

Country /City Spain/Barcelona
University / School Universitat Politècnica de Catalunya/ETSA Vallès.
Academic year 2019-20
Title of the project Observing the Third Landscape. Six Episodes of Intervention in the Dry Meander of the Cardener River
Authors Uxía Varela Expósito, Manuel Vázquez Fariña

TECHNICAL DOSSIER

Title of the project	Observing the Third Landscape. Six Episodes of Intervention in the Dry Meander of the Cardener River
Authors	Uxía Varela Expósito, Manuel Vázquez Fariña
Title of the course	Master Thesis
Academic year	2019-20
Teaching Staff	Isabel Castiñeira Palou, Josep Ricart Ulldemolins
Department / Section / Program of belonging	Master's Degree in Architecture
University / School	Universitat Politècnica de Catalunya/ETSA Vallès.



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

In 1999 the water-table of the river Cardener on its flow through the Saline Valley in Cardona dropped to the level of the potash mine galleries underneath, leading to the construction of a bypass tunnel and forcing the river to skip a 3 km-long stretch nowadays known as the “dry meander of the Cardener”. Divided in three parts, this Master Thesis focuses on the past, present and potential future dynamics in the meander, and explores possible interventions that enhance the value of its multiple landscapes.

Despite the multiple attempts to tame its natural processes, the dry meander of the Cardener has continued evolving as a space outside of the interest of Cardona’s inhabitants. While the first part of the project focuses on understanding the past processes that led to the current state of the meander, the second part is based on the identification and analysis of its present dynamics, to propose a set of strategic interventions that will foster, control, or trigger different responses in the evolution of the meander’s landscape.

Based on the identified dynamics and potentials, the last part of the project proposes different interventions in topography, water and vegetation that improve on the current ecological value of the site. Moreover, the proposal incorporates the construction of a minimum infrastructure of pathways as a way of enhancing the value of the meander and its character as a public space. This set of interventions is divided in six episodes which celebrate and foster the heterogeneity of landscapes in the meander, allowing this space to continue evolving at the same time it can be seen, crossed, and valued by its human inhabitants.
For further information

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SCHOOL PRIZE

Part I, From natural landscape to "Third Landscape"



Cardona, Saline Valley and dry meander of the Cardener. Source: ICGC



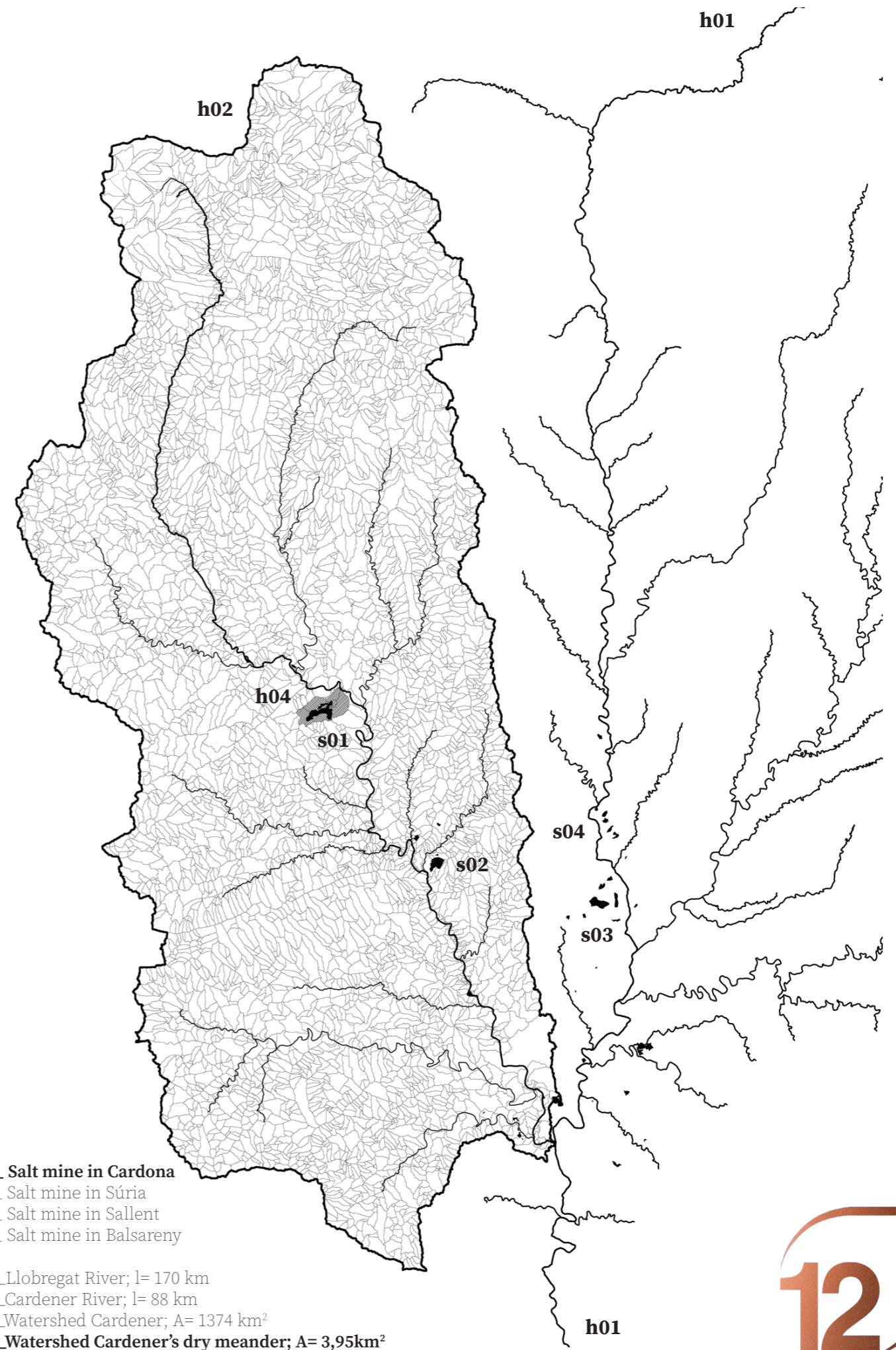
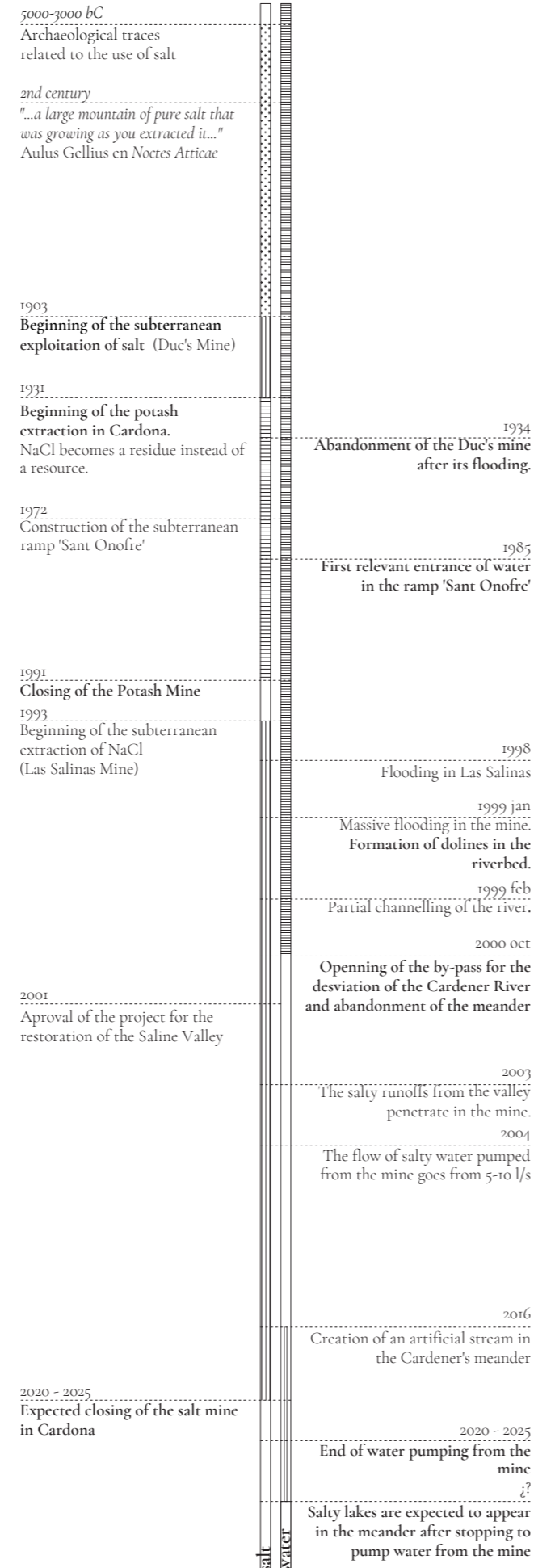
Dry meander of the Cardener.



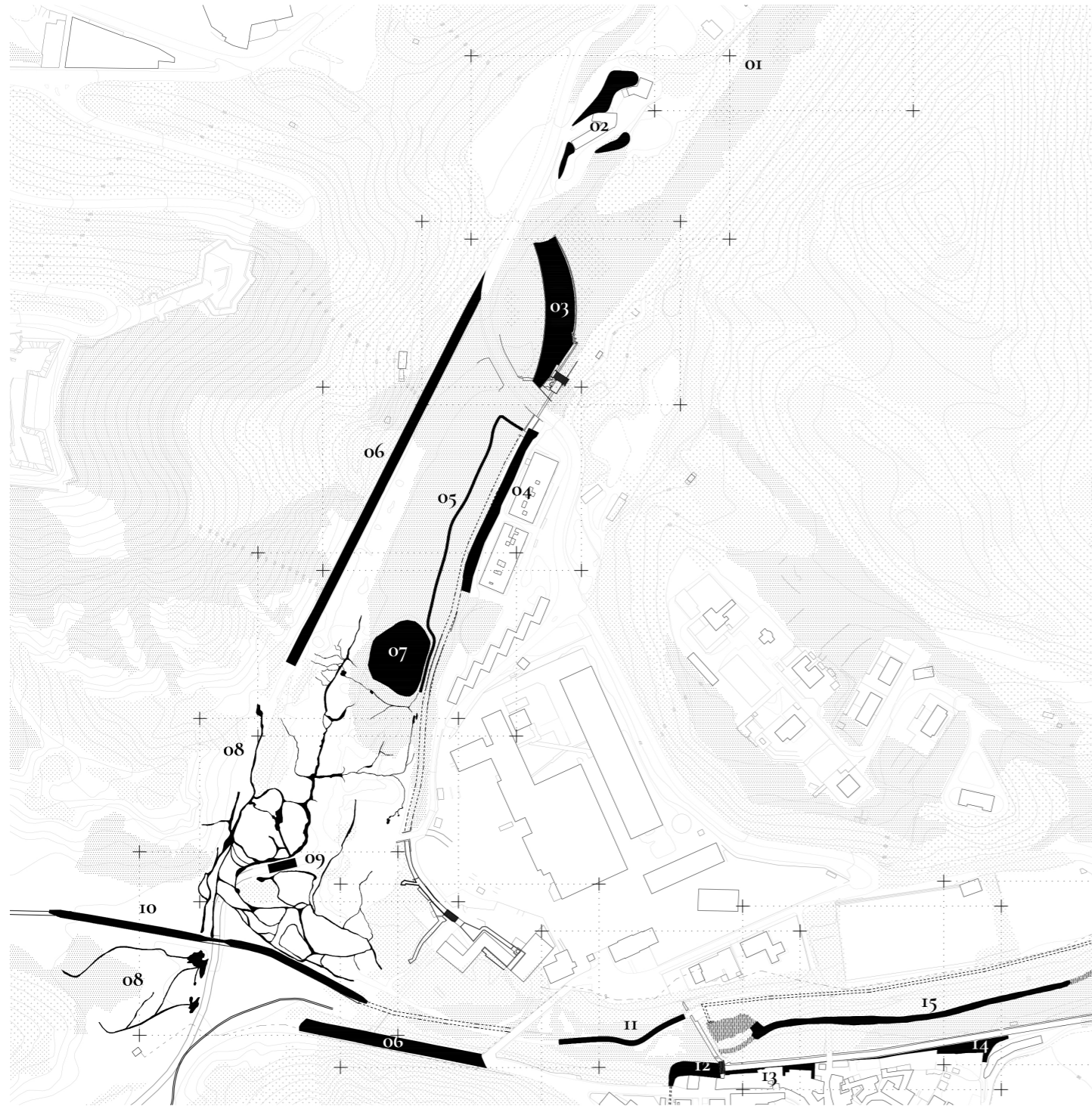
Drainage ditch in the Saline Valley.



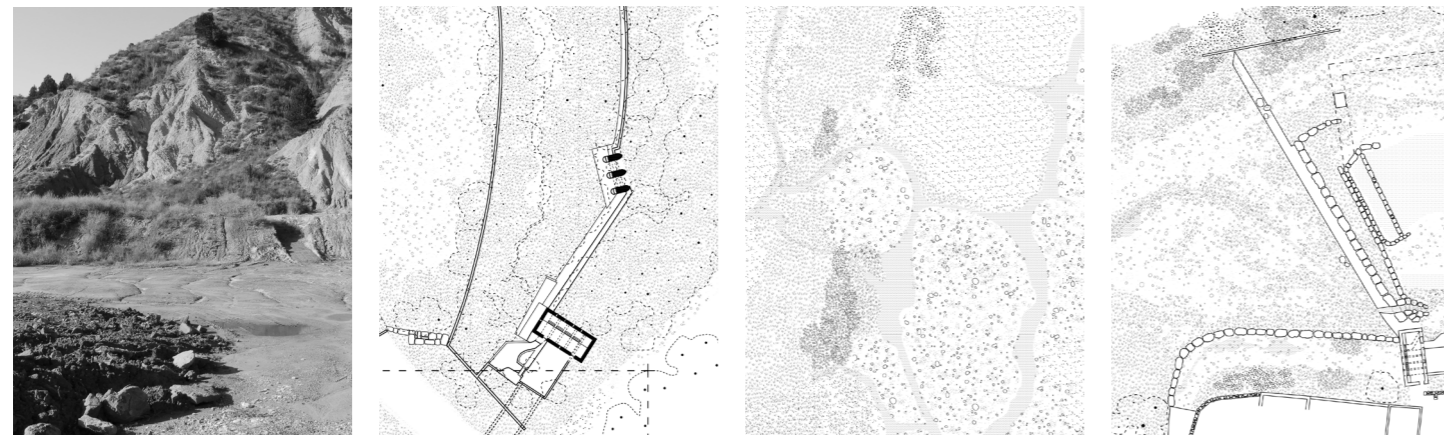
Leakage of brine pumped up from the mine.



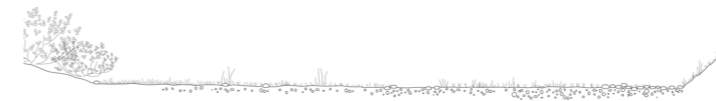
Part II, Designing with the dynamics of the landscape



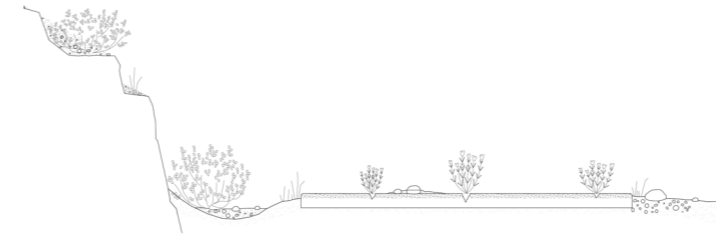
Distribution of identified dynamics in the meander.



Current state



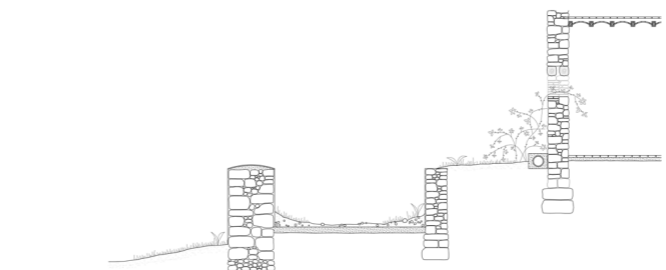
05_Wide and compacted path between slopes



06_Vegetation growth in asphalt cracks



12_Arrival of runoff water from the Saline Valley



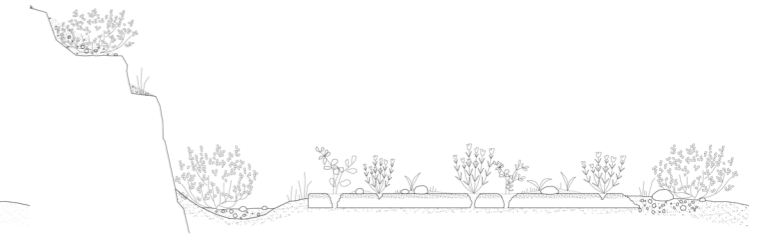
13_Residual space. Growth of climbing species between the canal and facades of La Coromina

15_Channelled stream of La Coromina

Strategic intervention



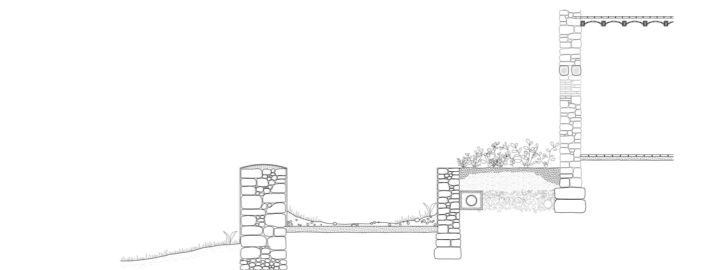
Delimitation of the path with the creation of a new microtopography



Fostering the autonomous development of vegetation

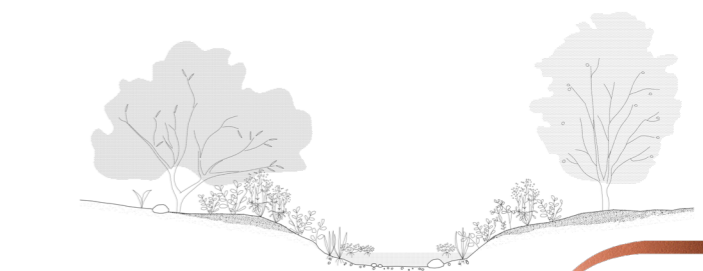


Creation of retention basin planted with halophyte species



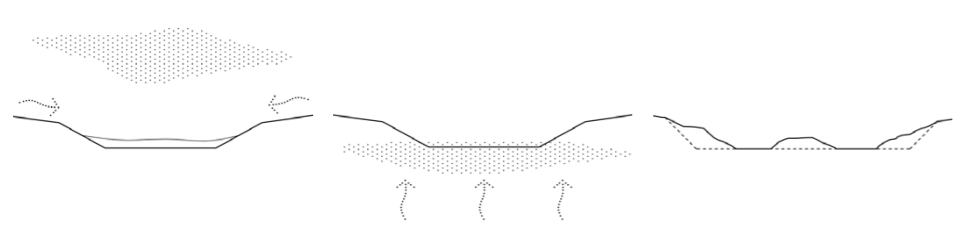
Transition mediterranean garden and drainage

Decanalization and plantation with riparian vegetation



Part III, Six episodes of intervention in the dry meander of the Cardener River

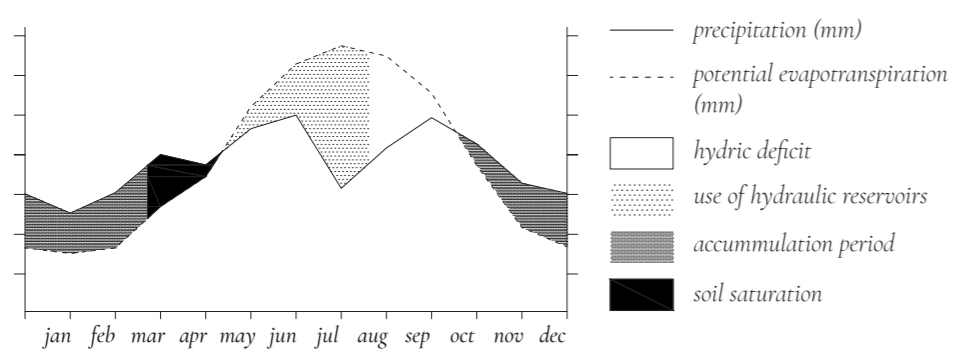
Episode 4: Los saladares (salty marshlands)



work with micro topography for the accumulation of rain and runoff water, currently drained out from the valley

management and use of a possible rise of groundwater once this is no longer pumped from the mine.

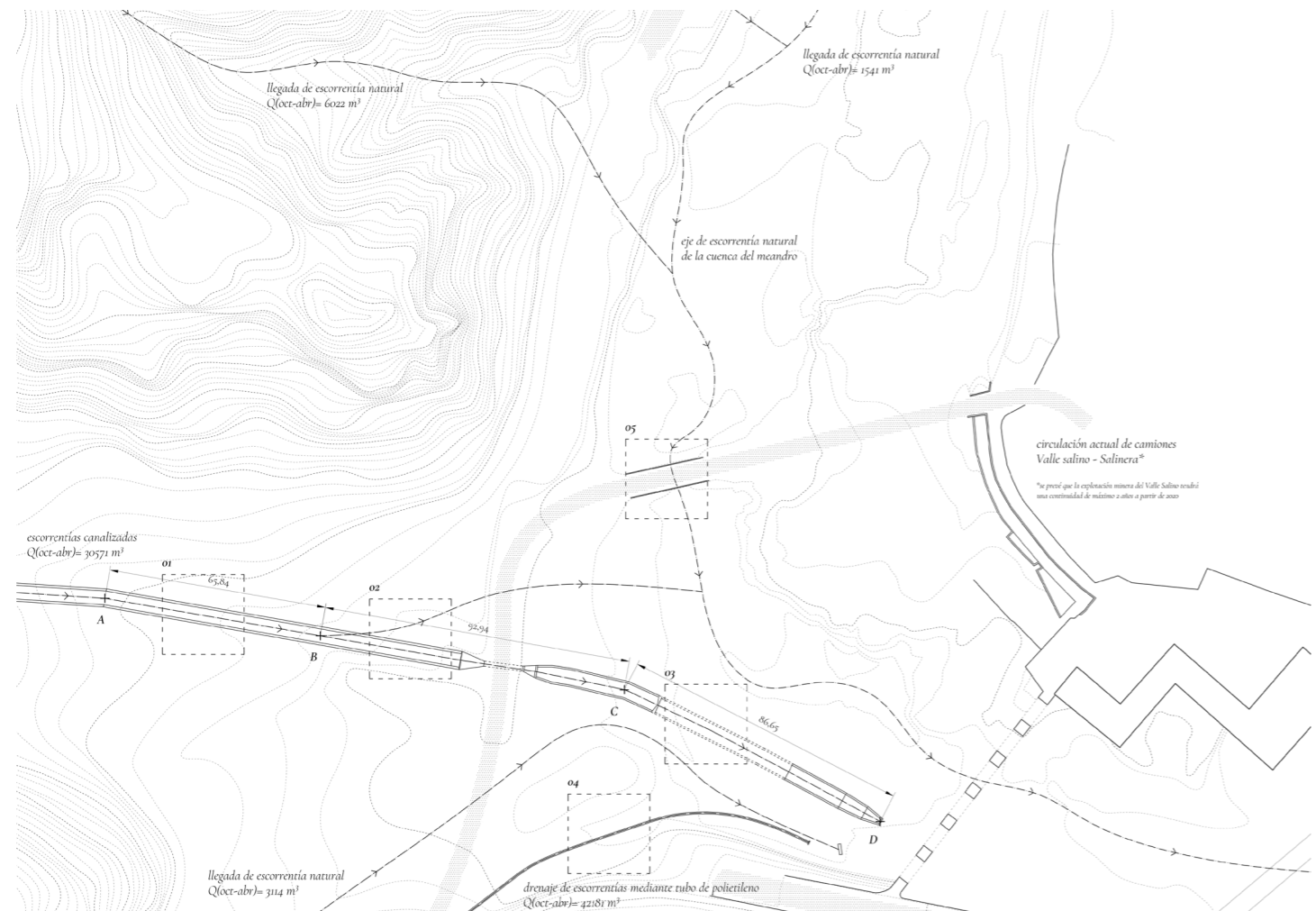
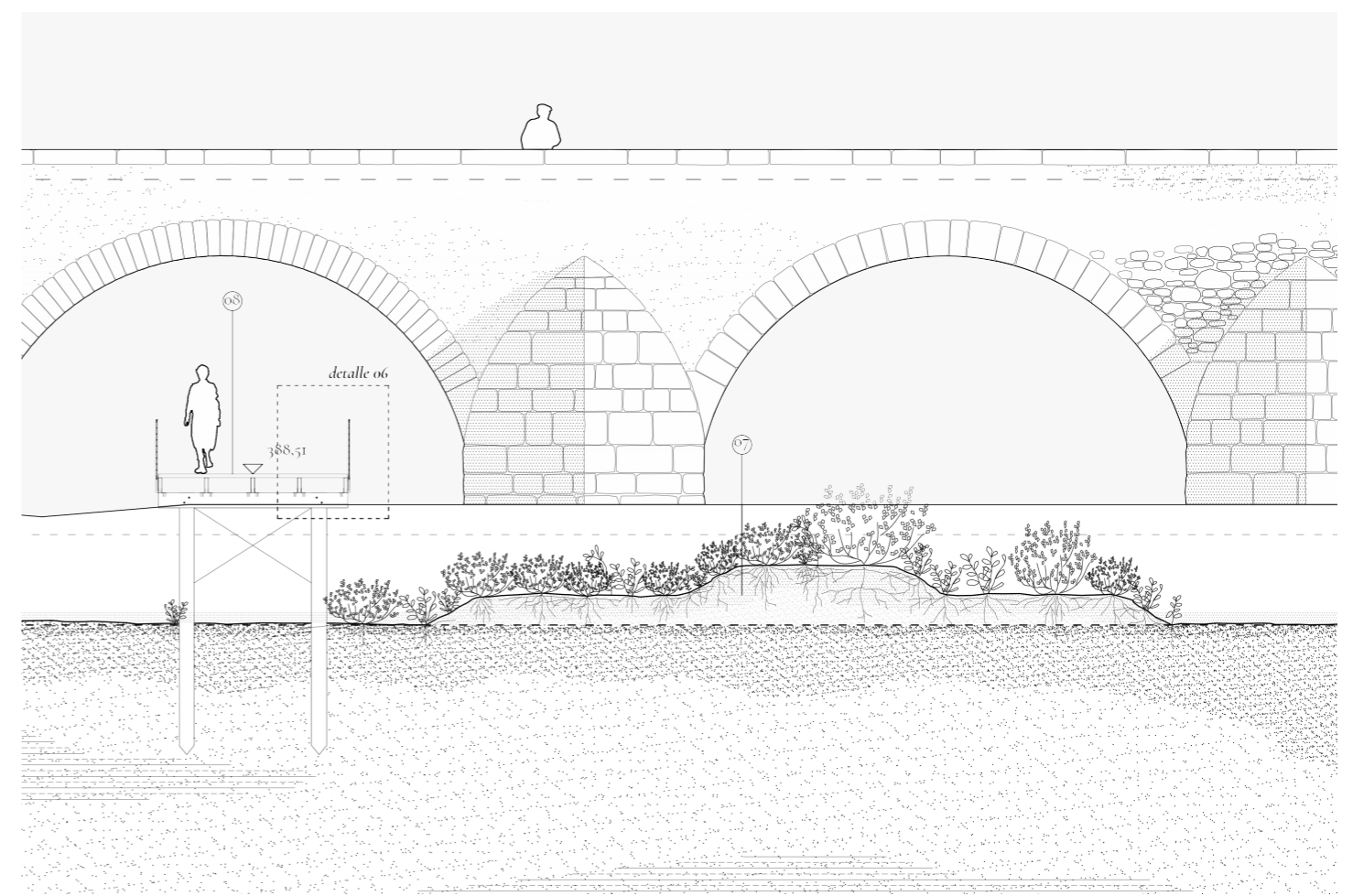
decompact and redistribute the existing soil on site allowing more halophyte species to grow



P (total rain oct-apr) = 326 mm
 PE (evapotranspiration oct-apr) = 196 mm

Runoff volume (l): $Q_c = P \cdot A_c \cdot C \cdot c$
 Direct rain water volume (l): $Q_d = P \cdot A_d$

Total accumulated water volume (l):
 $Q = Q_c + Q_d - (PE \cdot A_d)$
 $Q_1 = 2536 \text{ m}^3$; $Q_2 = 7332 \text{ m}^3$; $Q_3 = 31653 \text{ m}^3$;
 $Q_4 = 42958 \text{ m}^3$



Episode 4: Los saladares. Intersection of the Saline Valley and the dry meander. Current state.



Episode 4: Los saladares. Proposal of new microtopography.