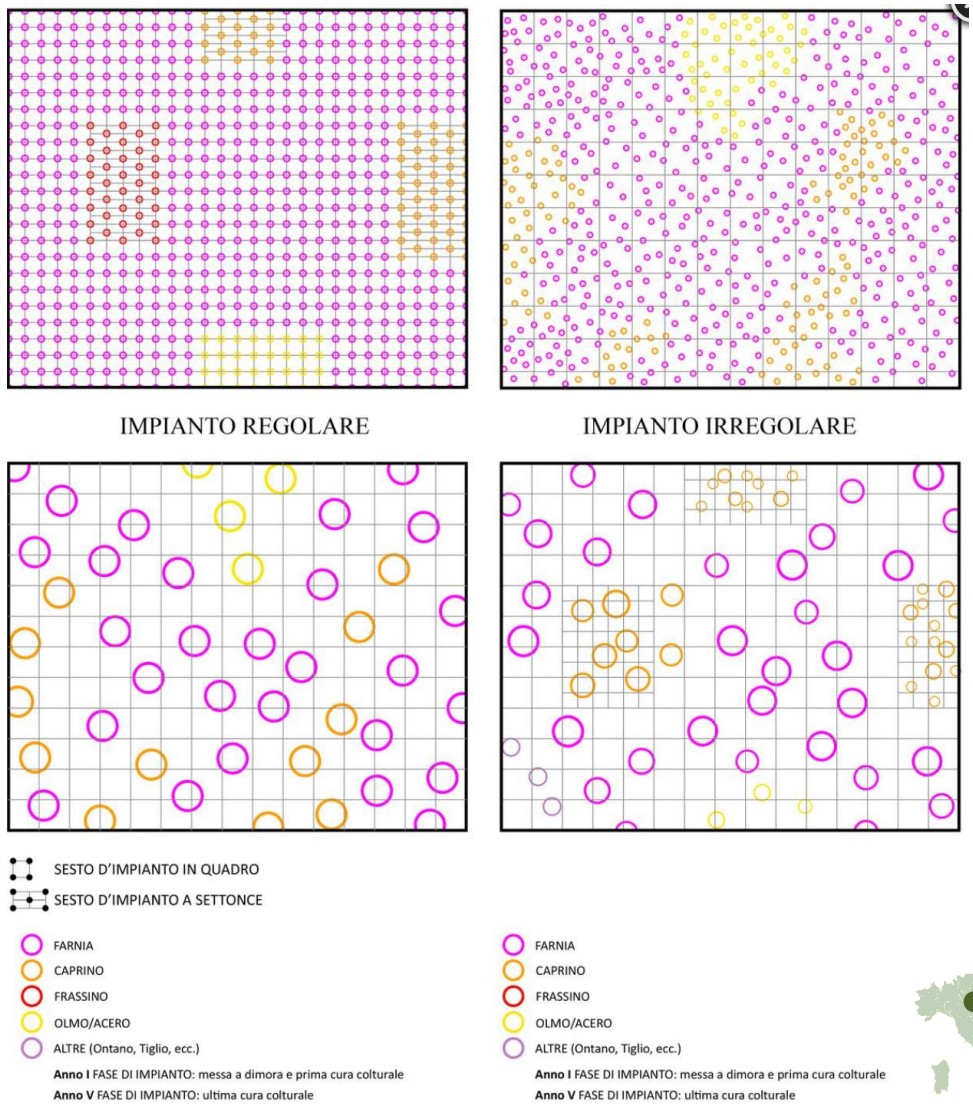
Previously

Bosco Brussa, laguna di Marano, Veneto, Italia

1990-1991

Re-creation of a public forest that had been destroyed in the fifties for intensive agricultural use.

The project was an interesting multi-disciplinary occasion to experiment new concept of naturalistic forestation. We studied the vegetation in similar environments of Central Europe, and experimented the planting of trees and shrubs of different ages according to geometric and natural patterns.
The results are very interesting for the reconstitution of an important wet ecosystem, and for its social meanings. Bosco Brussa is a collective symbol of a common good brought back to life again.



Bosco Brussa, laguna di Marano, Veneto, Italia

1990-1991

Previously

Centrale geotermoelettrica Bagnore 3, santa Fiora, Grosseto, Italia

1998-2000

project of a Geothermal Park around a geothermal power plant in Tuscany.

Linear forests protect the hilly slopes from the hydrogeological instability, according to ancient patterns of land use connected to local agriculture

Potenziamento della fascia ripariale lungo gli impluvi principali

Protezione e potenziamento delle formazioni boschive in ripresa

Nuovo impianto di formazioni boschive

Rinfoltimento e nuovo impianto degli arbusteti lungo le rotture di pendenza

Nuovo impianto di pecie tappezzanti con funzione consolidante

Centrale geotermoelettrica Bagnore 3, santa Fiora, Grosseto, Italia

1998-2000

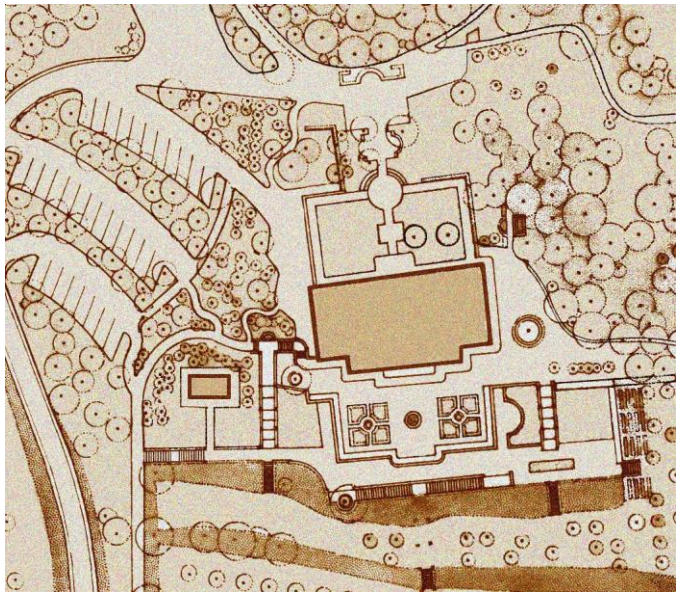
Previously

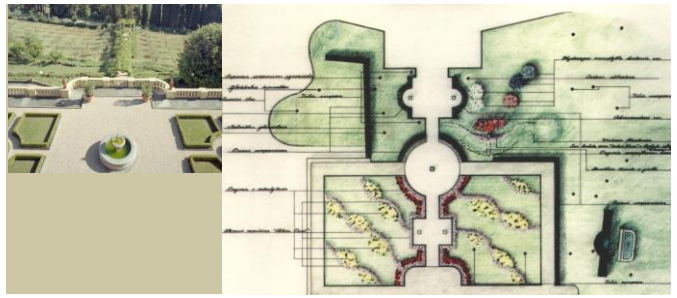
Casa Buitoni, San Sepolcro, Arezzo, Italia

1992-1993

restoration of an ancient forest within an historical villa of the Buitoni family in Tuscany .

This forest has in all historical villas an important function in climatic mitigation in winter and in summer, offering shelter to many species (not only human)





Casa Buitoni, San Sepolcro, Arezzo, Italia

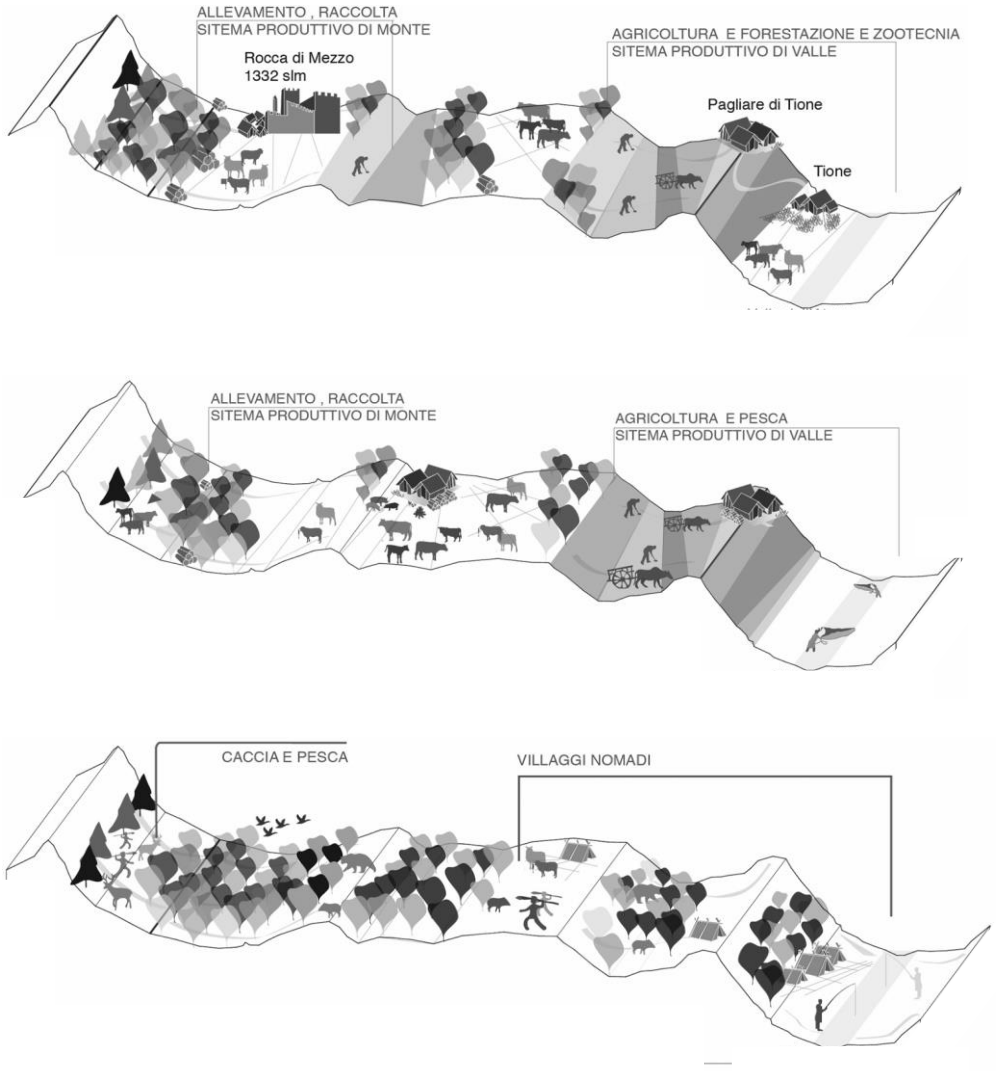
1992-1993

Trough these and other experiences we understood the fertility of a forest project based on these constituent elements:

a. The consideration of one or more layers related to local historical & environmental evolution

b. The choice of plants with high ecological efficiency

c. The dialogue with local communities to interpret specific collective meanings of new, or ancient, forests.



Caravaggi, Imbroglini, progetti di rilancio territoriale dei comuni montani d'Abruzzo colpiti dal sisma 2012

Rome- focus of current research

We experimented the importance of these same concepts in some recent research focused on Rome’s territory.

Rome- focus of current research

We are promoting new urban forests in our research dedicated to the urbanized territories of Rome beyond the GRA (great anular ring road), where the problems of a contemporary metropolis are tied to the protection and development of the wonderful ancient Roman countryside.

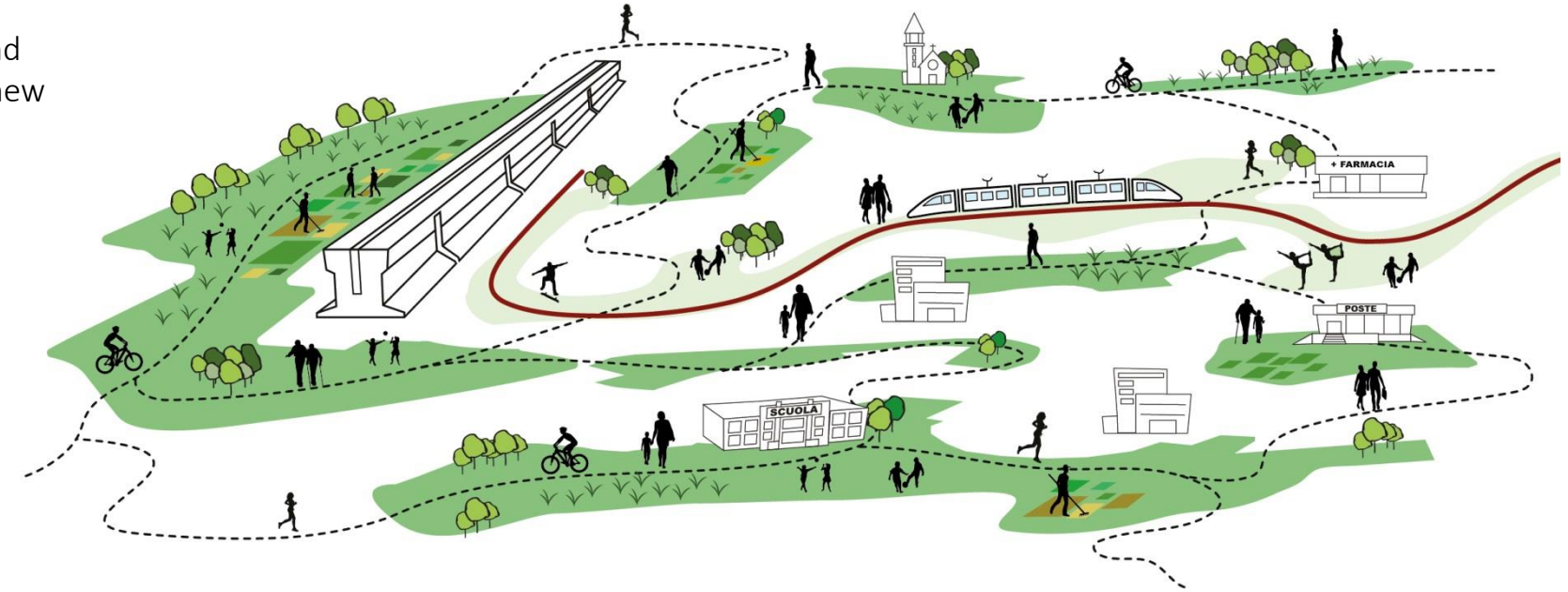
We are promoting the project of new woods in Rome like a multi-disciplinary project, trying to prevent the eternal conflict between different public sectors of local administration (particularly between historical-archeological, environmental and infrastructures sectors) and trying to find out performative solutions from a different perspective

Caravaggi, Carpenzano. Rome beyond GRA 2018

Rome- focus of current research

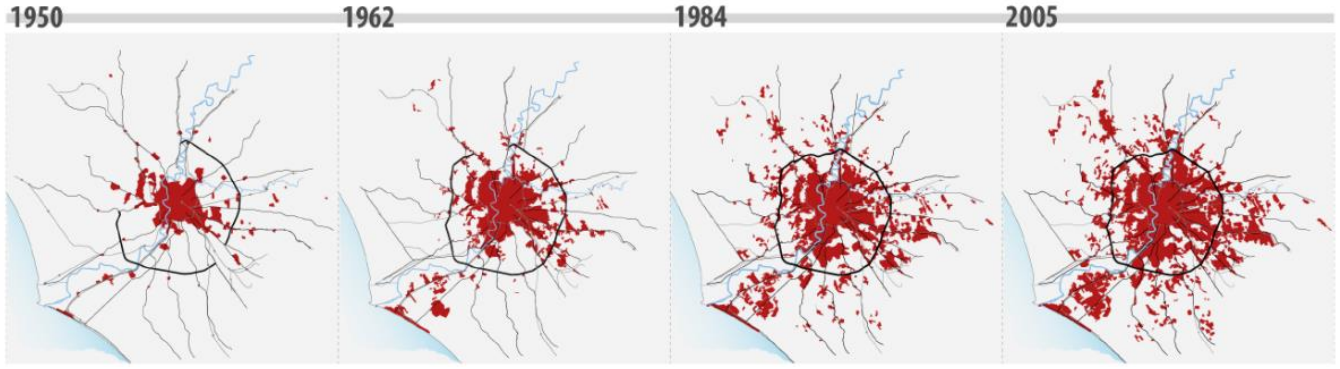
We are trying to start the dialogue with local communities to understand from within needs and possibilities to develop new green activities and new green economies.

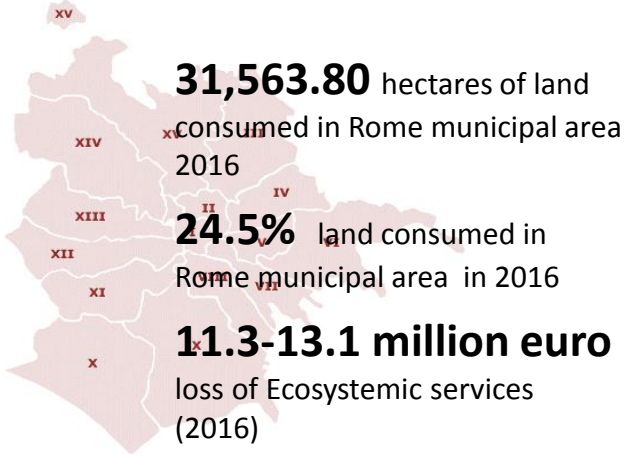
Caravaggi, Imbroglini. Pontili Corviale, 2015



Rome- focus of current research

Rome is a congested and ever-expanding metropolis.
with settlement spreading over a large territory.
That's why it seems urgent and appropriate to propose new urban forests to enhance the environmental network that in many areas show worrying signs of failure.

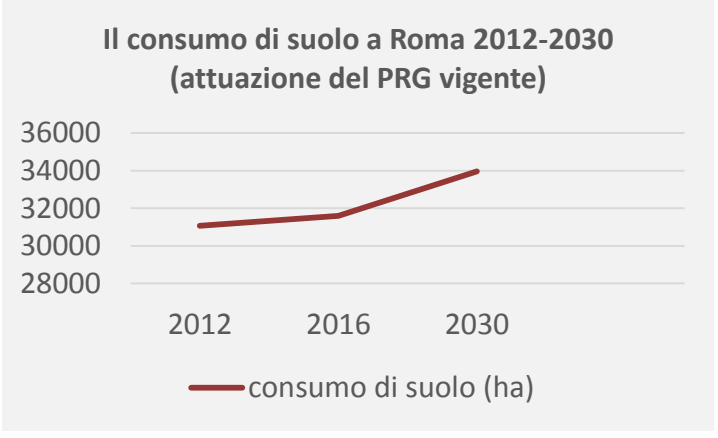




31,563.80 hectares of land consumed in Rome municipal area 2016

24.5% land consumed in Rome municipal area in 2016

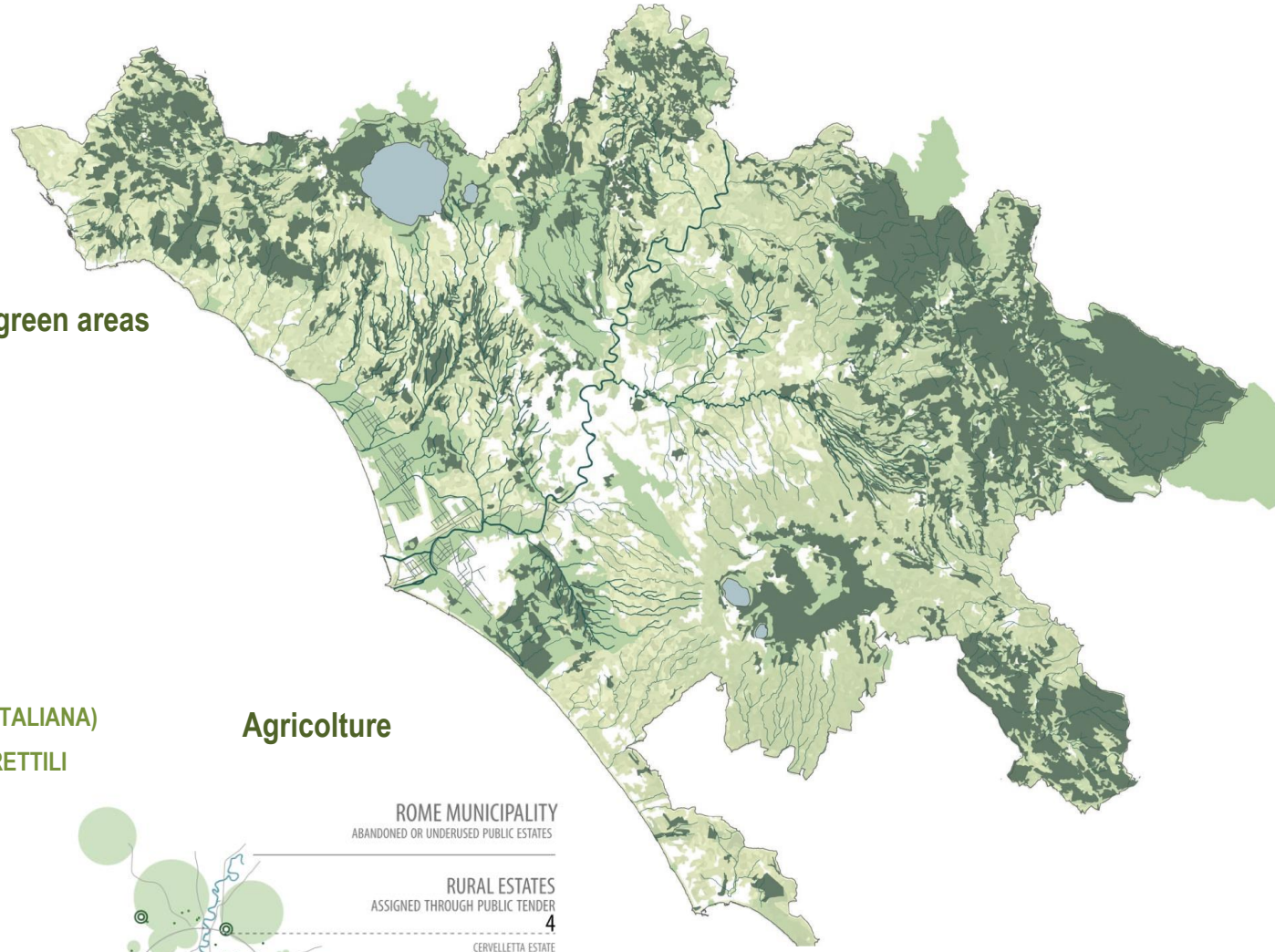
11.3-13.1 million euro loss of Ecosystemic services (2016)



Rome- focus of current research

Rome is a privileged field of application for experimenting with new urban forests, as it is still characterized by:

- great open spaces of historic countrysidevnow on the way to rehabilitation thanks to many production and the direct saleactivities of local agricultural products
- large protected natural areas
- resulting in a very high biodiversity

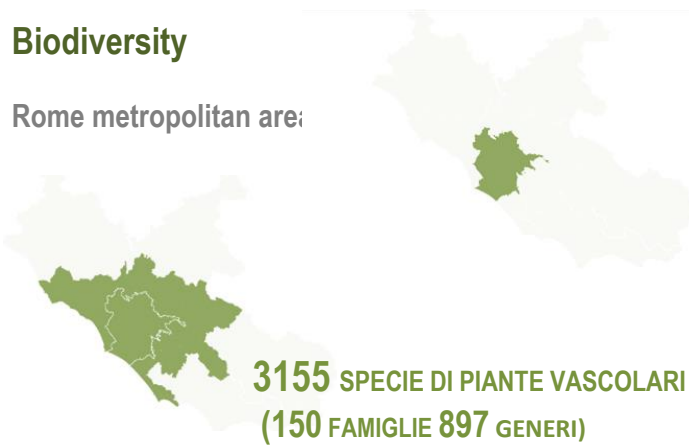


Woods and green areas

Rome municipality

Biodiversity

Rome metropolitan area



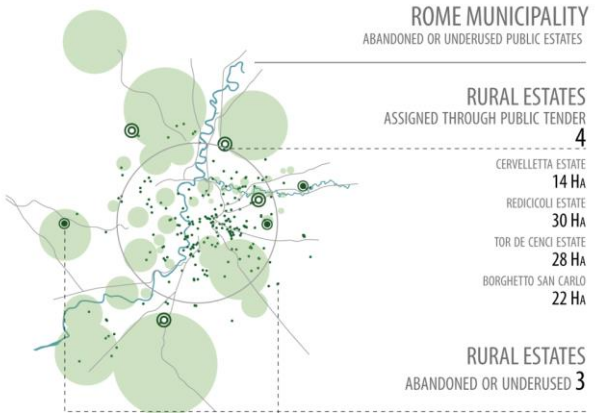
3155 SPECIE DI PIANTE VASCOLARI
(150 FAMIGLIE 897 GENERI)

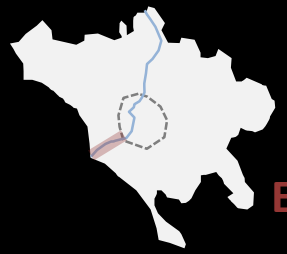
64 SPECIE DI MAMMIFERI
21 SPECIE DI CHIROTTERI

1649 SPECIE DI PIANTE VASCOLARI
(139 FAMIGLIE 677 GENERI)

5000 SPECIE DI INSETTI
(14% DELLA FAUNA ENTOMOLOGICA ITALIANA)
10 SPECIE DI ANFIBI 16 SPECIE DI RETTILI
39 SPECIE DI MAMMIFERI
12 SPECIE DI CHIROTTERI
121 SPECIE DI UCCELLI
22 SPECIE DI PESCI

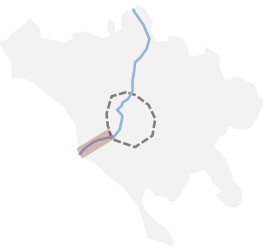
Agricolture





Experimentation in progress

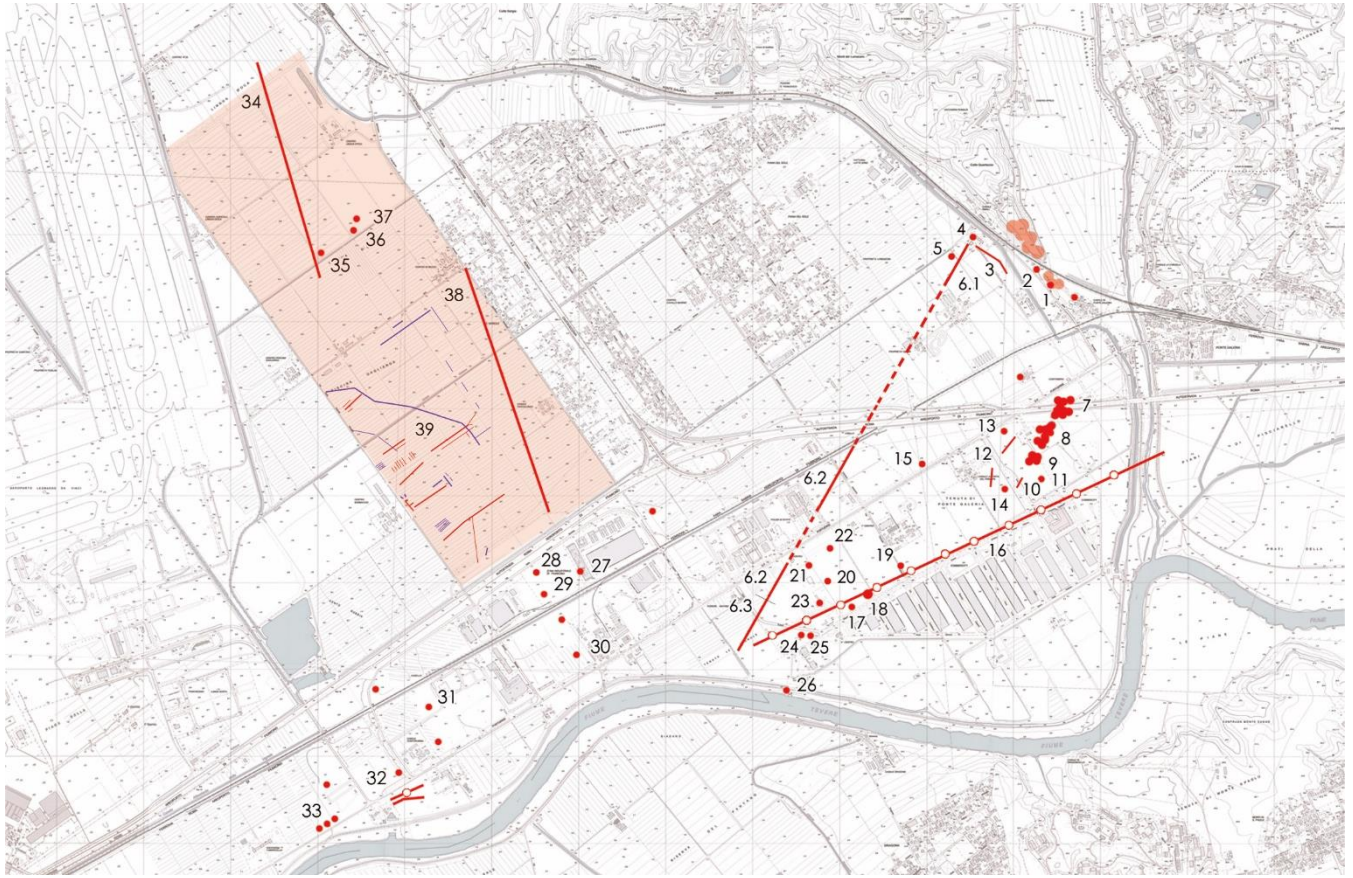
Many projects concern the Portuense district, an area linked to **ancient Roman infrastructures along the Tiber**, with findings of roads and extraordinary ports. Nowadays this territory is very problematic from an environmental and hydrogeological point of view, due to the presence of **high impact contemporary settlements**, including the airport, exhibition centres, large shopping malls, etc..

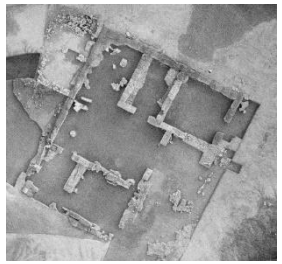


Experimentation in progress

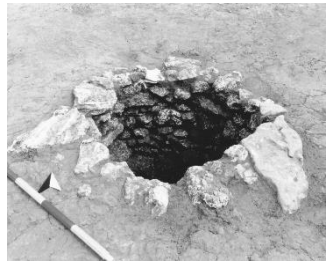
Archeology is the main ally for the redevelopment of this part of the city and for the realization of new urban forests.

The interpretation of archaeological territories is in fact directly connected to the concept of **layering** in the meaning that comes from the archaeological research (used in a similar sense also in geology, in semiotics, etc.).



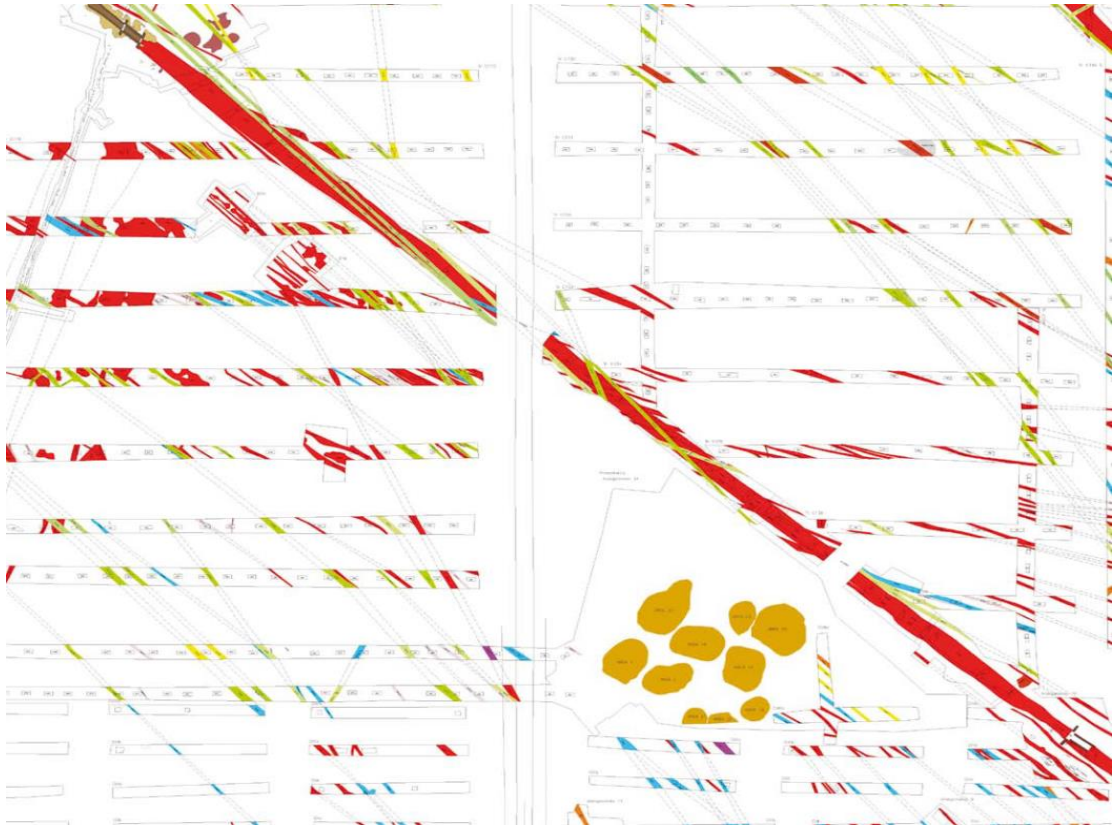



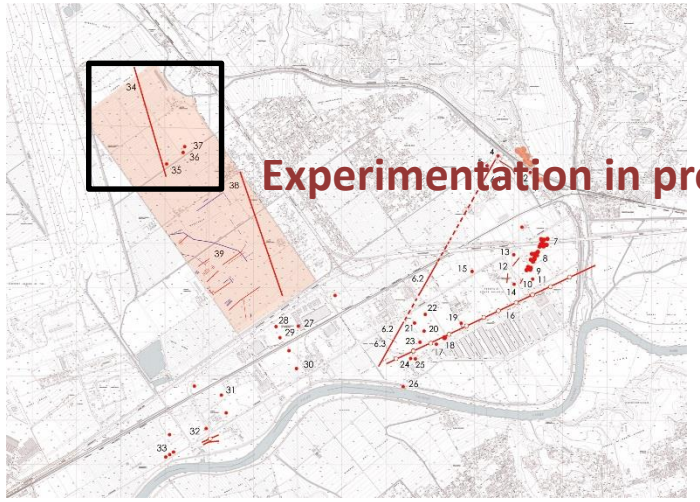




Experimentation in progress

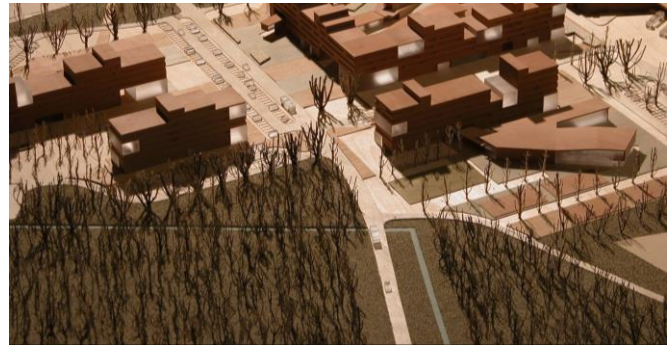
Through archaeological and hydro-geological protection areas we have formulated numerous projects to re-read a stratified landscape: actions of environmental enhancement and social renewal.

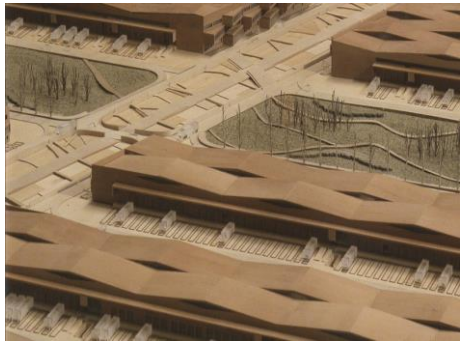




Experimentation in progress. *1.Fiumicino-Rome Intermodal & Logistics Centre (2007)*

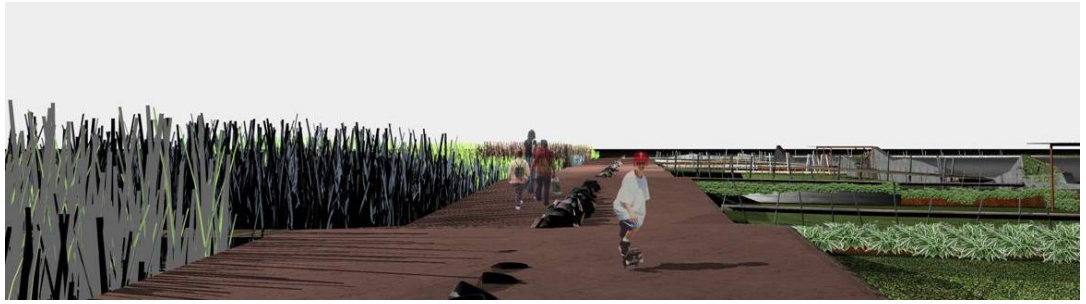
The new Rome-Fiumicino Intermodal & Logistics Centre realizes the forecast of a great intermodal exchange node at the gates of Rome, with a great attention to environmental and archaeological variables.
It is in within the Natural State Reserve of the Roman Coast with a function of connection between coastal and hilly environments. The area is also characterized by important archaeological findings, such as a long dam of amphorae (900 meters) and numerous channels belonging to a large saline from the Roman period. Our project was supported by the local Municipality and the the Archaeological Superintendence of Ostia Antica.

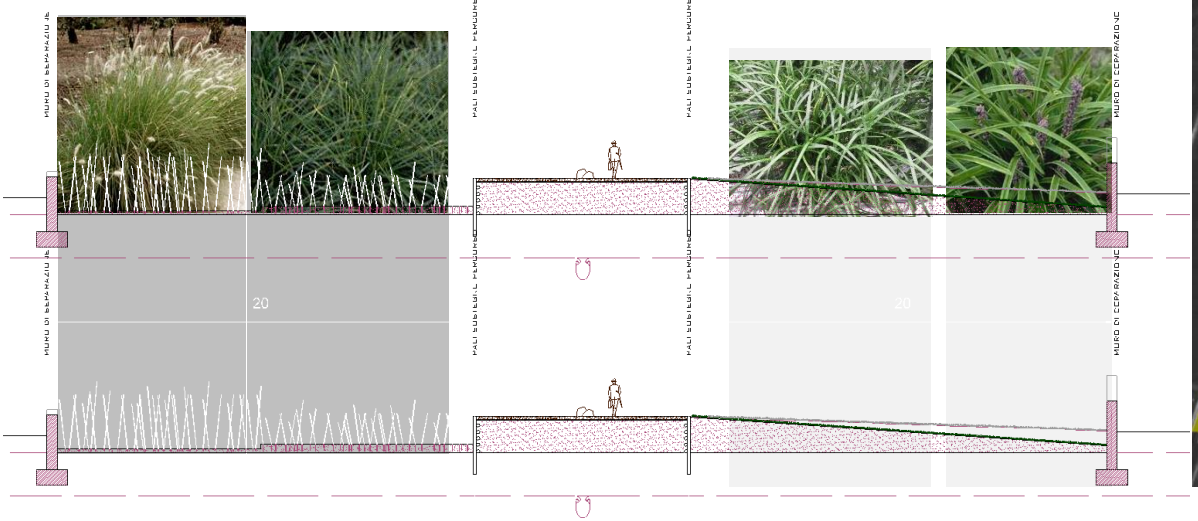


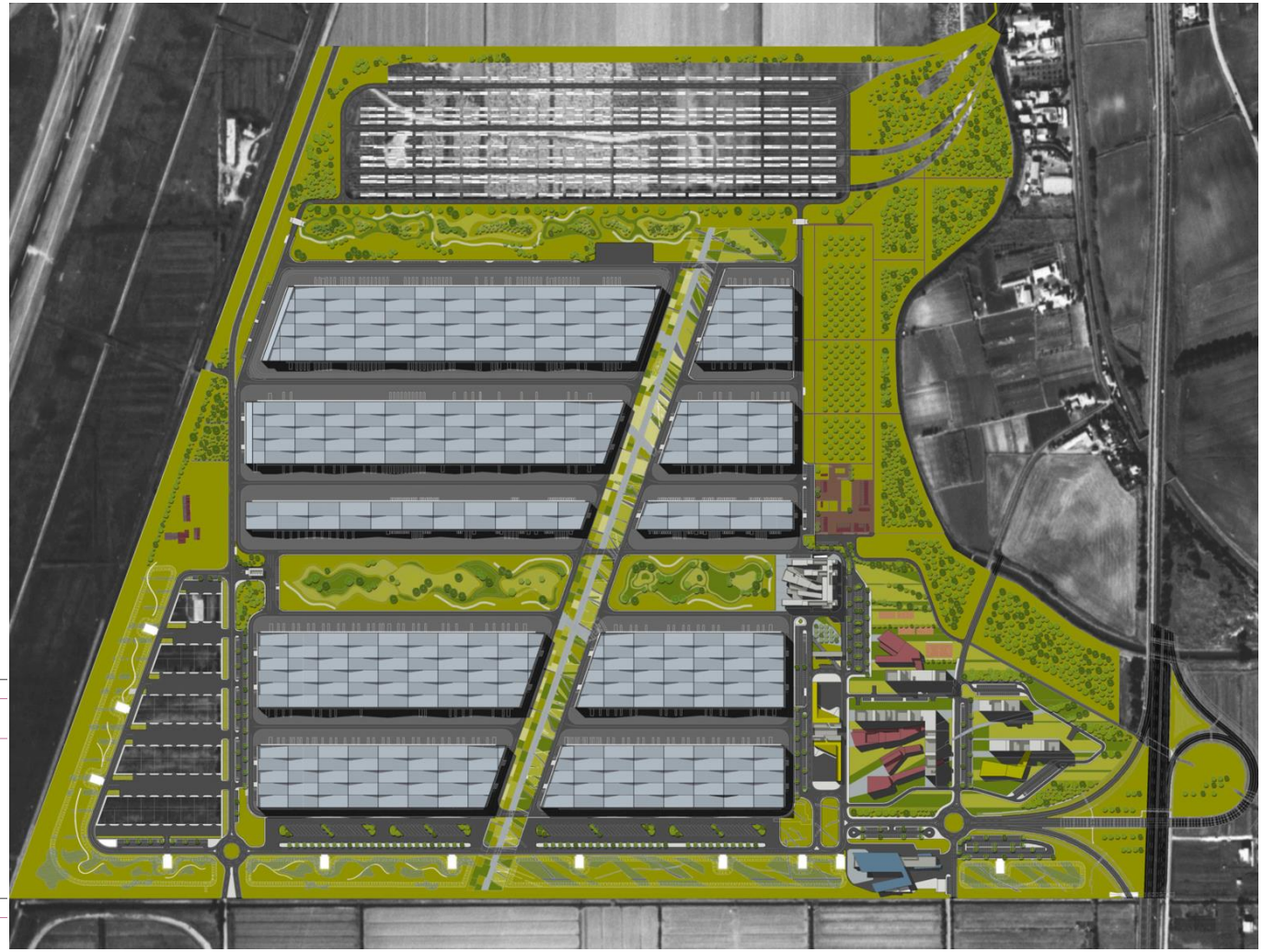


Experimentation in progress. *1.Fiumicino-Rome Intermodal & Logistics Centre (2007)*

The project involves the construction of a linear park on the buffer zone of the Roman amphorae dam (re-buried after the discovery), with **vegetation sets that refer to the swampy coastline**, today reclaimed and distant kilometers away

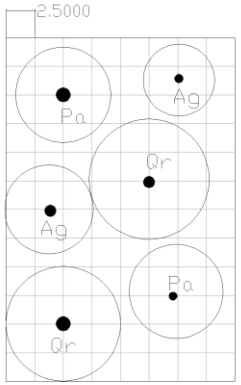






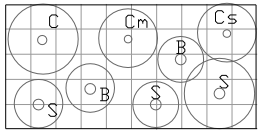
Experimentation in progress. *1.Fiumicino-Rome Intermodal & Logistics Centre (2007)*

In the park of the dunes, which was born as a calm basin for rain waters in case of exceptional events, the new forests reinterprets the historical marshy landscape before reclamation.



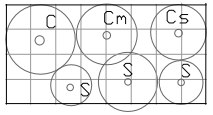
strato arboreo:
Pa-Populus alba (pioppo bianco)
Qr- Quercus robur (farnia)
Ag-Alnus glutinosa (ontano nero)

modulo minimo di impianto
30mx20m=600mq



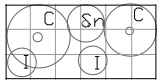
C-Crataegus spp. (biancospino)
Cm-Cornus mas (corniolo)
Cs-Cornus sanguinea (sanguinella)
B- Berberis vulgaris (crespino)
S-Salix spp. (salici)

2.b.1 modulo massimo di impianto
parcella minima 2,5mx5,00m



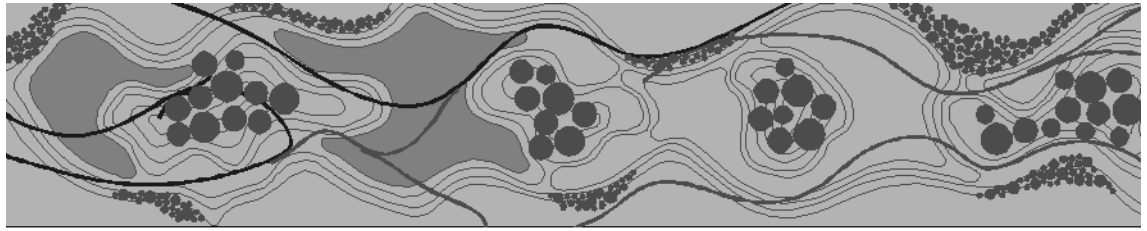
Cm-Cornus mas (corniolo)
Cs-Cornus sanguinea (sanguinella)
S-Salix spp. (salici)

2.b.2 modulo medio di impianto
parcella minima 2,00mx4,00m



Sn- Sambucus nigra (sambuco)
C- Crataegus spp (biancospino)
I- Iberis (raspo)

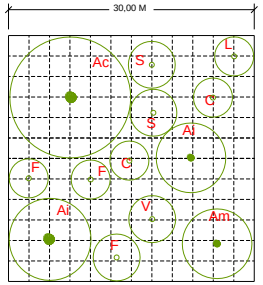
2.b.3 modulo minimo di impianto
parcella minima 1,5mx3,00m



Experimentation in progress. *1.Fiumicino-Rome Intermodal & Logistics Centre (2007)*

The woods around the service buildings were designed to defend the waterways in the surrounding agricultural territoryand, at the same tine to create contemporary spaces available for uses and activities of workers and occasional users.

a - bosco con specie campestri e sottobosco di bacche

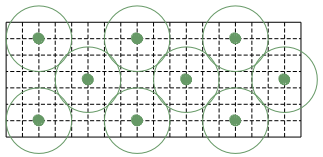


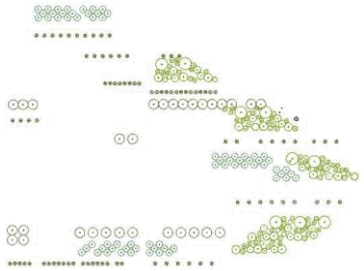
strato arboreo:
Ac - Acer campestre (acero campestre)
Ai- Alnus incana (ontano bianco)
Am -Acer monspessulanum (acero minore)

modulo minimo di impianto 30mx30m=900mq
copertura massima 60%

strato arbustivo:
*F-Frangula alnus (*frangula)
*L- Ligustrum vulgaris (*ligustro)
S- Sambucus nigra (sambuco)
*C- Cornus mas (*corniolo)
V-Viburnus tinus (viburno)

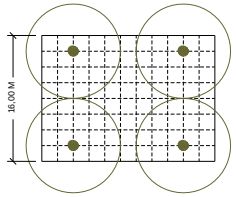
b - impianto arboreo regolare (prato arborato)
impianto di *Alnus incana* (Ontano bianco) esemplari di taglia medio-piccola
fascia larghezza 14 M
lunghezza min 36 M



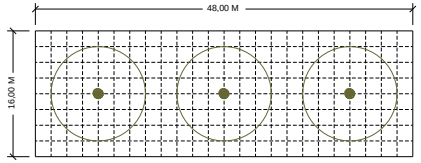


c. filari

c.1 - fascia grande
doppio filare di *Platanus acerifolia* (Platano)
larghezza 16 M
lunghezza variabile

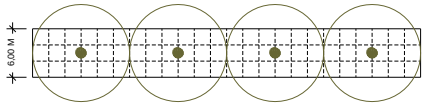


c.2 - fascia medio - grande
filare di *Platanus acerifolia* (Platano)
larghezza 16 M
lunghezza variabile

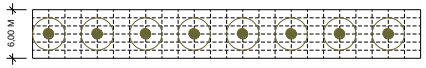


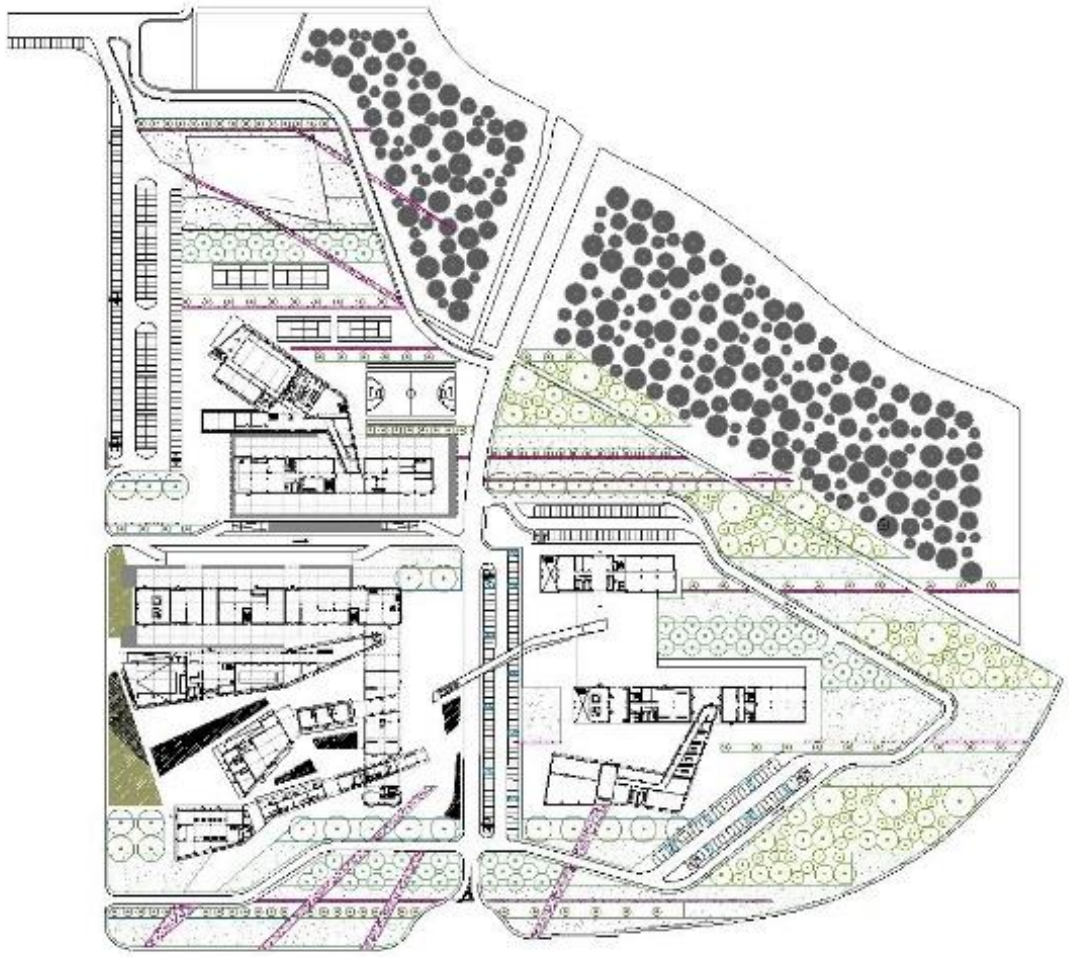
c.3 - fascia medio-piccola (vari gradi di permeabilità)
larghezza 5-6 M
lunghezza variabile

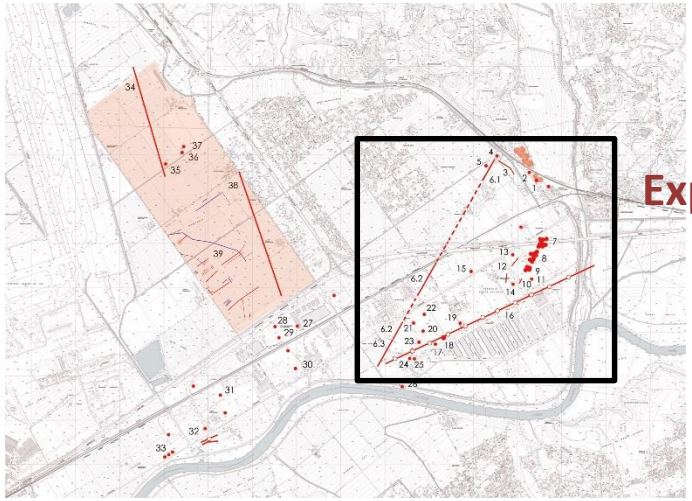
c.3a
filare di *Platanus acerifolia* (Platano)



c.3b
filare di *Populus nigra italica* (Pioppo cipressino)



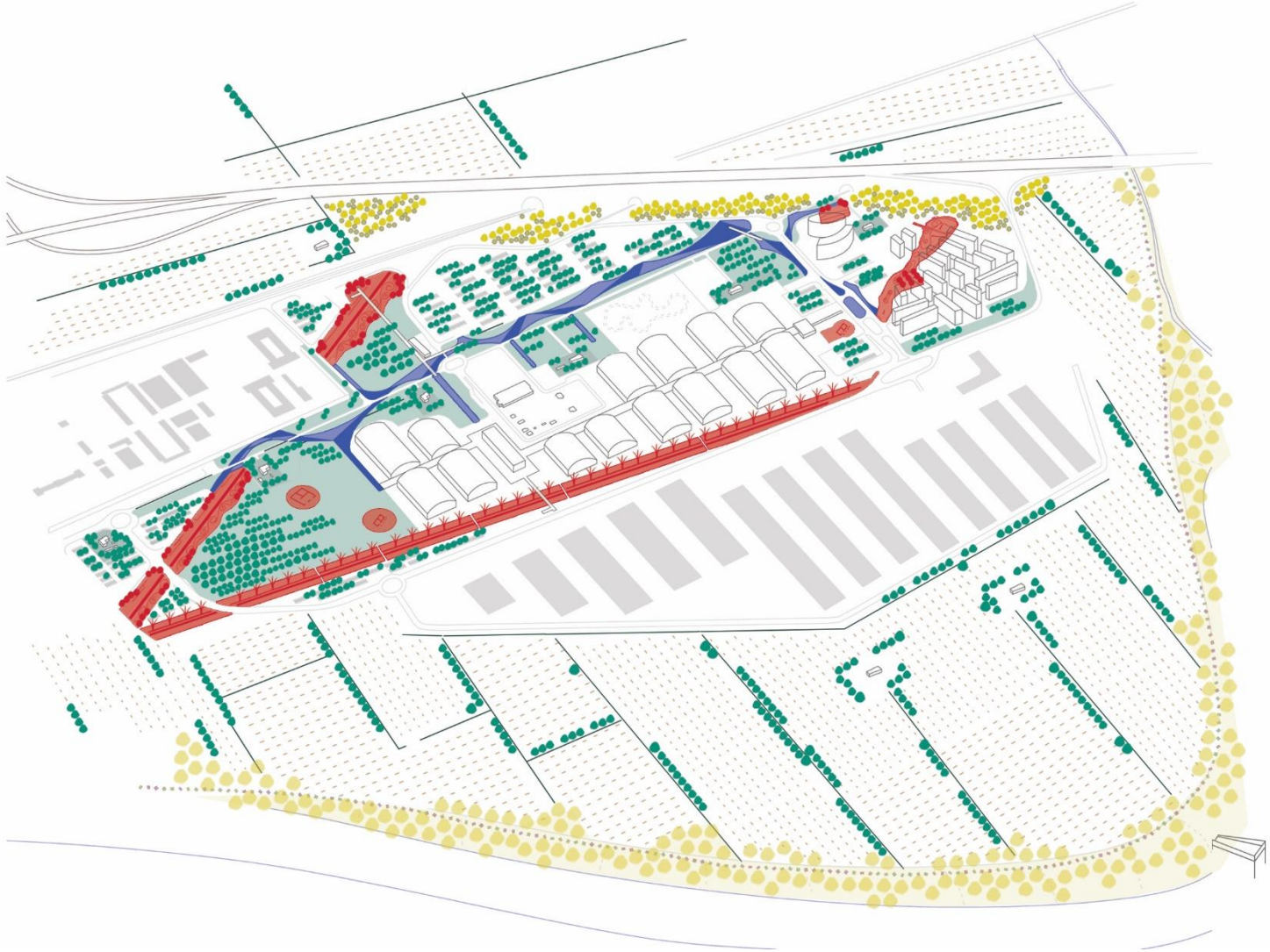




Experimentation in progress. *2.Along the Ancient Via Portuense (2010)*

The several and important archaeological findings along the ancient Via Portuense represent a great opportunity to reflect on the possible role of archeology in the regeneration of territories of contemporary urbanization.

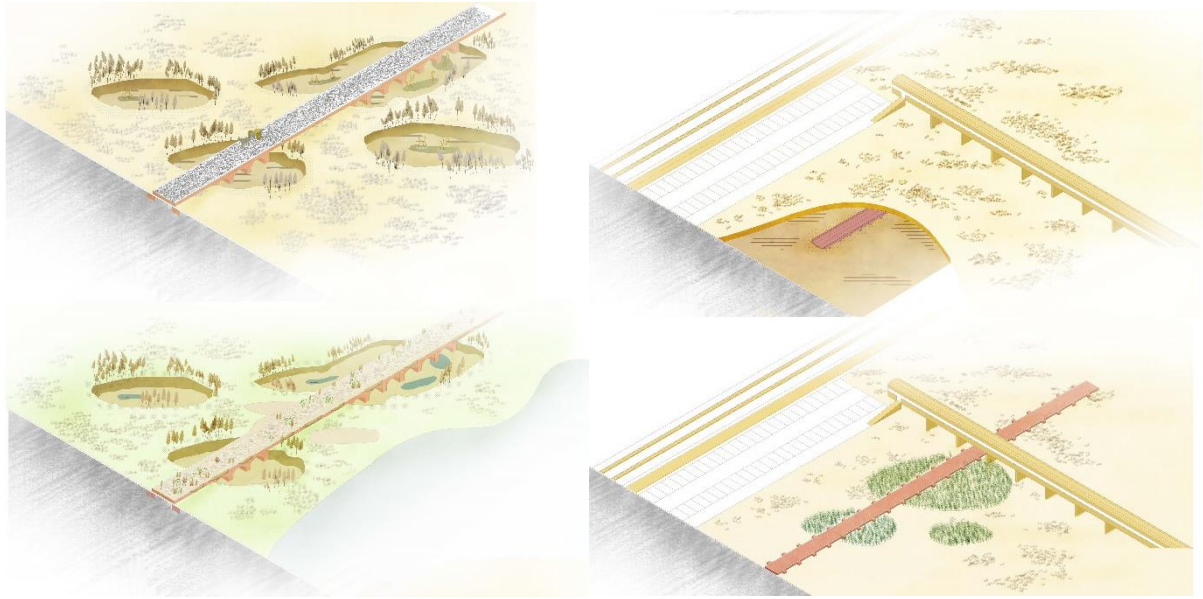
The project was commissioned by the Archaeological Superintendence of Ostia Antica and produced guidelines to guide all the interventions in the area promoted by differents actors (public and private). Some plants are being placed right in these days, near a new settlement of IBM company.

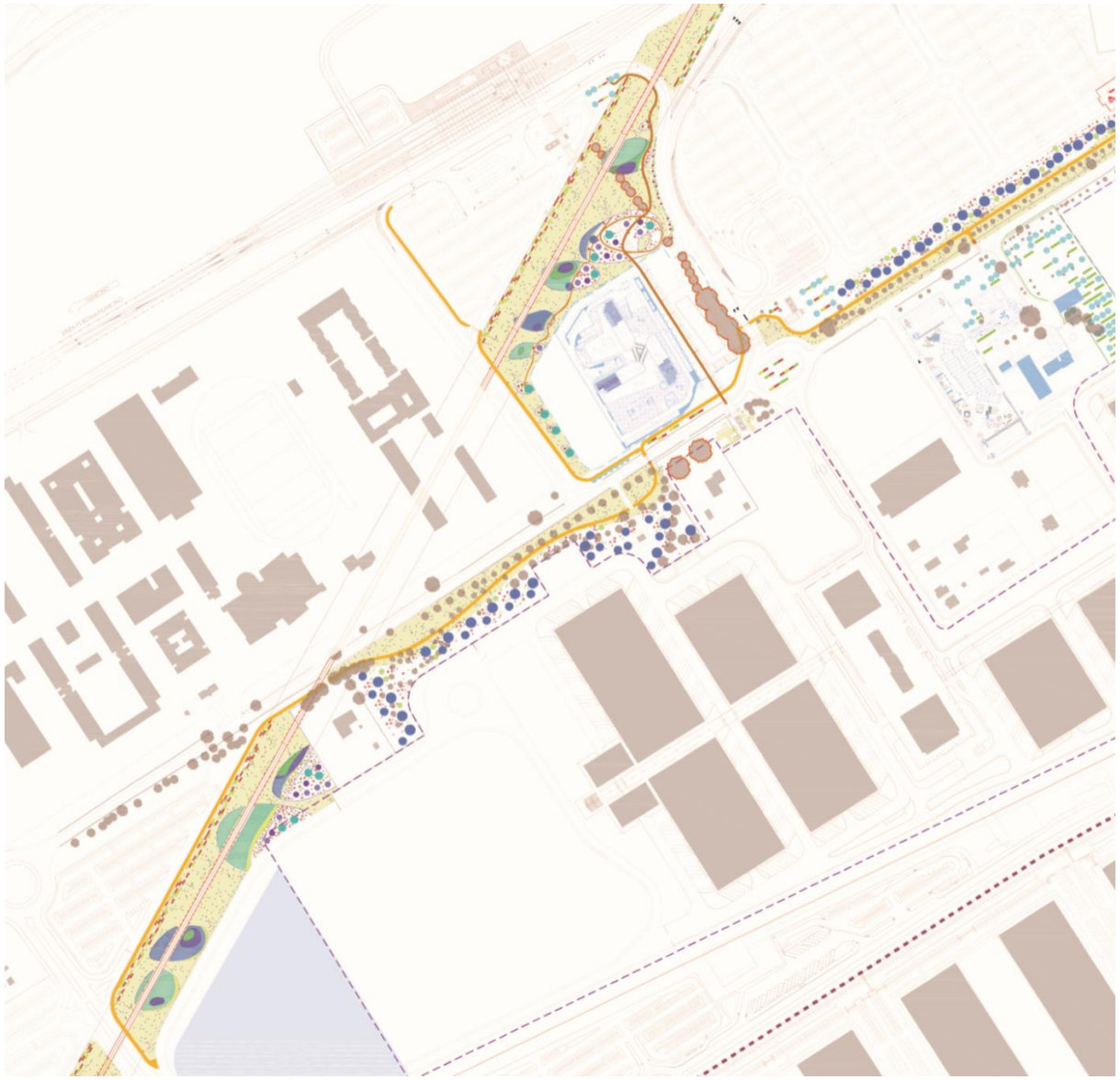


Experimentation in progress. *2.Along the Ancient Via Portuense (2010)*

The project moves from an original interpretation of the relationship between infrastructure and environmental context in Roman times, resulting in a highly interdisciplinary research (landscape designers, archaeologists, environmental geologists, naturalists, etc.).

The great imperial road rose in a marshy environment, supported by fourteen bridges to overcome depressions and ditches and to allow water flows. This paleo-environment consisting of depressions and springs of wellheads represents a testimony of extraordinary historical and environmental interest. The wood reinterprets the important findings and takes on a paradigmatic value, with respect to the co-evolutionary dynamics that tie together artefacts and natural environments.





Experimentation in progress. *2.Along the Ancient Via Portuense (2010)*

Another forest-park will rise inside a new neighborhood, following the scheme of an imperial orchard plant (excavated and re-buried) that will come back to life as a green space for public use.